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Modeling Change

Contact Information:

Jonas Milder

Associate Professor

Director, Master of Industrial Design (MID) Program

The University of the Arts

320 South Broad Street

Philadelphia, PA 19102

U.S.A.

www.mid-uarts.org

001. 215. 717 6250 phone

001. 215. 717 6255 fax

001. 917. 428 8669 handy

Jonas Milder

Principal

Milder Office Inc.

www.milderoffice.com

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Modeling Change

Not unlike the story about the building of the Tower of Babel, planning projects today all too often don't develop to their full potential. There exists a disconnection between the builders of our global/local society and its systems, and the interests of the stakeholders they are meant to serve. We live in a world overflowing with information, and yet we struggle to make sense out of what is in front of us. Business as well as academia, recognize that we need to think post disciplines in order to create meaningful innovation. Design thinking, its methods and practices promise to play a critical role in organizing and facilitating such change.

I am glad to contribute to this from multiple angles to this discussion: As a practicing designer and business owner, and design educator and member of the academic community of The University of the Arts, my vantage combines both theory and practice, and promotes design as a successful connector for both.

This paper explores the synergy between three mutually dependent spheres of interest: Living and working in Philadelphia, USA, the need to evolve professional design practice and design education, and a potential strategy for The University of the Arts (UArts) in Philadelphia to re-claim academic leadership.

This presentation is organized in three sections: Two project reports, framed as case studies, demonstrate how design thinking and an evolved design practice help to anticipate and model organizational change. Third, the framework of a recently re-organized graduate program for (industrial) design at UArts in Philadelphia which is informed by projects such as the two mentioned above.

The first case study addresses the need of Campbell's Global Design Center (CGDC), the creative engine within the Campbell Corporation, a fortune 500 company headquartered across the Delaware River from Philadelphia in Camden, New Jersey, to re-think and re-organize their projects and their work flow.

Through action research, design interventions and collaborative workshops, the UArts design team established a dialog with and within the CGDC team, that eventually produced a number of "design-orienting scenarios"[1], that CGDC will use for further development and implementation.

The second case study documents a year-long exploration of "learning commons"[2] for a new library at Williams College, a prestigious liberal arts college in Williamstown, Massachusetts.

Each study originated in a different context: The project for Campbell's came through the University's Development Office and was hosted by the Industrial Design department to explore the potential of multi-disciplinary design collaboration in partnership with real-world clients. The Williams Library project on the other hand developed through my professional practice as a furniture designer and producer. Both provide a good examples and arguments for why design thinking and evolved design practices reach across disciplines and add critical energy and dynamism to problem solving and decision making processes.

Both projects promote a participatory and collaborative design process and were designed to facilitate organizational learning. Both emphasize the approach to designing with, instead of designing for, the stakeholders or constituents that are served through this work.

The proposed design process prescribes a cycle of collective learning and design interventions that produce new knowledge, and in turn seeds new development. We see this as a departure from planning based on the analysis of already existing conditions. We believe that design input at the earliest stages of development is critical in addressing larger, complex and 'wicked' problems. "The formulation of a wicked problem *is* the problem! The process of formulating the problem and of conceiving a solution (or re-solution) are identical, since every specification of the problem is a specification of the direction in which a treatment is considered."[3]

Local Context: Philadelphia U.S.A.

Like many cities throughout the United States, Philadelphia is struggling to adjust to the very dramatic changes that came about since it lost approximately two thirds of its manufacturing jobs, compared to half a century ago.

Earlier this year, Michael Nutter was sworn in as mayor for the city of Philadelphia. He was elected on a platform of change and a set of ambitious plans for a sustainable and green Philadelphia. "Whether this will be achieved by leading the way in recycling, planting of hundreds of thousands of trees, or

revising building and zoning codes, he expressed confidence that Philadelphia could become the greenest city in the country."[4]

Many will agree with the understanding that the world is changing. However, in order to establish sustainable ways of living and working change itself must change direction.

Quoting from the website of 'Changing the change', a conference that is co-organized by Ezio Manzini and will take place later this year in Torino, Italy "Nobody is yet in a position to say how this can happen. However, many think that the greatest challenge we must face is this one: how to be an active, constructive part of this twofold transformation; and how to interpret how and to what extent we are changing, recognizing the opportunities that are opening up, and the forces that generate this change. We should learn to use the same forces to 'change the change' and promote a social learning process that can lead us towards a society, based on networking, knowledge and sustainability."[5]

Design @ UArts

This rapidly changing local and global context also affects the positioning and strategic goals of The University of the Arts, and in particular the structure and curriculum of its graduate design programs.

There is a clear sense and understanding that in order to make design education more meaningful, and the overall creative mission of The University of the Arts a greater success, outreach to and collaboration with businesses and communities is critical in not only promoting, but also advancing the University's mission and goals.

Proving its strong commitment, The University of the Arts established the 'Center for Creative Economy' in 2006 as a platform to "define, research and promote the creative process as a transformative force in society"[6]. While the center is charged with bringing creativity to local business and industry, there exists at the same time a big need to connect the realm of design education in our academic institution with the real world, and creatively engage the many challenges and opportunities our city and communities are faced with.

In dealing with these larger and complex issues, for example, the need for a business or community to establish more sustainable solutions, design activity mostly continues to be far more 'part of the problem' than 'part of the solution'. As we no longer design only around technological innovations, but

seek to promote social innovation by connecting multiple stakeholders through design process and activity, we feel optimistic about designers being able to make a meaningful and real contribution to ongoing change.

We believe that UArts "will be a university that prizes theory but does not disdain practice and does not ignore the distinct problems of, and the need for substantive knowledge about making or production."[7] By 'product' Buchanan refers to a very broad category, including "information, artifacts, activities, services, and policies, as well as systems and environments – [product] is the connective activity that integrates knowledge from many fields for impact on how we live our lives."[7]

Two Case Studies

The following two case studies very much informed a recent discussion and redevelopment of the Master for Industrial Design (MID) program to engage this change.

Rather than offering answers and solutions to the problems at hand, these case studies inform our thinking about design research and design education. Both projects take design thinking and evolving practice into the field, share learning with non-designers, and advance the discussion about possible solutions through feedback and participatory processes.

Both projects intend to make design activity a more transparent and open process. Both conceive the role of the designer as that of a facilitator, enabling a dialog among the various stakeholders involved and affected by the project or challenge at hand.

As much as both case studies were instrumental in informing our discussion about the mission and framework of this new MID program, we consider them humble stepping stones and a contribution to the discussion about design research and learning. They also influenced the partnership projects that we are currently developing.

Case Study 1: The Campbell Report (2006)

This collaboration with Campbell's, a fortune 500 company headquartered in Camden, New Jersey, addressed the need of the Corporate Global Design Center (CGDC), a group of about 18 Art Directors, designers and administrative staff, to re-think their office design in conjunction with re-thinking and re-organizing the way work flows through the office.

The CGDC team contacted the industrial design program at UArts, which I chaired at that time, to seek proposals on how to refurnish their existing office space, essentially a 'cubicle farm', offering little or no collaborative workspace.

During initial conversations with the client in preparing for this project, it became obvious that the CGDC team needed to learn about other forms of working, and re-establish and intensify dialog first within the team itself, and subsequently inform and interact with other departments within the larger Campbell organization.

Founded in 1869, the Campbell Soup Company developed into a national brand known for its canned soup products by the middle of the last century. Today, Campbell has evolved into a global brand with a diversified range of food products. As (even) the American food culture evolves towards healthier practices there exists a great need for the larger Campbell organization to engage change and corporate innovation.

During the summer of 2006, a multi-disciplinary team of students and recent graduates from the Industrial Design undergraduate program, Master of Industrial Design and Multi Media departments at UArts worked two days per week, over a period of nine weeks, to explore options for changing the work environment and work flows within the CGDC team.

Exploring new ways of learning, the UArts design team split its weekly time allotment equally between working at the studios of UArts and the offices of the CGDC office space at Campbell's, effectively moving the design studio into the 'field' for about half of the time. This shared project space facilitates a connected development process.

Just-in-time Learning: Active Listening

At first we interviewed each CGDC team member to learn about their particular function within the team as well as their individual work patterns. These interviews produced a lot of information that, in turn, informed a number of design interventions (tools) to further intensify exchange and dialog with our client.

Design Intervention

Instead of processing the information gathered during the initial interviews into analytic reports, charts or graphs, we created a sequence of design interventions, initially installing a series of large speech bubbles to re-communicate the best and most pointed comments. These speech bubbles were hung, much to the surprise of the CGDC team, from the ceiling through out the CGDC space, effectively sharing concepts and suggestions already inhabiting and shaping this work environment.

In an effort to make the interview process more participatory and active, we asked CGDC team members to map out their typical paths within the CGDC onto floor plans provided during the interview. In turn the UArts team visualized these paths with colored tape throughout the office creating a physical manifestation of the individual paths and a visual network of the department as a whole.

Quite a few CGDC team members expressed their frustration about working in a disconnected fashion. There appeared to be limited understanding about the workings and potential of the team as a whole and in particular about the connection and impact on the larger strategic goals and opportunities of the corporation. Assigned projects were often not articulated within the team's mission and larger corporate context. Also, after completing a task, individual contributions were all too often being 'thrown over the [cubicle] wall', never to be heard of again.

Building on this need to make work across the team more transparent, we initially planned to install a set of mirrors. However, due to budgetary constraints, we installed some fifty mylar balloons throughout the office, reducing visual isolation and questioning issues of creative disconnect caused by the physical set up of the CGDC office and team space.

During one of our lunch presentations we showed a short video clip filmed by one of the students while walking through the office space with the camera held up high overhead (above the cubicle walls). Our audience was stunned. They had never perceived their environment from that perspective.

This surprisingly strong reaction led to the installation of a viewing platform to create a new vantage of the team space as a whole.

Another tool for building dialog and initiating new learning about the physical and organizational space of the CGDC team were a number of events and workshops.

On one occasion, we presented and discussed a brief overview of the way office furniture developed over time. This presentation included a number of film clips showing how offices and office organization are represented in popular culture.

We organized a workshop where we brainstormed with CGDC team members about desired features of their preferred office environment. Results of this charrette were then documented and presented as ninety-nine concepts that were posted on the cubicle walls along the corridors of the office. Each CGDC team member received a limited number of red and green adhesive stickers and was asked to evaluate the proposals.

Using the feed-back collected from the ninety-nine concepts, as well as other input we received over the course of the project, the UArts design team developed three design-orienting scenarios that are now used to further inform and guide the re-development of Campbell's global creative team.

The three scenarios suggest a gradual removal of the cubicles in exchange for an open office landscape with an increasing number of collaborative and team workspaces, effectively shifting the CGDC team from a hierarchical model of working to a more collaborative and team based organization.

While this shift might have been quite obvious to begin with, we believe that the design interventions and resulting dialog were instrumental for the CGDC team to anticipate these organizational changes and gain ownership and confidence in the opportunity afforded by the redevelopment of their space.

We are currently preparing a follow up study for the CGDC team. This time we suggest to clear an area in the existing space to establish 'design pod' that will be used by the UArts team to stage and produce a next series of interventions. We hope to share with and infect our client with design, its thinking, tools and methods.

Case Study 2: The Williams College Library Project (2007/8)

Williams College, a prestigious liberal arts college in Williamstown, Massachusetts commissioned the architectural firm Bohlin Cywinski Jackson (BCJ) for the planning and the construction of a new central library building.

I connected to BCJ architects as principal for Milder Office, my professional practice outside UArts. Milder Office is a Brooklyn, N.Y. based furniture design and production company. We offer system furniture made from pre-finished plywood and aluminum components. Our design-for-production philosophy combines standardized detailing with a design protocol that is open for input based on clients needs and budget. At that time of my visit, the architectural firm was in the middle of the schematic development of the new building and faced with the dilemma to plan long-term solutions for quickly changing conditions.

Libraries are no longer just considered a place to store and retrieve information. As information becomes available essentially everywhere at anytime, libraries as a place, and with that the role librarians as its managers are bound to change. As a result there is lot of discussion about making the library a destination once more, a place of learning that is more attractive to students than the local coffee shop.

The context of the architectural planning process, in this particular case, was very analytical, counting the numbers of workstations and study carrels and projecting these numbers forward to develop the program and organization of the new building. The programming and development for the new building was primarily based on current data about the use and experience of the learning environments in the existing libraries at Williams College.

Using the Campbell Report as an example, we were able to convince the architects, as well as the planning committees at Williams College, to enter into a year-long collaborative study and process of exploration about the features the future library, and particularly the main reference floor of the new building. The goals of this study were to increase awareness of the ongoing planning process and to solicit participation of the large college community, provide design research and help to develop new knowledge about the features and qualities of what would become the ‘learning commons’ at Williams College.

Just-in-time Learning: Active Listening

Complementing the architectural planning process, the design team initially offered research and, in collaboration with representatives from all stakeholder groups involved in the project, facilitated further dialog to identify a list of key concerns to be addressed.

Librarians, members of the planning committee and representatives of the architects traveled to the library of UMass Amherst to see what is held as a major accomplishment in the North American library scene, the UMass Amherst 'learning commons'. In a subsequent work session we speculated about the possible need to introduce new features into the library environment. There was discussion about social learning and the opportunity to introduce elements to liberal arts education and learning that are typically found in art and design studio context (i.e. display surfaces, white boards for note taking and 'sketching' ideas).

Design Interventions

In order to study and further explore a number of assumptions, the college agreed to clear several sites in the existing main library to create a set of environments for testing and evaluation during the 2007/8 academic year. All installations use generic materials and detailing, and do not intend to represent a finished product. These test sites provide an opportunity to experience and test different functions and environments, not typically found in a library setting.

Channeling feed-back

In order to collect users' reactions we created several channels for feed-back through a site on facebook.com, flickr.com, though email, as well as analog tools. As in the project with Campbell's we supplied red and green adhesive dots and asked users to express their preferences for elements at each site.

One of the first comments the test installations received was the healthy rejection through the Williams Record, the student newspaper. "But the design of a space built for higher education should inspire learning of that caliber. Sawyer's mishmash of toys inspires the abandoning of intelligent texts, the forming of a relationship with the colorful floor and the utter distraction of the mind. When we approached the space, our first impulse was to construct a fort with the rolling partitions and knee-level table, to surround said table with giant beanbags and slither underneath our bastion of rompery. These trifles inspire frivolous tomfoolery.'[8]

However, the most feedback came through simple notes left on newsprint banners and a twenty questions survey made available at each site. We also got valuable information through a log of observations that the librarians established on Wikipedia.

After two months of having these installations in use, we organized a public forum to present and discuss these suggested concepts with all stakeholders involved.

Design Interventions 2.0

Building on feed-back received, additional research and discussions about what is understood as 'learning commons' we developed a second iteration of these installations.

Instead of reviewing the second set of installations in a public forum, we organized an afternoon long charrette, inviting a large group of stakeholders and representatives from the Williams planning committee and BCJ architects. We reviewed the overall process to date and discussed the potential of particular concepts in the context of a number of locations in the new building. Strategies that received the most support will, at the end of this process, be cast into a set of scenarios that map out possible strategies for further development and implementation.

The Program: **MID @ UArts – a design laboratory for modeling change**

As mentioned above, both case studies informed the recent restructuring of the Masters of Industrial Design (MID) program at The University of the Arts (UArts) in Philadelphia. This program prepares students from a range of professional backgrounds for a career that is driven by design thinking and is realized through a design practice that sparks and facilitates innovation and organizational development.

MID at UArts recognizes design as the new management tool, instrumental in fostering strategic creativity and organizational learning. We offer design input at the earliest stages of the development cycle and in particular during the initial project definition.

MID students learn through strategic and long-term partnerships with industry and organizations that are looking for ways to develop and grow more sustainably and that are interested to engage such change through design.

We believe this program to be a relevant catalyst to connect several spheres of interest:

- Be a partner for the new city government of Philadelphia, local industries, as well as for-profit and not-for-profit organizations and institutions in helping with the transition towards a more sustainable society through social innovation and creative collaboration.

- Serve as a model for The University of the Arts to reclaim academic leadership by effectively bridging the world of academia with a world in need of education, new knowledge, ideas and practices.

- Create a model for design education that is guided by both academic excellence and driven by real-world issues and challenges. As this program will provide service and collective learning, it will also retain new insights into the future of design practice, new leads for further research thereby evolving the model of design education itself.

Engaging change through design, the Masters of Industrial Design program at UArts will begin multi-year long collaborations on two projects formed as case study projects.

The first project in the new Masters program is the Philadelphia Green Kitchen project. Philadelphia, like New York and other urban centers in the US, is committed to dramatically reduce its ecological footprint and to become waste free within the next two decades. This will require large changes in the way we, as a municipality, business or individual household manage our resources.

The Philadelphia Green Kitchen project will bring together a number of stakeholders: The Office for Sustainability recently established within Philadelphia's City Hall, the Philadelphia Housing Commission, the Recycling Alliance of Philadelphia, a LEED architectural firm, kitchen appliance and cabinet manufacturers, and a group of Real Estate Developers. We will utilize, and further develop the methods and practices we employed for the two projects presented earlier: Use design research and design interventions to initiate dialog among the various stakeholders involved. Based on collective learning and new knowledge created, the design team will develop a number of design orienting scenarios for further development, testing and creation of new products.

For our second project, which will run in parallel to the Philadelphia Green Kitchen project, the MID program will partner with AMUNEAL, a metal fabrication business with approximately 150

employees. AMUNEAL is a second generation family business, using technologies that range from handicraft to the latest digital manufacturing techniques. This project will initially focus on helping the company better understand their current operations and how to best harmonize and re-align the various interests within the enterprise. Considering this is a local manufacturing business competing in a increasingly global marketplace, issues of sustainability will be a particular and important focus.

To that end MID at UArts promotes fourth-order of design, or, as we like to call it, design 4.0. "The transition in design practice, when moved into third- and forth order design, expands the designer's concern toward action and thoughts. In making that move, design is opened up to the world of human experience and the systems, environments and organizations within which the human interactions take place"[9]

We enable our partners to endorse sustainable business practice by considering 'bigger picture' scenarios and whole systems approach to drive change and innovation through design.

"The focus is no longer on material systems - systems of 'things' – but on human systems, the integration of information, physical artifacts, and interactions in environments of living, working, playing, and learning."

"By definition, a system is the totality of all that is contained, has been contained, and may be contained within it. We can never see or experience this totality. We can only experience our personal pathway through a system."[10]

Understanding a system of actors and flows in its current state will generate entry points for design interventions. This understanding also suggests and explores possible next steps for new development and innovation. Problem solving not in a scientific way, through the analysis of existing conditions, but rather through a right-brain approach of synthesizing, connecting and networking a range of interests, knowledge pools and motivations.

Our projects introduce design thinking and practice, its methods and tools, to our partners' enterprise, which, in most cases, rely on different skill sets and different practices for planning and decision making. We also understand the need to develop a body of research, theory and knowledge that are accessible, cohesive and can be shared, not only among the design community, but also among a larger group of stakeholders.

Specifically, modeling and prototyping of concepts for testing and evaluation form the core of our process, while we iterate ideas based on feed-back, design research and intervention.

The Masters of Industrial Design's two year curriculum is organized around three tracks: the design studio, design methods classes, and a range of seminars.

1. The studios

First and third semester studios will require students to work in teams for one of our partnership projects. The second semester studio will be reserved for addressing individual interests and needs to develop particular skills.

2. Design Methods

These courses help our students to develop the skills and methods required to realize successful design projects. Put into practice, these tools and methods enable and support a design process that is increasingly shared with other disciplines, facilitates collective learning, and produces actionable strategies for change. Special emphasis is placed on participant field research, visualization and system mapping, the development of design-oriented scenarios and the ability to communicate design thinking and concepts in a clear and compelling way.

"There is a sense in which every design – whether it is called a master plan, a blueprint or a floor plan – is a map, because it organizes man and matter. Now that the ordering of man and matter has become part of the movement of patterns of information, knowledge and capital, architects [designers] must change their maps to conform to the new reality. Until now they have done so very cautiously; it is quite something for a progressive insight to be discovered during a design's research and conceptual phase. Such discoveries at least make for improved orientation. But they don't help one to find the way. That is only possible when making a map is the same as making the road. In a society of flows, the need is above all for road maps and these are not discovered but created."[11]

3. Design Seminars

Seminars during the first year of study will be devoted to examining the shift in cultural, technological, material, and professional landscapes that a graduate design candidate must navigate. Through readings, presentations, and discussions, students explore how these evolved contexts are changing whole systems as well as their individual stakeholders. Special emphasis is placed on developing key concepts and ideas to engage sustainable practice and drive change through design.

Seminars offered during the second year of study will develop the tools that take ideas from inception to business plan, to put ideas into idioms that make sense to industry, and to create the viable means for connecting new product and service development to sustainable outcomes. This course will explore new business incubation; micro business practices, emerging models of design consultancies, and practices of innovation in a global economy.

As we are review applications and prepare to re-open this program this fall, we are most of all excited about contributing to the building of human networks and the opportunity of collective learning in an everyday and real-world context. Through our project reports and growing experience, we look forward to further contributing to the ongoing discussion about design, and share practical knowledge with a growing audience about innovative design practice.

Please be sure to visit our site at www.mid-uarts.org for updated events, new case studies or for more information.

References

1 Design-orienting scenarios "propose a variety of comparable visions that have to be clearly motivated and enriched with some visible and (potentially) feasible proposals." They are "visions based on considerations that the 'scenario builder' may share with, and eventually build with, the potential 'scenario users'." Manzini, Jégou, 2000, http://www.sustainable-everyday.net

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