Design for All

Chairman's Desk:

Dr. Sunil Bhatia

What is the role of confusion while designing products/ services? Sometime people address it as dilemma or say on occasions they believe what designer thinks ahead of his time and common people are unable to visualize & realize what are the consequences associated with selection of one out of many options that may lead to specific path where outcome is uncertain and do not turn out as per their expectations or prevailing high uncertainty in outcome are consider as confusion. Confusion is registered in mind when present situation or future vision is in conflict with data stored in mind or mind has indicated something and other sense organs are submitting the information that is not compatible with it.

I remember an incidence where I questioned the artist "How do your dot on canvas representing something". He informed that it is not our duty to explain what I have painted let the viewer interpret. He illustrated an example in very simple word. 'Imagine a person at a distance and failing in recognizing who is this person. Even not sure what is the gender but outline is visible that appears as a dot. Mind is in confused state because it is failing to establish the identity of the person other side eyes are focusing hard for recognizing 'Who is

this person?' Mind has its own style of functioning and it is indicating something for which eyes are refusing to accept. As eyes pass some information mind is not confirming and refusing to accept and confusion surfaced. Mind's character is not to give up easily and looks for more information for confirmation of the identity of the person at distance. As that person comes closer, eyes can see properly and as mind confirms the identity of the person that very moment confusion evaporates. It is the viewer who interprets the dot based on level of confusion and how deeply he is probing in confirming the identity is the real works of the artist. Our job is to shake the thought press of the viewer and journey should be travelled by him. 'Confusion and confirmation are placed at two poles apart and man's journey of progress begins from confusion and end at confirmation. Man swings between these poles.' In other words thesis and anti-thesis churn out reality and synthesis is created. 'Is not journey from confusion to confirmation good for mankind?''

It is my experience that confused people are not confident about what they are doing or have no proper experience in handling such matters or their experiences does not become handy in searching of right solution because of encountering new situations that is not experienced earlier and demands new means for handling . They suffer with syndrome of 'what to do next'. Some people succeeding in overcoming this confusion by inventing new ways and we call it innovation & creativity. Majority of people fail to overcome confusion and never be enlightened and to knowing the truth appears impossible like a huge strong wall that is blocking and they suffer with the thinking that rare people can only dismantle and can go

across the wall. It is impossible for common person to think beyond this wall.

Designer community should visionary and be trained for questioning 'Why does confusion surface in the minds of users? Their minds are struck with many ideas and the select the best alternative based on available resources. In my opinion reason of confusion is a part that coordinates performing specific act and somewhere a link of some part is missing for execution and mind refuses to accept and that unusual missing link generates confusion. Better design products/ services have minimal confusion for users. No designer can eliminate absolute confusion by design of products from the mind of the users. A few select one can be handled by design and majority is treated with training. Training helps in educating in advance what will be the outcome if process is handled in specified manners by users. A designer is to develop cloistered thinking where so many branches are to be applied to achieve the desired goals.

Another reason for confusion is that it originates due to a new situation where physical level appears identical but deep probing indicates it is not. This type of confusion is generally faced during the interface. Every situation demands new solutions and our past experiences do not help in understanding, planning & executing. Missing these ingredients in any person will not allow for searching the solution & never move to next level of innovation & creativity. Initial step of the creativity is because of 'controls confusion' & it leads for search of right solution. Problems and solutions are varying from person to person throughout the world but still some elements of similarities is lying somewhere that is why creativity and innovations are welcomed by common people. If we look at the history of civilizations and look at the method of cooking, it is almost

the same with slight variations in cooking techniques. 'Foundation of solution of every problem is confusion.' Solution demands thinking. Thinking alone will never lead us to exact solution if it is not translated into well prepared organized actions that would take charge of the confusion. 'How to unwind the entangled threads' was the biggest confusion for ancient man & he thought that idle sitting would not lead to solution and problem would persist. Every action has inbuilt consequences and it brings in change of state of the problem. He started from somewhere and was not aware why he was starting in particular way but his actions have generated some changes. Changes open new avenues of thinking and he succeeded in doing so. Locked hair might have created lot of itching to a female or even male. So she/he wished to get rid itching. Solution might be either to wash with water or it may be attempted with riverside soil that is high in carbonate and it is still in practice among washer man community to wash clothes as well as use as toilet soap or design something that should function as hand fingers does in unlocking the hairs that force them to design comb for unlocking & straightening hairs. 'Is action counter for evaporation of confusion?' Action with confidence and proper expertise makes the confusion vanish into thin air. Confident persons are those who have good knowledge & experience of specific areas human needs and in simple words we call that person an expert or specialist who can do the needful. It does not mean that thinking needs specialization and person with general thinking cannot explore solutions. Primitive peoples were practicing the philosophy of 'Confusion is to be counter with action. Actions should be supported by knowledge and intuition.' Why do I say intuition? Reason that no one has knowledge of reproduction but everyone from smallest livings to humans learn by intuitive power

and it helps in eliminating the web of confusion and does step by step actions for requirement for reproduction. Design of comb, nails ,screws ,mirrors ,threads and many more are the products of generalized thinking and it is the result of establishing the foundation of modern civilization and concept of specialization existed nowhere . Is specialization good for the progress of the society or generalization was good that was prevailing before the establishment of modern education? It is the vital issue that human civilization has to sort out in near future. It cannot keep pending for future generations. Isn't specialization expanding areas of ignorance? Modern education is promoting & recognizing specialization. But in old days whosoever was blessed with some creative ideas and was thus free to contribute something what he feels good for specific area and for that no formal education was required as we demand in modern education. Modern Education has created specialist and irony is that physicist expresses his inability for basic knowledge that is very close to his specialization that is mathematics or chemistry. Cardiologist shows his inability to treat simple other diseases. Is it not confused minds are known as specialized? In the name of the specialization are they not ruining the basic fabric of the society of trust, caring & sensitivity? What I believe confusion and interest fit into a family of knowledge emotions along with the emotions of surprise and awe. In modern time specialization has focused but limited knowledge and interest of material gain dominates his so called expert knowledge and he appears as lost person who enjoys high respect in material world but stands nowhere in contribution for progress of profession. Ancient person's knowledge was not compartmentalized in specialization and he was free to think what best he knew about other associated

branches of learning. It is my submission that ancient people were less educated but their intuition and wisdom were superb & these were prompting them to venture into unexplored areas and what they did for us by inventing such a simple solutions for complex problems had been amazing. Another factor was contributing for genuine solution was there was no concept of reward & award in return of their inventions that eliminated the chances of practicing dishonesty & manipulations. These negative thoughts were nowhere in their thoughts. Reward and award had made more damage to modern specialist world. Market driven society has been damaged since people work only to keep their minds how to win the award. Since recognition is very important for materialistic successes. Ancient man was working keeping in his mind how to solve those problems which were creating hurdle for growth of his times. There were many incidents when he was unable to find solutions inspite of his best possible efforts. Confusion was overlapping inspite of his mighty knowledge and depression was replacing his enthusiasm 'why did I take up this problem?' He was victim of depression and it led him to some intuitive skills or we can address by saying it was divine intervention that has revealed in the secrets in his dreams for reaching to conclusion. 'Was it not intuitive power that helped in eliminating confusion to a degree?'

I was watching television that there was program on 'Curiosity Mars Explorer' was landing on Mars there was huge cheers from team members in NASA and everyone was greeting one another for successes. It stuck in my mind it was not success for which they were anticipating it was their confusion that was making them scared and success of the spaceship had evaporated their confusion. Their minds were loaded with confusion about successes or what

could be the role of stakeholder of this project if it was unsuccessful. Unsuccessful project ruins our social status and how we would survive in this world? When they cheer they are aware that they had successfully dispelled the confusion and many more new openings would welcome them with open arms. No one has ever uttered single word for the success of this project since it opened new chapter for progress of the society. Of course, in order for this to understand, it requires one to shed the veil of ignorance and determine how design is detected in real life. I classify the confusion by knowledge parameters. No or vague knowledge generates specific confusion and little knowledge sometime makes the person over confident or allows him not to attempt. It generates a state of passivity. Complete ignorance may prove to be bliss or ruined the current state. A traveller on visit experiences all three categories of confusion and writes his travelogue 'Travelogue primarily handles confusion about local culture and customs experienced by an individual.' An individual has his own culture and that helps in formations of his own perceptions .When he visits the places as traveller he perceives things according to his knowledge and these turn differently which enhances his knowledge and some confusion evaporated.

Role of confusion is significant in design. A bomb disposal squad person is focusing to make bomb inactive by proceeding step by step and his job is to read the mind of the person who has designed the circuit of the bomb & along with suffering with extreme confusion in mind. 'A small mistake can cease his existence.' That confusion places his mind at high alert and that never allows him to take any chance of harm by explosion. A normal human being faces many situations where he encounters confusion. I visited one of my

friend's houses and he asked me to switch on the fan. As I got up I found many switches on board. A solution struck in my mind and I pressed all the buttons on 'on'. Obviously one of the buttons was for fan. I keep switching off one by one and as I realized this switch of fan is 'off'. I closed rest of the switches. It was my confusion that helped me to look for the solutions which needed minimum energy & time. 'Confusion is one kind of control for executing projects in best manner with minimum resources.'

'The Comedy of Errors' by Shakespeare is nothing but narration of confusion surfaced because of mistaken identity of two identical twins. Everyone has experienced while doing conversation through telephone where mind is establishing the other person identity and it leads to conversation confusing. My mind indicates the wrong identity of the caller and my language, style of conversation shifts its focus and creates confusion. Most of the couple experiences confusion about their relationship and busy in playing a game of plucking the petals by uttering 'loves me! Do not love me!' Is it not act of confusion when data or information about behavior of lover is giving concrete evidence of love but mind is refusing to accept? Mind thinks rationally and guides the human to move forward with logically where heart is purely governed by emotions where rationality has no place. I find there is conflict of ideas between heart and head and it leads to confusion. I advocate 'one of the most useful things to learn is learning *what you don't know*.' Learning start with the foundation of confusion & if it supported with properly guided actions that leads to somewhere where no one has ever dared to venture. 'Learning that does not know more than we do. Not only is this useful, it can be—and should be—a pleasure not to know.' Is it good for us that we should enjoy and revel in our

ignorance? Confusion can be delightful, because it opens us up to making wrong decisions, and that allows for more opportunities to make interesting mistakes.

Confusion is expressed by various phrases not to know which end is up – that defines ignorance, not to make head nor tail of or make head or tail of- defines differentiation that is also part of confusion. The moment we call adolescence it is directly associated with confusion. A young man is confused why these hormonal changes are taking place? What is the purpose of these changes? Similarly when designer fails to create right interface of machine with end user it creates lots of confusion. Man's inbuilt character is confusion and it comes when he wishes to optimize his resources with minimum efforts 'Confusion is bound to appear.' Man with containment faces less confusion compared with person with greed.

 I am thankful to President of Cumulus Mr. Christian Guellerin for accepting our invitation for showcasing the works of student from different institutes from different country members.

 "Confusion and clutter are the failure of design, not the attributes of information." – Edward R. Tufte

With regards

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Content of July 2013 Vol-8 No-7

Other Regular features

Forthcoming issues

August 2013 Vol-8 No-8

Dr. Antika Sawadsri PhD in Architecture, Planning and Landscape University of Newcastle upon Tyne, UK. Lecturer, School of Interior-Architectural Design (2004-present) Faculty of Architecture King Mongkut's Institute of Technology Ladkrabang (KMITL) Thailand will supervise this special issue of student designers.

September 2013 Vol-8 No-9

"Inclusive Tourism: international perspectives, accessibility and inclusion in the Brazilian tourism" is topic suggested by Prof Regina Cohen Pro-Access Group - Federal University of Rio de Janeiro and she will be Guest Editor.

October 2013 Vol-8, No-10

Pooja Yadav is a 12th grader at The Riverside School. An avid reader, she is passionate about literature and loves writing. In her free time, you can also find Pooja dancing, playing football, listening to music while enjoying a cup of coffee.

Anshul Aggarwal is the Global Catalyst at Design for Change. He loves traveling and reading.

December 2013 Vol-8 No-12

This is our concluding issue for 'Student Designer year of 2013' with Industrial Designers of Society of America (IDSA).

Prof Sooshin Choi, Director, School of Design, Associate Professor of Industrial Design, University of Cincinnati and Education VP of IDSA will supervise the special issue. The Guest Editor will be **Krista Alley**, who is attending Master of Design Program at University of Cincinnati. Both are working on Inclusive Design and its successful applications.

"Women Designer year of 2014"

January 2014 Vol-9 No-1

IMMA BONET Executive Patron of Design For All Foundation has accepted the invitation of Guest Editor for our inaugural issue of our declared new series for highlighting the contributions of women in social movements of Design For All/ Universal Design.

February 2013 Vol-9 No-2

Dr. Lalita Sen Professor Urban Planning and Environmental Policy Ph.D., Northwestern University SPA/COLABS BLDG SUITE 402F

Areas of Specialization: Accessibility, Accessible Transportation and Mobility for Seniors Disabled, Housing, Accessible Tourism, Universal Design, Emergency Management of Vulnerable Population, Application of GIS in Spatial Analysis and Community Development, International Policy on Accessible Transportation, Smart Growth and Health Service Planning, International Policy on Accessible Transportation

March 2014 Vol-9 No-3

Dr.Margaret H. Teaford, PhD , Honors Director ,Associate Professor-Clinical, School of Health and Rehabilitation Sciences, The Ohio State University would like to focus on assessing the needs of women in designing environments and applying Universal Design. And she will be the Guest Editor of special issue

April 2014 Vol-9 No-4

Valerie Casey is a globally recognized designer and innovator. She is the Founder of the global social impact NGO, The Designers Accord, and the CEO of the US-based innovation consultancy, Necessary Projects. Casey was named a "Guru" of the year by *Fortune* magazine, a "Hero of the Environment" by *Time* magazine, a "Master of Design" by *Fast Company*, and one of the "World's Most Influential Designers" by *BusinessWeek*. The World Economic Forum has honored Casey as a "Young Global Leader." She will be Guest Editor of this issue focusing on women, design, and social impact.

May 2014 Vol-9 No-5

Rachna Khare is a Professor of Architecture and the co-ordinator of Centre for Human Centric Research (CHCR) at School of Planning and Architecture, Bhopal. Prior to this she was Senior Research Fellow, Jamsetji Tata Universal Design Research Chair at National Institute of Design, Ahmedabad. Rachna is a recipient of the Fulbright Doctoral Fellowship and was affiliated with Georgia Institute of Technology, Atlanta, USA during her PhD in Inclusive Design. Her interest in the field of 'Universal Design' has earned research grants and awards nationally and internationally. She has published extensively and is one of the authors of Universal Design India Principles released in 2011.

June 2014 Vol-9 No-6

Josyane Franc is the Director of the common Department of International Affairs for the Cité du design and Saint-Etienne higher school of art and design (ESADSE). France

July 2014 Vol-9, No-7

MITZI BOLLANI Architect, Sculptor & Product Designer. She runs her own Architectural & Design Practice based in Piacenza since 1978, and focuses her work on the research of the psychological well-being for the users of her projects, acting as a primary target accessibility and safety for all individuals.

Mitzi Bollani is one of the founders of the "Design for all" concept that she applied the first time in Genoa: "Civis Ambiente – Accessible mobility in the Historical Centre": starting from the needs of people with activity limitation such as physical, sensory and mental or cognitive limitation, spaces, buildings and products were designed to be easily accessible to all, without losing the aesthetic value and above all without incurring in additional costs.

September 2013 Vol-8, No-9

Prof Lylian Meister , Dean of the faculty of design at Estonian Academy of Arts ,Estonia ,will be the Guest Editor. This issue will be about Design for All field research and outcomes in Estonia.

Guest Editor:

Christian Guellerin

Hon. President Cumulus – International Association of Universities and Schools of Design, Art and Media

Executive Director of L'Ecole de Design Nantes Atlantique

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Design schools: from creation to a new entrepreneurship more responsible

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Given the turbulent socio-economic climate, the number of remarkable opportunities awaiting design schools is not only impressive, involving the training of students who will occupy tomorrow's top managerial roles, but also commensurate with innovation challenges facing businesses and society on the whole.

In the past decade, they have already undergone many changes, and are the focal point in several countries. That said, their evolution is not over: they will lay the groundwork for "centers of innovation" aimed at serving the financial front, and more generally, society.

Design schools are schools of creation, and for years, they have legitimately trained creative individuals, students comfortable with what engenders the specificity of the designer: that is, representation – namely through drawing – of products, space, life scenarios. The students were perfectly aware that what was asked of them did not necessarily need to be understood at once, for it involved a creation, a transgression of reality whose inherent nature did not always coincide with that of the general public.

For years, the designer has voluntarily delighted in this logic that made him a "creative person" donning a "singular" inspiration, who worked alone on his drawing board, and sheltered himself from others who could steal his ideas. Schools – in France especially – have encouraged this particular approach of "creative designers", "artist-designers." They have developed on the fringes of all academic institutions and/or prestigious schools incapable of working together during the rise of major university economic and/or technological research projects. Similarly, they have had little to do with companies on the grounds that the economic aspect and profitability could alienate the designer's ability to create. Numerous establishments over the world continue to function on this model. Their success has enabled them to produce "artist-designers", some of whom having acquired international acclaim.

Two factors forced some schools to move toward more professionalization. One was the awareness that design, creation and innovation were a superb engine of growth and development for businesses. The other, new to the field of design education, was the requirement that an institution was not to be judged only on the quality of its graduation projects, but rather on the quality of job

opportunities found by students.

The responsibility of design schools has evolved: the focus is no longer solely on training "creative individuals", but "creation professionals." These minds are creative ones, exhibiting adaptability and continuous change, aware of the economic obstacles lining the paths of those businesses with which they will be working. Joining forces with a multitude of backgrounds is capital, including engineers, marketing minds and financial folks, not to mention philosophers, sociologists and artists. To further embellish the creative process, exchange with those from myriad horizons is indispensable. Design has become a discipline of project management at the same time when innovation is becoming a strategic move for business and society.

Student designers must learn business at the same time as they learn sharing, collaboration, team spirit and the need to work together.

They must also learn management: design, a creation discipline boasting the individual aspect there within encouraged by teachers, has become a collective problem-solving activity of increasingly

complex socio-economic issues. The designer is a project manager. Within the company, he is the driving force behind collective thought on new products, corporate services, image, brand, culture, etc.

As obvious as it may seem, learning the need to swap ideas was revolutionary in the apprenticeship phase and in the minds of designers. Teaching methods adopt a completely new approach, and engender a radically different responsibility.

From innovation to a new entrepreneurship

The chance to work transversally with companies and other academic disciplines triggers a new type of responsibility, one that targets the creation and production of the objective, achievable and profitable. Imagination works wonders, and is indispensable in brainstorming, but its value is best optimized when transformed into viable scenarios, commercialized products and services and market consumables. If, on the one hand, creation can – and must – justify subjectivity of its creator, then, on the other hand, innovation's job is to ensure that the projects are viable. Faced with this requirement, design schools, aware of their responsibility, will, ultimately, take on a new identity: a center of innovation exhibiting an objective and reproducible nature. They will become "centers of experimentation" needed by engineering schools to lay out scenarios of technology usage in a less threatening way so as to sway undecided voters. Business schools, also, will seize the opportunity to revisit an approach to product design that has often been neglected in favor of distribution marketing or fundamental marketing research neither in tune or in sync with current business

needs. The academic drift imposed by the Shanghai ranking of best universities will be offset by a return to what business schools do best, namely business management.

The most relevant schools have already created their "experimentation laboratories", their "design factories" or are turning into corporate laboratories for those companies that have incorporated them. Befitting "research – training – corporate" ecosystems are already in the midst of assembling Masters of Design programs that increase the hybrid learning, dual degrees and multiculturalism.

Thus, the era of "entrepreneurship" is in motion. The more viable projects are, the more tempted students will be to develop them, and will not give others the chance to do so in their place. A new quality criterion will be implemented for the most efficient creation venues. The percentage of students who start their own business based on products they devised during their studies will be decisive. The more relevant the innovation approaches are, the more convincing students will have to be, by "taking the plunge" into the world of self-employment. In some schools already, and namely at the Ecole de design Nantes Atlantique, nearly 40% of 4th- and 5th-year students are already self-employed. The task to achieve is starting up a company for those students who have the ability and desire to do it. Implementation of "incubation centers" is expected. French design schools have a great asset in that they are sitting on a culture of creation recognized all over the world, and for their students, being a French designer is definitely a distinctive touch to exploit.

At a time when universities of management and economics are struggling to get a handle on the crisis, when engineering schools must demonstrate and defend progress, design schools could well be on their way to becoming "centers of innovation", centers of experimental research needed by companies to help them think with a more objective lens and from another angle. A major social and economic issue is waiting to be addressed here, and it is notably in need of public authorities' attention.

As mentioned recently by Denmark's Kolding School of Design Dean Elsebeth Gerner Nielsen in "A Manifesto for global design and leadership", "The 19th and 20th centuries have forced companies to face up to two questions: What is profitable, and what is technologically possible? In the 21st century, the question has become: What makes "sense"?" -

- See more at: http://christianguellerin.lecolededesign.com

Christian Guellerin

Charlotte *studied at L'École de Design Nantes Atlantique (Nantes - FRANCE) for three years and at the Srishti school of Art, Design and technology (Bangalore - INDIA) for two years as an exchange student. She came to India to open her mind and to see different ways of thinking, working and living. Coming to India also meant to be independent and self-sufficient personally. She has always been interested in discovering other ways of design thinking. When she is designing, she thinks essentially of the users and its relation and interaction with the product. On the other hand it is necessary to think of the production and of the lifecycle of the product.*

The Nowhere school – Design intervention in education for migrant workers' children

Charlotte Secheresse, Final Year student, Transcultural Design Masters program, Lécole de design Nantes Atlantique (India studio)

Introduction

With the number of problems that the world is facing today, there are many domains that need design intervention. Education, Healthcare, living conditions, human rights etc., all have potential problem areas in it. This design intervention can lead to solutions that have a small but positive impact in the lives of the different user groups. It is all around us and the need of the hour is to explore the opportunities where design can contribute towards positive social change. This could be done through designing products, services, solutions or systems. Designers worldwide should attempt to find these solutions.

As a designer trained in product design in design education in France, the challenge for me to explore the domain of Design for Social Impact in India was tough. As a Transcultural Design student studying in India, the exposure to social issues was always present.

When I discovered the design profession, I thought design was about aesthetic and functions, but it is much more than that and its applications are everywhere. For me, design is essentially about people's needs. The way a designer thinks, is different from the way an engineer or a businessman think, it is different and complementary. Victor Papanek explains that designers can play an important role because "*They speak the languages of many disciplines and can frequently help both on a village level and with export markets*". From this interdisciplinary can emerge social

innovation. Design can and must be applied to social causes because the designer understands people's needs from a different point of view and with a different creativity process. I like the fact that design can really change the life and improve the livelihood of the users.

This article is a short report on an attempt to work on Design for Social Impact, through a project done for Migrant workers community in Bangalore.

Background

In my diploma project I was motivated to do something, which can really improve the lives of the persons I am working for. I was interested in the topic of education and for children who do not have access to it. I chose to focus on the education of migrant children because it is challenging. Their education is a casualty in the process, because they are moving from one construction site to another. Moreover, the majority of the construction sites where they live are located in remote areas, far away from any schools.

The underlying reasons for my decision to work on this subject are emotional as well as rational: I was living in NCC, a gated community in Yelahanka, a suburb in northern Bangalore and from my living room's window I could see the laborers' make-shift village. Every day, I saw the children of workers running, playing and living in the laborer's camp. They often did not have school for them to go to. This also meant that no better jobs and no better future than that of their parents. Those children however deserve the right to education as much as other children in the world. The question I asked myself was, how could design intervention play a role towards positive impact here.

On Education

To further support my belief and find more rational reasoning; I did some secondary research on the existing education system in India. Education plays a vital role in the economy of a country, especially that of a developing country. Understand the existing laws of the country towards a complex system like this in an alien country to me was challenging.

Even though Indian government has created a law: *The Right of Children to Free and Compulsory Education (RTE) Act 2009*, it is not sufficient and there are still children who cannot be reached by the government school system.

Identifying the core area

As in a typical wicked problem, these children need a lot of things like food or basic health care too, but I choose to help them through education, because of a self-belief that around the world, a lot of things have changed through education. Education has a long-term value and I do not only want to improve their present but also their future.

At the beginning, my vision was very large; as it was about improving migrant children's life and their future with education. I wanted to tackle the problem that migrant children do not have access to education or whatever access they have tends to be temporary.

I managed to narrow down my problem area and thus my aim was to find a solution to bring continuity in their education.

Design Research

Through my research, I had defined four main research areas: a) migrant workers, b) migrant children, c) formal education and d) non-formal education. My first research was to understand the

modalities of living, thinking and acting of poor migrants (adults and children). This comes through both primary and secondary researches.

To start my field research, I went to a laborer camp with a translator to discuss with itinerant construction workers and have a first contact with their children. After that, I went many times to this worker camp and also visited several NGOs and schools. As an outsider attempting to gather information via a translator is challenging and often can lead to loss of information.

Findings from research

Bangalore is a perfect place to start a project with migrant children because the main cause of its growth is migration accounting for 45% of the growth. A lot of workers are moving with their families to Bangalore.

Through this, I understood that migration is not the only factor for these children not for not going to school. They cross many barriers in their new places of living, different cultures, different languages. Migrant children also start working very early in their childhood which means that they cannot go to school. However, the government has created the Right To Education act, which established a free and mandatory education for all children from 6 to 14 years old. Nevertheless, this act does not cover all children at this moment, especially migrant children.

Migrant children are living in poor conditions, but it varies also a lot depending on the builder: Block construction, Tin sheet houses or even worse, in tents. Children are often staying in these camps the whole day, playing with construction materials, sand or metal pipes, when they are not helping their parents at the construction site or at

home, further exposing them to health hazards. The future of migrant children will always be uncertain until they get access to education, which suits their needs. Awareness programs are necessary for parents and employers to understand the negative effect of child labor and the need and the benefit of education for both girls and boys.

Redefining Design Problematic

Thus, my design problematic is:

How education can be designed to be attractive, beneficent and not dependent on location to fit the needs of children of migrant workers in a context of migration and un-traceability in Bangalore?

The Idea for the Design Solution

I observed that construction sites are often located near existing residential complexes. Two completely different worlds are juxtaposed but they never meet. The stakeholders are different in both these worlds and the key was to identify how they could be made to talk to each other.

That is where the idea of 'The Nowhere School' started: ask housewives living in residential complex to give classes to migrant children in laborer camps. Housewives have time, knowledge and the desire to be helpful. Migrant children, on the other side, are excluded, migrate very often and have no access to school. The role of NGOs in getting these two primary groups to be able to interact with each other is crucial. These were the clear stakeholders in the proposed system that emerged after the research.

As a designer trained in product design, this aspect of thinking in systems is therefore something new and often challenging due to the complex nature of the social space.

Functioning of system

The first step of this project is to convince and enroll housewives through presentations in their residential complexes. This is to be done by the NGOs. A weekend of formation will be organized by the NGO to inform and discuss with volunteers. During this weekend the NGO will provide them a Nowhere School kit, and a detailed list of the laborer camps (location, number of children and what language they speak). Senior volunteers will guide the new volunteers to be self-confident and to interact with mothers and children in the laborer camp.

To accommodate the lives of the housewives' volunteer, and not take too much of their time, housewives go to the laborer camp 2 times a week and 3 hours from 9 to 12pm. The morning is a perfect time because housewives are available to volunteering and children are fresh and awake. The NGO will provide transport accommodation; a shuttle will drive the volunteer from her house to the laborer camp. Volunteers have the possibility to choose what they want to teach and how they want to teach (through games, storytelling, art). Education must be captivating for these children because it is essential to attract them to learning.

The Curriculum

Develop a curriculum was challenging because it must be adapted to their nomadic lives. Moreover, migrant children do not come from the same place, some of them speak only Hindi, others only Kannada and others some other languages. I decided that it was important for them to learn English but also to learn how to write their mother tongue and a basic of the language where they stay (Karnataka), so

the program will be in English, in Hindi and in Kannada. I started to develop a curriculum with a teacher, based on a 3 months cycle.

First 3 months is about learning alphabet (Hindi, English and Kannada), basic math, basic writing (name, address) and basic informations: where are the local schools, the police station, the healthcare centres, the post office etc. The second 3 months are about conversation, reading small books and basic rights (child abuse, child labour).

The Graphism (graphic identity) used on the mat is also part of the curriculum. The different animals composed with the geometric shapes of the Tangram makes it fun and attractive. More than that, the different paths made with Tangram pieces looks like a board game. There are 7 different colors, each of them associated with different topics: environment, health, hygiene, nutrition, institution, right and "make a change".

This will help the volunteers to develop a discussion with children. In the "make a change" category, children have to say one thing they would like to improve or change in their lives and how they think it is possible. Children can change things and this category could make them actors of the change.

Designing for impact

An approach like this, to design every aspect of the system, has different short-term, long-term goal and outcomes. First, the short-term: it will provide basic education and information to migrant children. Second, the long-term: it will give the motivation to children to learn throughout their life, and later as parents they will more likely put their own children into school. Measuring these

impacts is a challenge and taking this into account for the design solution is difficult for the designer.

## Design Solution – Product form

The design solution that I propose is a 'school' that can be set up within minutes and is designed to suit the children's world and the conditions in which they are living.

It contains a roof, a mat and a bamboo structure that can be set up in 5 minutes. There are two large pockets on the side to carry educational tools for the children (slates, chalk, pen…) and the volunteer's material (books, pen, storybook, and the blackboard).

The main issue while designing the Nowhere School was to make it's folding very quick, easy and intuitive. The metal piece base is the key part, because out of the three metal tubes, 2 are flexible. This flexibility is balanced with a transversal bamboo and the tension of the roof. There are 10 bamboo pieces, 8 of 83 cm and 2 of 47cm and 7 metal joineries of 10 cm. I choose bamboo because it is present everywhere in India; it is very resistant, ecologic and aesthetic.
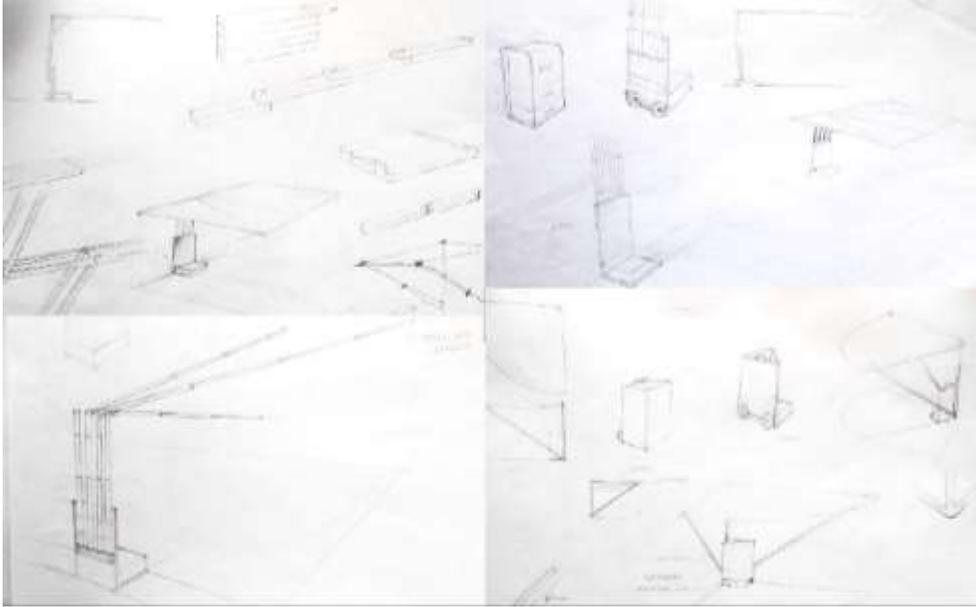
The Nowhere School is self-sufficient and can be set up in any laborer camp. It is easy to carry and to set up for the volunteer and attractive for the children. The roof protects them from the sun and the mat from the dust.

The Nowhere School can welcome at least 10 children. It is 1m66 high, 2m50 long and 3m large when it is open but only 1m10 long, 50cm high and 15 cm large when it is folded. Is weight is around 10kg, including educational tools (pen, black board and 10 slates).

Owing to the nature of the environment in which the product is to be used, *The Nowhere school* has been developed in a form of a bag in order to be easily portable, so that it can be moved around to locations where the migrant laborers go after construction of one site is done.

Working Scenario
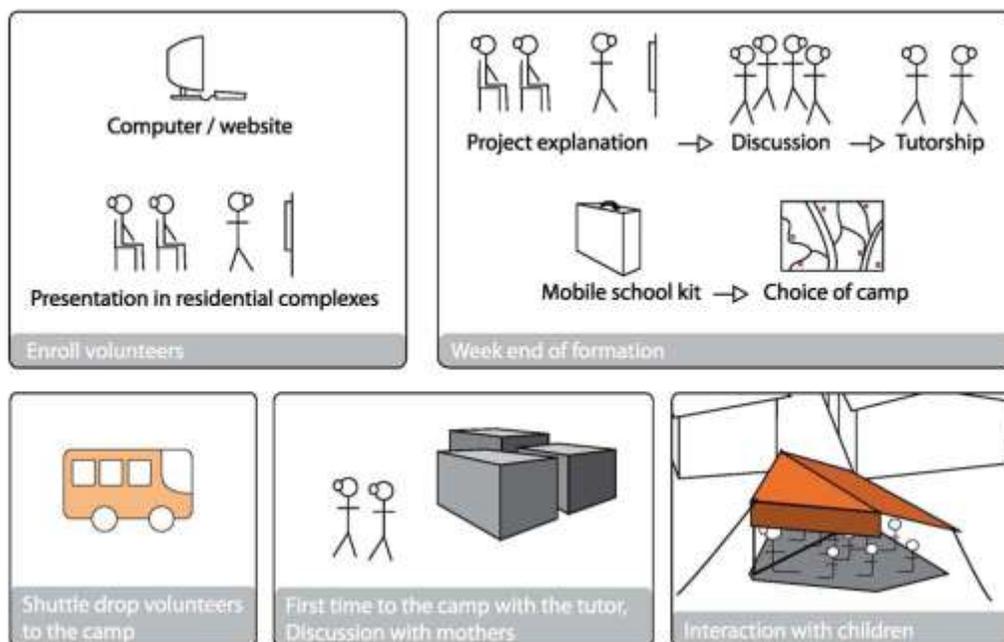
Conclusion

Through this project I have experienced a different way of working in a totally alien workspace and the challenges associated with it. The working of this design system for social change as proposed above, depends on the engagement and commitment levels of the various stakeholders in it.   Apart from this there is always the question about the impact and how it can be measured. Once the project finds some takers, it would be a good case study to replicate after refining.

Charlotte

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She decided to come to India to finish the two last years of her master degree because for her, being a designer today means being open to the world. Globalization drives people to innovate in order to respond to the needs of everyone. To do this, what better way than to discover a new culture, a new way of life and thus new ways of thinking and seeing things?

Visual Communication for migrant workers – a Design intervention

Juliane Denogent, Final Year student, Transcultural Design Masters program, Lécole de design Nantes Atlantique (India studio)

Introduction

Today, being a designer is more than making beautiful goods. For me, it is more a question of making life easier for everybody. It can be a simple way to display information on a poster to be more understandable, but it can be also about deeper questions.

In India, as a student of the Transcultural Design masters program, I had the opportunity to tackle crucial issues, as migrant workers' difficulties to communicate and integrate society. As, I chose this topic for my final-degree project: my first desire was to make artifacts using graphic design principles as a solution, in the service of everybody who needs information and communication.

Background and why I selected the project?

Communication is a tool so banal that we do not recognize its true worth. Generally language is thought of as a simple instrument to exchange information. Becoming conscious of its value and its complexity is possible only upon encountering the difficulty of making oneself understood or of trying to obtain information in a foreign language. As a designer from a different country, I experienced this situation first hand, when I arrived in India, two years ago. Speaking English was a real challenge for me at this time and I met with huge frustrations when, many times, I was not able to understand or to be understandable to others.

In addition, being a graphic designer means, in my opinion, thinking of communication by different means, with image and color for example. India, with her profusion of cultures, colors, symbols and graphic styles, is a great playground for people who want, like me, to experiment with all the possibilities that graphic design can offer here. I decided therefore to dive into communication's «twists and turns», to look at how this issue may be overcome by those interested.

The 'Transcultural Design' program in India gave me the opportunity to discover a new culture and way of life. As a future graphic designer, I wanted to focus my last year of studies on communication. India is a huge country with many different languages and scripts. But despite its large diversity, it has high poverty and because of this, very few children have the chance to go to school. It is hence interesting and at the same time challenging to think about how we can improve communication, when the illiteracy rate is so high and so many language barriers are present. Migrant workers from lower social-economic background often face the most amounts of communication barriers. This is because they are mostly illiterate and often settle in regions where they do not know the local language.

Inspiration for Social Innovation

I chose to work with migrant laborers working specifically in construction sites, for two reasons: The first is that I live in a residence situated between a huge construction site and the camp where the laborers are living. Thus even if our ways of life are totally different, I feel directly concerned by their reality, observing their daily lives in the camp, all day and every day, during working hours

as well as their free time. This empathy driven desire to work is critical for the growth of a designer wanting to work in the field of social innovation.

The second reason is that I have met amazing migrant construction workers, who have helped me a great deal for my project.

Above and beyond our professional relationship, they have introduced me into the reality of their lives, by inviting me to dinner regularly with them, spending time together, playing and drawing with their children.

With them I have spent so many good times, full of sincerity and humility that this experience will not leave me unchanged. It is these experiences that one needs to have as a designer, to be able to connect better with the target and user groups.

This is why I chose to work with this group as my target and analyze its various communication barriers, particularly in Bangalore. It is quite common for employers like real estate developers, textile industrialists and even the government to exploit this group, which is viewed as a cheap labor force. This alienates the workers from the community and subsequently makes them completely helpless and submissive.

Hence, I aim to find a way to aid this group of migrant workers through my Master Thesis:

Communication & Integration Issues of Migrant Workers in Bangalore

This thesis is been written (and the project done), with the purpose of expounding a visual language that could be used as a universal

tool of communication, which will therefore, be a solution to overcome the communication hindrances of the migrant workers. In this light, I find the simplified problem statement to be:

Can visual communication help integrate migrant workers?

Research

Firstly, to suitably answer this question, I have researched the subjects of Communication, Language and Linguistics to understand how the Multilingualism of India is a boon and not a bane.

Secondly, as my research is focused on migrant workers, I have explored their world and provided a vivid description of it through principles of Primary research methods like contextual inquiry, observations and interviews.

In the third section, I have brought to light the many problems that they encounter and have outlined what would be necessary to achieve in order to get them to feel more integrated with society. Lastly, as my purpose is to create a visual tool to help them communicate regardless of literacy and language problems, I have investigated the visual culture and literacy of the Indian people, with a focus on the illiterate.

Some very interesting findings came up from this research and I based my design concept on these.

- *English is spoken by only 12% of the total Indian population*
- *10% or 100 million of the Indian population: Migrant workers (Migration and Human Development in India 2009)*
- *In Bangalore, 74.6% migrant workers are from the lower class: Illiterate (Invisible City Makers - Survey on homeless/migrant people in Bangalore - 2010)*
- *74% of migrants from lower class: No knowledge of Organizations working for their Welfare (Invisible City Makers - Survey on homeless/migrant people in Bangalore - 2010)*
- *65% of the Indian Population are Cell Phone users.*
- *Migrant workers change their cell phone every year.*
- *Migrant workers are able to decipher messages from images but find it difficult to read local text, because of high illiteracy rate and multitude of languages in India.*
- *Visual language: good alternative to text for illiterate people & for foreigners who don't read the local language.*

Proposing Design Solutions

The thesis and the extensive research helped to know if visual communication could indeed help integrate migrant workers.

After that, my final degree project's problematic was:

HOW can visual communication help integrate migrant workers?

The research led to further concrete questions that needed to be answered with respect to the user group. Some of them were:

What graphic style can fit with visual literacy of the target?

Which symbolic language can be brought through what colors and depictions?

**On which medium can the information be conveyed best?**

Working on the visual language is a part of the solution, but the medium used to convey the information is just as important. A wrong tool could render the visual communication completely inefficient. In addition, to create a viable and feasible project, it is essential to find financial partners and therefore work within a business plan. Hence my project, beyond being a simple graphic creation, has been designed and developed with the prospect of one day being realized, in mind. The following concept proposal is an introduction to my design concept.

Design Concept: Cell Phone Application

An efficient medium for the dissemination of this information could be the cell phone, which is the most used communication tool in India; even more so by migrants (1/3 of the total Indian population) who live far from their hometowns and therefore often call their relatives.

The visual language could be used here in an application to help people to obtain the information they need. As migrant workers do not have Internet on their cell phones (it being too expensive) and would not want to spend more money on another tool, the application would need to be present on the phone at purchase, with the possibility of updating it without an Internet subscription. Hence a partnership between a cell phone manufacturer, a talk-time provider and information-providing NGOs could be profitable. These different sources therefore become the stakeholders in the entire system.

The manufacturer could create a specific, basic and cheap cell phone, with characteristics of interest for migrants (linguistically adapted keypad, camera, radio, dual-sim cards, torch light, etc.) and the Application. The talk-time provider could propose a special «migrant» subscription with reasonable prices for long-distance calls, SMS, and other services, including the possibility of updating the application and the information available on it, without an expensive Internet subscription.
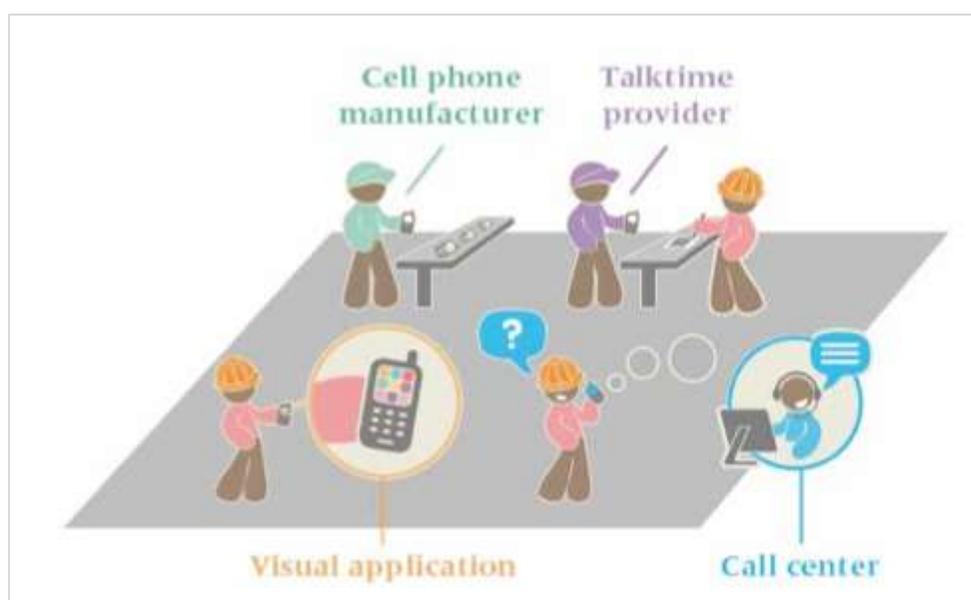
The application would take the shape of a basic visual menu, with different sectors of information depicted by pictograms. A sound voice would be included as a guide in addition to visual symbols (language choices being given in the application's parameters).

As the cheaper, most basic cell phones do not have a large enough screen size to enable exclusively visual explanations, it would also be important to privilege direct human contact, via the phone network, particularly as this contact is more trusted in India. Manufacturers, talk-time providers and NGOs could therefore use a part of their sales profits to set up a call center.

Each issue's theme would be depicted by a particular symbol, which could be clicked on depending on a specific need or question. The caller would then be put in direct contact with the particular NGO or service required, or the call center set up on the application network.

Thanks to the specialized subscription, all calls linked with the application would be free. To tackle the language issue, whenever a call is made, the call center would have the information on the language chosen in the phone's parameters and would thus provide an interlocutor speaking the same language. The call center set up by the partnership and working specifically for the application service, would need to be able to answer in all eighteen scheduled Indian languages plus a number of other widely spoken languages such as English, Chinese, Spanish and French.

This application would benefit the stakeholders of the partnership by allowing them to increase their profits whilst at the same time getting themselves to talk about it. It could also allow users, especially migrants, to find the most competitive prices for cell phone devices and subscriptions. In addition, the application would be the tool of a large «phone network», breaking barriers between migrant workers and the rest of the world, and providing them with the keys to increase their awareness of the solutions to their issues.

Challenges and Constraints

Creating a universal language is not a simple matter. Because people are coming from different horizons and belong to different cultures, they do not interpret and express ideas by the same way. Visual communication may be easier to understand than written or spoken communication, because it is not necessary to learn a specific code such as an alphabet or grammatical rules. It could therefore be a good answer to basic communication barriers. Nevertheless, a visual language also has some rules to take into account if it is to be efficient and understandable. Those lacking a school education, for example, will not have learnt common conventions to depict and

read an image. Understanding visual information depends greatly on the environment of the reader, their background and their life experiences. A visual language as a universal tool of communication, able to be used and interpreted by everybody, is therefore not conceivable. It is however possible to adapt a communication tool for a target group if their cognitive experiences and cultural background are first examined.

Stomach ache | Children playing | Work exploitation | Search scooter for sale
Reading learning | Sick baby | Robbery

Once the visual language is developed according to the target's perception, it is important to give attention to its contents. Creating a tool to convey information to people, who need it, is an important service to offer. It could be superficial and pointless, however, if these needs are not correctly determined. As migrant workers from the lower classes are illiterate and short of financial resources, they encounter problems specific to the precarious situations in which they are usually living.

Exploitation in the workplace, abuse of women, poor living conditions, political corruption, informal work and, especially, lack of information concerning health, human rights, legal and

administrative procedures, migratory practices, and even lack of awareness of the NGOs working for their welfare, are an example of the kinds of problems endured by migrants; all of which can be tackled by better conveyed information.

In terms of visual literacy, it is important to be aware that global pictorial communication is based on simplified pictograms and colors linked to feelings and emotions. However, these representations comply to precise conventions and cultural rules established by a community. They are therefore not adaptable to another culture. It is not possible, for example, to use Western graphic conventions to attempt to communicate visually in India.

Implementation of the design and why it will be good for the target user group

Communication is the key to linking people in community. This tool must be accessible to everybody in order for them to have their place in society and evolve as citizens. In a country such as India, where multilingualism and illiteracy can cause great communication barriers, creative solutions need to be found in order to improve relationships and communication whatever the level of education and ease of access to information.

Indian migrant workers are the first to be subject to exploitation and discrimination due to their inability to interact with the local

population and obtain the information necessary to their welfare and their safety. Be cause migrants come from all over the country, they do not have the same culture, religion or language as the local inhabitants, and, in addition, they are finding work in the host area, so xenophobia is rife. Migrants in Indian cities are therefore more vulnerable to problems of integration and thus most in need of help to communicate and obtain information in order to fight alienation. From a graphic design perspective, the creation of a visual language could help resolve some of these issues of alienation, language difference and illiteracy.

Conclusion

To conclude, Bangalore, like the rest of India, does not have one precise identity. It is indeed known as a melting pot of all Indian cultures and identities. It is therefore an immense challenge to aim to create a visual means of communication to help deal with the literacy problem and languages barriers in the city today.

To sum up Indian visual literacy, as far as is possible given the huge and heterogeneous cultural background, it can be seen that pattern repetition is appreciated, as well as profusion and simplified depictions of vegetable and religious motifs. Bright colors and popular symbols, such as the lotus, «*Swastika*» and «*Aum*», are also vital in creating an attractive visual in India.

Communicating with the illiterate, who have never learned to read or draw visual information in school, is different again. Without pictorial convention, studies have shown that visually illiterate people prefer to draw what they know rather than what they see, and find it difficult to interpret perspectives represented in two dimensions. This is why it is so important to work directly with the

people concerned, via semiotics tests, to be able to respond to the precise needs of the target.

It would be in the interests of the Indian government to look after this powerful labor force, which is a principal actor in the country's development. Thus providing information and helping Indian migrant workers, much more than a humane action, could be of real benefit in the development of India and a significant step forward for this huge and promising country.

Future work

Creating a visual language means by proposing a new way of communicating whilst protecting India's cultures and traditions by preserving its multilingualism is a tough problem. As mentioned at the beginning a language is the reflection of a society, as a means to communicating its culture, traditions and knowledge. India, with its multilingualism, is the cradle of thousands of years of knowledge and traditions, yet nowadays, many languages and dialects representing ancestral civilizations are at risk of disappearing and taking with them the treasures of their particular culture. Furthermore, this multilingualism plays an important role in the cohesion of Indian society and largely explains the pacifist mentality and way of life present in India, a great example of cultural richness and diversity.

As a visual communication designer, these are challenging questions and points of future work.

In my opinion, the creation of a new visual tool of communication would therefore not seek to replace existing languages, but rather act as an additional support, enabling people to communicate

together, wherever they come from in India. The question we could ask now, in this era of globalization, is how to preserve the legendary diversity of multilingualism in India and the rest of the world, in order to keep precious knowledge and cultural values alive. This question opens my concept up to a huge and global design project.

Juliane Denogent

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Barriers that impact on the implementation of sustainable design

Michelle Hankinson, Amanda Breytenbach

Abstract

This paper discusses interior designers and architects understandings of sustainable design and barriers that influence their sustainable design practices. The paper reflects on findings that were obtained from a research study, performed in 2011, that conducted interviews with practicing interior designers and architects within the KwaZulu-Natal region in South Africa. Conclusions showed that education and experience informs a designer's understanding and values towards sustainable design. Barriers to sustainable interior design include education, cost, products and materials, rating tools and the client. Solutions that were established during the study include an improved knowledge of sustainable design, implementation of national regulation, improved knowledge and scope of products and materials, and educating the client.

Keywords: sustainable design, barriers, sustainable design practices.

Introduction

Since the early 1960s environmental activists proclaimed that the Earth is the collective responsibility of all human beings and that everyone should be involved in combating abuse and neglect (Margolin, 2007). In 1996, Wackernagel and Rees (1996) warned that extensive evidence had determined that the world was in a

state of "overshoot" which indicates that humanity's ecological footprint had exceeded the global carrying capacity of the Earth (p.125). These revelations urged people across the globe to embrace a paradigm shift which shifts human beings from being environmentally irresponsible to environmentally responsible. Jones(2008, p.5) maintains that this paradigm shift is "the acceptance by the majority of people in a changed belief, attitude, or way of doing things, a fundamental change in people's worldview".Pidcock (2005) argues there is much evidence to show that if the design industry embraces the future with openness to new paradigms of thinking and doing, there are many exciting opportunities to be realised. She believes that the design profession plays an integral part in creating a future that maintains a healthy economy and attempts to save the world. Embracing sustainable design practices could however present a number of challenges to designers. According to Hes (2005, p. 224) integrating green innovation into the built environment is a "wicked" problem, which makes identifying barriers hindering this practice essential (Aye, 2003; Mate, 2006). Designers should therefore understand the social and moral obligation associated with sustainable design whilst acknowledging that the practice of sustainable design presents various difficulties. Research conducted in the United States of America (US) and Australia suggest that although there is interest in sustainable design, its frequency of application is poor (Aye, 2003; Kang & Guerin, 2009; Mate, 2006).

These authors identified multiple barriers to incorporate sustainable design into practice. These include perceived cost (Aye, 2003; Mate, 2006); time to source materials, education and training, understanding and in house experts (Aye, 2003). Studies also

identified client resistance (Aye, 2003), knowledge of materials, limited material selection and authenticity of suppliers (Mate, 2006), along with understanding of the impact of materials (Kang & Guerin, 2009), accurate and accessible information and appropriate tools (Aye, 2003). Other barriers that were identified are client demands (Hes, 2005), client knowledge and call backs from clients (Davis, 2001), accurate and accessible information (Hes, 2005; Davis, 2001) and appropriate tools (Hes, 2005). Although it is evident that a number of international studies have been conducted within this topic, similar studies are not available within South Africa (SA).

Using ecological footprinting, it has been estimated that South Africa's footprint is 4,02 hectares per person (South Africa, 2008, p.16). The World Wildlife Fund estimates that the global fair share is 1,8 hectares per person. The high footprinting calculation indicates that it is of importance that sustainable practices be considered and integrated at various levels. Although national policy and legislation have been implemented since 2005 in SA, very slow implementation and execution is evident – especially in the built environment. This paper therefore focuses on sustainable design and the interpretation and application thereof by interior designers and architects practicing in KwaZulu-Natal (SA) and present associated barriers that influence their practices.

Research Methodology

A qualitative research approach was employed for this study. Purposive sampling of participants was used, since the study required to interview individuals or groups that represented sustainable design practices within the region. The study delivered narrative descriptions which enabled a critical reflection on the data

elicited from the interviews. Ethical clearance was obtained from the University of Johannesburg prior to commencing with the interviews.

Presentation of findings through introduction of an analogy

An analogy was introduced in the presentation of the findings and represent three different categories identified through data analysis. The chosen analogy relates to the discipline of running and was adapted from White's (2010, p.1–3) three personality types. The three categories identified are; the long distance runner, the jogger and the spectator.

The long distance runner represents the category in which attitudes and values demonstrate their commitment to the implementation of sustainable design. The long distance runner has a good understanding of sustainable design. The second category is compared to the jogger. Designers in this category display a fair interest and understanding of sustainable design, are informed when required, and engage sporadically in the practice of sustainable design. The third category comprises the spectators and describes participants who have a limited understanding of sustainable design and engage with sustainable design by chance.

Findings

Four main barriers were identified through the study, namely: cost, education and experience, materials and the client.

Barrier 1: Cost

Bottom line. A major barrier to sustainable design, reiterated by all the participants was cost. The participants explained that despite their personal commitment to sustainable design, the costs involved in opting for and implementing such a solution, were usually an overriding barrier. A long distance runner exclaimed, "we've got about 200 sustainable designs on our books and we've probably got about 15 buildings built." (participant 1, group 4). All participants agreed that at present environmentally responsible materials and systems carry cost implications which add to the bottom line of a project. Cost factors identified were; research and development costs, production cost and being fashionable – carry a novelty price tag.

Immediate saving. Long distance runners explained that as far as possible, clients want immediate savings. One long distance runner stated, "people want immediate saving as opposed to long term saving" (participant 1, group 2).

Time and research. Time was identified by all participants as a contributor to a cost barrier. The participants expressed difficulty in finding time to do research into what materials and systems are environmentally responsible. This concern is expressed as follows; "To fully practice in a sustainable way is difficult. It takes a lot of time. I should be charging more fees, which I don't, now, but the plan is to eventually charge more so that I can kind of compensate for the amount of effort it takes" (participant 1, group 6). In addition, the spectators group identified time and costs to gain knowledge and an understanding of sustainable design, a major barrier to the implementation.

Barrier 2: Education and inexperience in sustainable design

Sustainable design not included in tertiary curriculum.

Fifty per cent of long distance runners and spectators stated that sustainable design was not included in the tertiary curriculum. A spectator stated, "I never encountered sustainable design at University" (participant 1, group 9). The other 50 per cent of long distance runners and spectators explained that "it was touched on" (participant 1, group 6; participant 1, group 3 & participant 1, group 2).

Continued professional development (CPD). In SA professional architects are required to engage with CPD in order to maintain membership with the South African Council for the Architectural Profession (SACAP). Although architects appeared to be rather displeased about the mandatory nature of CPD, they had a better knowledge of the conferences, courses and seminars that take place in KwaZulu-Natal, and attend these events more regularly than the interior designers. The interior designers explained that the only conferences, courses and seminars that they are aware of, take place outside the region in Cape Town and Johannesburg.

Despite this observation, 80 per cent of interior designers expressed an interest in conferences, courses and seminars that could help them improve their knowledge of environmentally sustainable design.

Inexperience with sustainable design projects. In the study the percentages of work on sustainable design projects were identified as follows:

● *10 per cent work exclusively on sustainable design projects;*

● *70 per cent occasionally work on sustainable design projects; whilst*

● *20 per cent have yet to work on a sustainable design project.*

All the participants indicated that there are not enough clients or projects that allow designers to gain much needed experience in sustainable design. For this reason, most participants discussed feeling somewhat "new" and inexperienced in the practice thereof.

Barrier 3: Materials

Three concerns were raised by participants regarding material selection.

Reliability of information from product suppliers and manufacturers (green washing). Participants explained that product suppliers and manufacturers are developing and marketing products that are environmentally responsible. However, without certification that ensures that a product is indeed environmentally responsible, designers find it hard to decipher what is authentic from that which is not. This is commonly referred to as green-washing. This notion was a major challenge discussed by long distance runners and spectators seeking to specify good quality environmentally sustainable products and materials.

Limited selection of environmentally responsible materials.
Another barrier frequently raised by participants is the limited selection of environmentally responsible products and materials. Participants from all three categories explained that suppliers ranges are often limited and don't accommodate a client's needs. A long distance runner stated, "Well there's not a whole bank of green stuff to choose from, so it is a barrier, because you are limited in what you can actually select" (participant 1, group 5).

Imported products. A major obstacle experienced by long distance runners is the inability to source locally produced environmentally responsible products. Considering that imported products carry a carbon footprint, designers should try to specify local manufacturers and suppliers products. Long distance runners stated, "I don't think that we are geared in this country as yet for green materials" (participant 1, group 1) and "Everybody wants imported stuff and then you've got to fly it over so the carbon footprint increases. I don't think people are aware of that" (participant 1, group 2).

Barrier 4: The client

Cost. Long distance runners, joggers and spectators explained that a number of clients expressed interest in sustainable design. However, when it came to implementation, the greatest obstacle is feasibility or cost, which often results in the client disregarding sustainable design. Participants explained that environmentally responsible materials and systems require greater upfront costs, which clients are often not prepared to pay. They also explained that, as many designers are new to the process of sustainable

design, time is required for research. This inevitably costs the client. Material selection and systems. Clients are committed to environmentally responsible materials and systems, until they are faced with the limited material selection on offer. Many clients are not prepared to compromise on their aesthetic material choices or on the convenience of the non-environmentally friendly systems on offer. Until such time that there is a wider selection of materials and systems the clients need to choose from a limited range.

Education. Although clients have expressed interest in sustainable design solutions, and are to some extent aware of the need for sustainability, it is rarely insisted on. For this reason, it seems that the South African public still has a way to go in becoming informed and educated on the importance of sustainable development, before sustainable design will become a priority and common practice in the profession.

Discussion

This research study identified the following aspects as areas that could receive attention in South Africa to improve sustainable practices.

Improve sustainable design knowledge

There is no doubt that sustainable design is an imperative part of design education today. Higher Education in South Africa needs to make sustainable design a priority in the curriculum. This could encompass sustainable development, sustainable design processes, principles, policies and building regulations. At post graduate level, research on the topic of sustainable design could expand South Africa's knowledge on the subject, and provide important insight

into current issues. A major barrier mentioned by all participants was the availability of time to conduct research into sustainable design. Participants mostly learn through a trial and error process. Primary data also showed that interior designers, unlike architects, are not familiar with building regulations that promote energy efficiency and environmental sustainability. It is suggested that the professional body for interior designers (IID [sa]) needs to attend to the inclusion of sustainable design CPD courses.

Support government policy and implement regulations

Government policy and regulations have been developed in South Africa, which should assist the built environment in becoming more sustainable. At present there are two South African National Standards (SABS 2011a, SABS 2011b) which promote environmental sustainability and energy savings. Though voluntary standards are valuable, mandatory regulations should give the built environment professionals a "good push" in the direction of becoming more sustainable. The mandatory implementation of these regulations will have an immediate impact on the findings of the study. Practitioners that are currently spectators and joggers would be forced by law, to improve their knowledge and practices in order to comply with national regulation.

Product suppliers and manufacturers

It is essential that product suppliers and manufacturers continue developing environmentally responsible products, and broadening their product ranges, as with greater selection, designers and clients are more likely to choose this alternative. In addition to this, and despite its difficulty, designers need to continually ask product

suppliers and manufacturers about their raw materials, processes and the origin of products. With persistence, this should yield positive results.

Use rating tools

A Green Star rating system has been developed and managed by the Green Building Council of South Africa (GBCSA. Vision and mission [sa]), as a voluntary tool that provides the property industry with "an objective measurement for green buildings, [and] recognises and rewards environmental leadership in the property industry" (GBCSA. Green Star SA rating tools [sa]).

Although there is no disputing that rating tools aid corporates and developers improve a projects sustainability status and enjoy sustainability credentials, it requires capital expenditure to invest in this costly tool and cannot be achieved by an interior designer in isolation. Instead it requires all stakeholders on a project (i.e. developers, contractors and built environment professionals) to collaborate with the common aim of environmental sustainability. For this reason, a number of participants were sceptical about the tool because the tool can only be afforded to be included by high end corporate clients.

Educate the client

Barriers preventing clients from committing to a sustainable design approach are presently surplus cost, a restrictive selection of materials and user-friendly systems, as well as education into the pressing need for sustainability. This results in clients being unwilling to consider the environmental responsibility as well as a lack of enthusiasm from designers to advocate sus-tainable design.

An increase in long distance runners could result in clients becoming better informed. Should costs reduce and material selection increase, it is anticipated that clients would be more likely to consider a sustainable solution.

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Educating Agents of Change

Design for Sustainability needs truly holistic and trans-disciplinary educational programs

Ursula Tischner

Sustainable Development

History and Context

The world sees two major crises at the moment: the financial/economic and the climate crises and it seems that both are connected. The difference is that we can still be hopeful that, by implementing better regulations and control mechanism for financial institutions, we can overcome and avoid future financial crises. However, once we have destabilized the climate of our planet, no regulations will save us anymore from the dire consequences scientists are predicting carefully. Even without knowing the total scientific truth about how much climate change is man-made and how the planet will react to increasing levels of CO2 and other greenhouse gasses in the atmosphere, the probability of us being a major part of this problem should be enough to follow the precautionary principle and establish effective measures to avoid the worst. Climate change is not just an environmental issue but has severe social consequences as well, from displacing people from the regions where they used to live for generations to increasing food prices. In addition Climate Change will pose economic threats to a lot of countries in a magnitude that is comparable to world wars (Stern 2007). Even without talking 'climate change' the third severe

crisis we are already facing is the depletion of limited natural resources. For mineral oil the problematic is well known but the same applies to a lot of other natural resources. An increasing number of wars and conflicts are occuring around availability of land, water, food, oil and mineral resources, which is an obvious proof that the highly resource intensive production and consumption systems of industrialised and emerging countries are reaching natural limits and cannot be a model for our planet to nurture 9 Bio. People in 2050. Despite some efforts in increasing efficiency still the industrialised nations consume around 70% of all resources worldwide, while they host only 20% of the world's population. Especially three consumption domains are responsible for the environmental consumption of industrialised nations: Food/Agriculture, Mobility/Tourism, and Housing/Energy consumption in buildings. These three domains cause about 80% of environmental impacts of European countries (European Environment Agency 2007).

Since the Brundtland Commission has formulated the paradigm 'Sustainable Development' in 1987 (WorldCommission on Environment and Development 1987) as a development that meets the needs of present (generations living on our planet) without compromising the ability of future generations to meet their needs, and over 170 nations have agreed in 1992 to strive for Sustainable Development, a lot of activities have been started and efforts undertaken to move towards a more sustainable society. Nevertheless, it seems that progress towards triple bottom line thinking, which means to marry the three dimension of people, planet and profit, i.e. to search for solutions that are beneficial for society, the natural environment and the economy, has not been

reached. We are still far away from having a protocol on climate change with real CO_2 reduction goals that all nations agree on. We are not moving towards reaching any of the Millenium Development Goals on fighting poverty (see http://www.un.org/millenniumgoals/).

The few rich are getting richer the poor are getting poorer in developing as well as industrialised countries, and multi-national corporations are out of control of national governments.

The Design for Sustainability Movement

Since Rachel Carson was a major actor in starting the environmental movement in the US with her publication 'Silent Spring' in 1962, in which she described the human- and ecotoxicity of DDT and other pesticides, a small but growing group of Designers started focusing on Sustainability issues in theory and practice, such as Victor Papanek, who published 'Design for the Real World' in 1971 and 'The Green Imperative' in 1995, and internationally active experts like Ezio Manzini from Milan Politecnic, Han Brezet from Technical University Delft, Chris Ryan from University Melbourne, John Thackara, Founder and Director of Doors or Perception, Fumi Masuda from Tokyo Zokei University and other designers and authors around the world. There have been important networks set up such as O2 global network of Eco- and Sustainability Designers (www.o2.org, founded in 1988 by Danish Designer Niels Peter Flint), and more recently most larger design networks and institutions have started some kinds of activities in Design for Sustainability. While a lot is still relatively superficial talk and some initiatives especially by large companies can be detected as greenwashing, the movement in Design for Sustainability is definitely growing. Meanwhile the North-

American IDSA (Industrial Designers Society of America), which has expelled Viktor Papanek in the 70ies for his harsh criticism of the Industrial Design profession has published an own guideline on EcoDesign (see http://www.idsa.org/okala-ecodesign-guide) etc. And indeed there are strong drivers for Design for Sustainability such as

• *The crises mentioned above and thus more consumer awareness for these issues and demand for Sustainable Solutions,*

• *More legislation requiring more producer responsibility from companies, and public as well as private Green/Sustainability Purchasing Programs,*

• *Companies taking the lead receiving considerable competitive advantage,*

• *And the urge of business owners and consumers alike to invest their money and effort into something sensible and useful for people and the plant, thus the LOHAS (www.lohas.com) and Sociopreneur (an entrepreneur with a social-environmental cause) movements.*

Thus it is surprising that the design professions are still lacking behind the current market developments and demands, and that there are too little educational programs available for the growing number of young and enthusiastic students who like to get involved in Design for Sustainability. So far design professonals are still much too often part of the currently predominant economic system seeing quantitative growth as the only goal, encouraging growing consumerism, wasteful throwaway concepts, inducing massive resource flows from nature to waste dump within a shockingly short period of time and selling 'stuff' that no one needs in advertising and

communication that promotes the modern throwaway lifestyles as the only adorable model of well being to everybody around the world. So far not much has changed since Papanek's criticism – or things got even worse. Unfortunately designers are often not the decision makers in companies but work at the end of the chain of command designing a nice aesthetic for a solution somebody else has invented. To make a real change, designers have to move up the chain of command to sit at decision making tables. They have to be equipped with Sustainability knowledge based on research and evidence, and analysis as well as guidance tools to enable evidence based design decisions. They have to know about the history, the problems and drivers of DfS practice and theory, and they have to adopt a more participatory design practice by listening to stakeholders first, understanding their problems and motivations, and then trying to develop more sustainable solutions. It has to be understood that Design for Sustainability is more than Green-/Ecodesign (all to often people just substitute both terms) and DfS is not equal to Design for Longevity and Durability (see Tischner et al. 2000). Instead DfS looks into the larger consumption and production systems, starts with real demands and problems, and tries to find solutions that are good for socio-economic systems as well as natural environments. Don't try to be less bad, try to be good, as Michael Braungart and William McDonough the founders of MBDC promoting Cradle to Cradle Design are suggesting (www.mbdc.com). Design for Sustainabilty normally looks into global, local and personal dimensions of problems and solutions and is created in teams consisting of several different experts and stakeholders. DfS is searching for radical solutions and improvements and that is part of the reason why we see more

Sustainability innovations in companies moving into a new field of operation or in start-up and small companies than in large corporations.

That large companies do not develop more radical innovation is normally not due to a lack of creativity, but it is because they are locked into systems that hinder change. Those systems are mainly

• *Infrastructure, such as production facilities, logistics, machines, investment goods, public infrastructure (power grid and plants, buildings, streets, lack of railway etc.),*

• *Economic systems: the micro, meso, and macro economic systems, which are mostly neo-liberal and capitalistic and the main interest is shareholder value in the short term,*

• *Values and believes, of owners, managers, staff (and clients), e.g. the 60 years old manager who only waits for his retirement and does not want to try anything new and risky anymore to be safe in his position,*

• *Inertia of large systems to change, e.g. for large companies very often change is connected to higher efforts and perceived risk, thus higher transition cost. This is why Sustainability experts looking for radical change towards sustainability are engaged a lot with methodologies like Transition Management, Change Management, Strategic Niche Management, Learning*

Organisations, Game Theory, Scenario Building and Backcasting, Roadmapping, Participatory Design, Social Innovation etc.

Designers applying Design Thinking and knowing how to think out of the box and work in creative ways could be excellent candidates to

specialize in helping organisations to create change towards Sustainability. They only have to be trained as such and learn the right skills and tool sets. (See also SCORE project, www.scorenetwork.org, and its 4 publications 'System Innovation for Sustainabiltiy 1, 2, 3 and 4', the first summarizes the state of the art and knowledge in System Innovation, the other three focus on three domains: Housing/Energy, Mobility and Food, http://www.greenleaf-publishing.com/productdetail.kmod?productid=2590).

Design for Sustainability at SCAD

Savannah College of Art and Design (SCAD) has implemented a Design for Sustainability program in 2009 that embeds the philosophy of Design for Sustainability as described above. SCAD offers a Bachelor minor, a Master of Arts and soon a Master of Fine Arts program in Design for Sustainability (see http://www.scad.edu/design-for-sustainability).

Design for Sustainability at SCAD is a truly cross-disciplinary program open to all creative fields of study, from architecture and product design to creative writing and graphic design, from engineering and design management to marketing. The program embraces Sustainability as an integrative framework:

● *By synthesizing the strengths of various design disciplines;*

● *By dealing with 2-D and 3-D design as well as system and service design, communication and education, business models, and social innovation;*

● *By focusing on holistically addressing personal, local and global challenges to the human condition in the 21st century. Students*

learn to transform short-term thinking into long-term design solutions that address social, cultural, Fig. 1: SCAD's Design for Sustainability MA program environmental and economic problems. Thus the Design for Sustainability program develops students into committed leaders and passionate agents of change for economic prosperity, ecological health and social equality. They work with a wide range of clients, from corporations to nongovernmental and community organizations, to solve real-world problems.

By distilling complex issues through proven tools, methodologies and strategies, students focus on creative solutions to actual problems, formulating innovative answers rooted in real demands and needs. The program infuses social and environmental science methodologies into design disciplines, seeking to educate and advocate the economic benefits of sustainable practices.

Practices of creating short-lived products and environments, overusing nonrenewable resources, and producing materials that require toxic processes are being recognized as unnecessarily harmful methods of design. The ability to change the traditional development process, adapting it to current and future needs while applying Sustainability practices, is at the heart of this undergrad and graduate program. Therefore, students in the program learn to design solutions, integrating the 'triple bottom line' of sustainability – environment, economy and socio-cultural issues – in the development process. Students strive to strengthen the interconnectedness between business and environment, human beings and nature, becoming experts in communicating with others and educating others about all aspects of Sustainability.

Recent student projects have included:

• *A water conservation project for Tybee Island focusing on water conservation at the beaches.*

• *A collaboration with JCPenney on eliminating all plastic bags from their stores;*

• *The design of a more sustainable and attractive transportation system for Savannah, the SAVexpress, with the goal of motivating more people to lessen their use of private cars;*

• *The design of a new clothing brand, Savannah Blues, using locally grown organic cotton and local organic indigo, eliminating all toxic chemicals in the process;*

• *The design of a system, called 'This Ain't Junk', to harvest building materials from old structures in Savannah that are scheduled to be demolished, transforming them into useful and attractive objects;*

• *The creation of a multiplicity of products that use sustainable materials, such as a soap dish from recycled glass and eco-resin, 'bull sheet' paper made from cow dung, a biodegradable bird house made from garden waste, firefighter boots from cork leather etc. In SCAD's DfS program Sustainability research, analysis and evaluation are assigned a prominent position. It is very important for design students and designers to be able to understand and evaluate, what is not sustainable in the current situation, to develop suggestions for improvement, and at the end evaluate, if their solutions really move the system towards more Sustainability.*

This issue is a little complex and there are typical misbeliefs such as 'plastics is bad', 'natural is always good', 'local solutions are always

better' etc. These need to be questioned, researched and verified or falsified for each specific situation. Students learn for instance to apply different Life Cycle Assessment methods and tools, are introduced to LEED, the American Green Building Standard, and other environmental and social standards and evaluation systems.

In addition SCAD's DfS program enables students to work in two directions and to combine both: Sustainability Signature Projects AND Everyday Sustainability in Design There are two major ways of practicing Design for Sustainability: A. Carry out unique DfS projects, where designers invest all their creativity and energy in working on obvious Sustainability problems and try to improve the situation – Sustainability is the premier goal of these projects. Most SCAD DfS projects are geared towards furthering development in terms of economical, environmental as well as social improvements. These projects include also disaster relief initiatives for New Orleans and Haiti. B. Practice 'Everyday Sustainability in Design', i.e. the integration of sustainability issues in any project designers carry out, even if the project itself is not focused on Sustainability. In these projects it is essential for students to learn how to 'sell' Sustainability to the clients they work for, even if these do not focus on or ask for Sustainability. Here economic benefits reached by DfS become very important. Upon graduating, SCAD's Design for Sustainability students have a competitive advantage, possessing the skills and abilities to direct and integrate sustainable practices in multiple creative fields. They are empowered to become professional Sustainability consultants as well as Sustainability leaders in corporations and other organizations. After successful completion of the MA/MFA Design for Sustainability the graduates are able to fulfill positions like the following: (Product, Service, System, Interior,

Architectural, Communication) Design with integration of Sustainability aspects within a manufacturing or construction company: This is a 'normal' design position but with a specialization on Design for Sustainability, Ecodesign, Design for Recycling etc. This can happen as an employee of manufacturing/ building industry, in design studios, or as freelancer. Graduates are able to do just good product, service, communication… design, architecture but whenever and wherever possible will introduce sustainability aspects in their work.

Strategic planning/Sustainability consultation:

This more strategic position is included in marketing, design or product management departments. It is geared towards consulting companies how to become a more sustainable business, survive on the market long term, how to identify future opportunities and how to integrate sustainability and consumer/customer demands more intensively in product and service development. This can be carried out as an employee in industry and consulting companies, or as a freelancer.

Sustainability and Eco-design research positions:

This typically is a position in research institutes or research departments of industry, where designers are involved in technical research, but potentially also market and sociological research, future scenario development, roadmapping etc. Here designers are especially in need for integrating the Sustainability and the user, and market perspective in research activities that normally are not yet directed towards practical application or market demand.

Design for Sustainability Education:

As the amount of design for Sustainability Educational Programs is increasing there is also more and more demand for faculty in the field. Thus Design for Sustainability experts are urgently needed to teach at design and art schools and universities. And of course graduates can start their own DfS consultancies alone or in networks and act as agents of change towards making the world a better place.

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Innovation as a matter of 'cultural losses' in a globalised world the need for a framework for preservation – the case of India

Ajanta Sen and Pravi Poovaiah

(**I**) **Introduction** – **the narrowing of the contours of innovation and an emerging need for an alternative perspective:** From its broad intent as the " successful application of knowledge or techniques in new ways or for new purposes" (Bellon & Whittington, 1996), innovation today has shrunk to the idea of an opportunity or lever to push the profit line, narrowing down its playing ground to entities that can pulsate as price-bearing commodity in the marketplace.

The excitement of expecting something unexpected or different especially because it adds great value is only secondary to whether this 'value addition' is accompanied by its monetization into profits. The litany of books on the subject will attest to this. In one of them, 'The Game Changer' (Charan and Lafley, 2008), its authors (one, an erstwhile faculty at Harvard Business School, the other, the head of P&G) talk about being able to create the "right initial conditions, viz., people, purpose, environment." Which means, recognizing that "people are creative by nature (and) it is part of being human". Organizing around such an obviously known condition should have been a given. But, there is something in the outlook for innovation in a big ticket, techno-centric industry that makes this simple matter an extraordinary revelation, and gets specifically earmarked to be taken up as a "challenge". The authors cite as an example of inspiration the "edgy and bohemian neighborhood" that goes by the

name Over-the-Rhine, located in Cincinnati, and its even edgier converted brewery on Clay Street, which "looks like a combination of think tank and playground" – not quite the standard P&G atmospherics, they admit. Here, at Clay Street, while whiteboards and computers share space with crayons and chalkboards, with "people sitting around telling stories" and providing the perfect grist for out-of-the-box thinking, all this inspiration continues to remain strictly about a unique "approach" for P&G to connect with its customers. However, Procter and Gamble's (P&G's) repertoire of FMCG's, with their not very significant connect with people's lives and everyday difficulties, can make all this talk about innovation somewhat of an overkill.

The larger point here is as follows: because innovation thus defined by a marketplace paradigm may or may not resonate with the larger good of the larger numbers – a good subtext for social engineering – or even benefit those outside of a P&G-driven FMCG ecosystem, who is to implement innovations that are, for instance, deeply beneficial to:

A. *those on the margins of society's mainstream: (such as farmers faced with drought in Africa or in India may have no use for Napster, no matter how novel or popular this contraption for music may be with the urban youth); or,*

B. *those with special needs (such as children afflicted with cerebral palsy, who could benefit from a specialized product that helps them with their otherwise incoherent communications over even routine every day affairs, frustratingly difficult) The fact is that product efforts to fill these critical needsgaps are often thwarted with P&G-styled high entry barriers of competition into markets already*

heavily biased in favor of 'mainstream needs gaps' (consumer products).

With the odds stacked up high against solutions that may be little known but are highly innovative and contextual by nature, and profoundly beneficial to the kind of users mentioned earlier. For design, this is a holy grail – design for a purpose; design for all. This raises the question: can there be an alternative perspective that will expand this shrinking space to accommodate all the different faces of innovation, knowing the role played by innovation and its intermediation, viz., design, in furthering the quality of life, while at a higher level shaping the face of civilization itself? And be able to include innovations that may not have the potential to be part of the profitability ecosystem but are, nonetheless, of great value to society. And, by keeping them underground, one is indirectly threatening to exclude their 'audiences'/potential users in need of these innovations but not in a position to afford new ideas and products at 'commodified' prices. Further, as innovation continues to gain currency within the industry to become a rallying point aroundthis singular idea of "organizing a business to exploit new opportunities profitably," there remains yet another subtext to this issue of exclusion. And that is the presumably seminal position assigned to technology by an overtly innovation-for-profit industry – a slant that completely undermines an earlier premise that used to maintain that: "innovation is for all businesses whether using high technology or not" (Bellon and Whittington, 1996) It would then appear that most innovations thus defined today, (i) apart from being located within the market economies, are (ii) specifically designed around the use of technology – to be differentiated from innovations that are approached through but not necessarily defined

by their technologies, especially if these were low-grade, highly localized and immersive technologies originating from outside the market economies. It stands to logic, therefore, that this narrowed down outlook for innovation that centers around technology and the markets can hardly accommodate innovations from far flung cultures that still remain outside the pale of marketization for all kinds of reasons, or innovations for special interest groups not always blessed by the laws of average that favor profit-making target group consumers required for building marketplace innovations. The search for an alternative perspective, while squarely challenging the notion that those with a technological edge are the ones really innovating, needs imperatively to be premised on the concern that innovations outside technologies and profit-making will thus continue to evade our attention, and could hence beg an emerging need to broaden and redefine the real locus/intent for undertaking innovation as an activity. The question, therefore, is: why has innovation, when not 'defined' by technology, moved away from our radar? And how do we bring this back into our line of vision?

(II) The modern inflection point for innovation – globalization:

Since times immemorial, innovation has originated and functioned in spaces or among various constituencies, whether aided or unaided by market mechanisms. The reason why the issue has only now come to head and even gained momentum is that, regions defined by different market-paradigms and hitherto separated from each other by physical distances/geography as well as by economic ideologies, have started to overlap through the networking technologies, resulting sometimes in a convergence of shared ideas about

economic systems through either adaptations or assimilation of each other's ideologies and interests, or sometimes in complete mergers of disparate economic areas. The new inflection point for this, of course, is globalization, a highly contested idea in itself, as Steger (2003) maintains, and "defined as the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa" (Giddens, 1990) It is in the 1990's that one had occasioned a shift of the markets (called mature markets) from the West faced with a demand saturation from its consumers, to the new emerging markets endowed with large internal captive demands. Located largely in the East and the South these were held together in a loose geo-political collective now termed the BRICS nations: Brasil, Russia, India, China and South Africa, but also including Indonesia, Sri Lanka and some relatively smaller countries. This overlap between the market-types had obviously seen the primary agents of the mature markets, viz., the MNC's (multinational corporations) and their smaller versions of industrial outfits initially 'ship' out their established innovations from their parent locales to the adopted ones. And then, being witness to many of these transported innovations failing to take local roots, had since begun to invest in setting up 'innovation centers' in their host countries to build localized solutions rather than ship in pre-made innovations, often devoid of contexts. Examples of companies that have set up shop in India with local innovation intent are Yahoo, IBM, HP, Google, MicroSoft Research (MSR) and Whirlpool among others. It soon became evident that the emerging/new markets were clearly defined by rules beyond those of profitability, consumerism or the ease of spending with plastic money. The net result: recognizing the

need for new rules of engagement. So, what does this setting up of 'localized' branches of innovation augur for the times ahead? Is it enough to be franchises of one's offshore parent companies? Or, is there a transformative vision required to make these localized 'innovation centers' work? Making the need for building organizations from scratch that are able to capture the local spirit of innovation very critical.

And, could this require new rules of engagement with the adopted countries? If so, then what should that emerging frame of reference for innovation be? Before undertaking these questions, it is important to acknowledge recognition by votaries of globalization, of the range and diversity of the character of innovation itself. Tom Peters (20..) from Harvard Business School and Tom Kelley (2007) from IDEO allude to innovation's variegated nature, respectively, as the 'circle of innovation' and the 'ten hats of innovation'. More pertinent to the subject of this paper is the manner in which Geoffrey Moore (2005) has identified the unfolding of innovation types according to their theatres of play. Accordingly, there can be different kinds of innovations depending on whether they are located in (i) growth markets, (ii) mature markets, or (iii) the declining markets. Moore's classification of innovations according to markets is important because it suggests that markets do not exist in a vacuum. Apart from their more obvious association with their respective economy-types (indicating stages of economic progress: developed, developing, underdeveloped, etc.,), markets are concomitant with a larger set of dynamics – often overlooked – viz., that they are located within certain types of societies. And societies essentially encrypt the way people behave and evolve. It could be a reminder that innovation is perhaps less labored and more easily

achieved when it is not divorced from one's way of life, and when innovation becomes a part of one's cultural matrix. This interplay between economy and society, and implicit within it the role of cultural mindsets in understanding business – a factor for long ignored by businesses – came to a head early on in this decade.

The realization (pointed earlier) that markets, up until, now had pretty much worked as independent entities and remained contained within their respective geographies and were now increasingly getting interconnected through globalization brought in new ways of thinking.

One of them was Thomas Friedman's 'The World is Flat' (2006) and its advocacy of a flattened world through the idea that information technology as a driver could leverage complementarities of interests (such as, shortage of skilled labor in an industrialized environment being compensated with availability of the same in less industrialized-developing economies without having to move too much around physically – a mechanism of exchange called arbitraging).

While arbitrage of labor, commodities and currencies facilitated a seamless flow of business factors across the national boundaries, it also had the effect of flattening out cultures through a convergence of business interests across economies and geographies and an unfortunate mainstreaming of cultures termed by American sociologist George Ritzer (1993) as, the MacDonaldization of the world – "the imposition of uniform standards that eclipse human creativity and dehumanize social relations". And naturally decried among others by Robert Redford, that intrepid activist speaking out on behalf of those on the margins – including for the vanishing

forests and whales in California – to be "just ever more costly, more formulaic, more cluttered with special effects." (Peters, 1997/ The Circle of Innovation) As part of the world of the motion pictures, Redford's reference to special effects cannot be lost on the reader.It is significant that by at least one account, "globalization would refer to a multidimensional set of social processes that create, multiply, stretch, and intensify worldwide social interdependencies and exchanges while at the same time fostering in people a growing awareness of deepening connections between the local and the distant."(Steger, 2003).

So, whichever way one chose to see this, implicit in intense mainstreaming had always remained the suggestion of the interplay between markets and their respective societies, with one of the most important fallouts of this interplay being the accrual of 'cultural losses' and bringing us back to our search for an alternative perspective with our original question: why have innovations from outside of the markets gone off our radar?

(III) Differential perspectives on innovation driven by differing 'worldviews' as a function of the evolutionary contexts of societies – a historical narrative: To get answers, we may need to look at innovation retrospectively against the backdrop of society's evolutionary context. A good starting point would be the recent dawning upon the West in its forays into the emerging markets that, while broadly speaking their approaches to innovations, as indeed to many other aspects of their lives, is mediated through technology. By contrast, the activities and outlook of their host countries seemed deeply mediated by cultural factors. Does this mean that the mature markets remained the sole locations of technology while the host countries (the emerging markets) became the sole repositories of

culture? While, on the face of it, each of these locations may seem to have been the arbiters of one or the other, viz., of technology or of culture respectively. The truth lies in the way societies had evolved since their earliest times. And through it, had wrought the crystallization of their respective worldviews – literally the way in which each society chose to view the world around it. How did societies come up with distinct worldviews? As it happens, all societies, without exception, have evolved through an interplay of a set of factors termed as modes of production – where resources (made up of both natural and human capital) interacting with technology helped society function. In the process, each society carved out its specific relations between its resources, technology and production modes in a complex amalgam that is termed production relations. It meant that, societies by virtue of social organizations evolved culture, and by virtue of their enabling tools of trade, evolved technology. Along the way, while some societies forged ahead by viewing their growth through the prism of technology, particularly the Western societies in the 18th century onwards, shaped by their Age of Enlightenment, the progress of the sciences, and the arrival of the Industrial Revolution. Others moved ahead by viewing progress as being a function of the preservation of the complex nature of social organization and man's relations with nature. The original universal nature of technology and culture thus got mediated through the historical behaviors of societies, whereby I. in one, Man became central to a society's identity and Nature made subservient to Man. With a deep belief in technology's capability to subdue and control Nature, most activities became technologically determined. In time, mechanical properties as an outcome of technology became preponderant to the articulation of

society's needs - with machines representing speed, built structures representing size, print and transportation advancements representing mobility. And overall, the conquest of lands and people through this force of technology seminal to its identity, helped bring in further resources and commodities from far flung places to aid their already stocked up materials mechanically manufactured internally. This sense of making with machines as well as transporting more and different ones from distant locations became part of its culture's manifestations;

II. in other societies, where Nature remained at the center of its identity, society mediated its existence by deferring itself to what was reasonably within the limits of Man's own capabilities, with some help from technology but without any attempt to let technology become an overriding factor. Man carved out an identity by viewing progress as a function of the factors of social organization such as language and culture, with everything else – tools of technology included – becoming secondary to this larger human purpose of existence. Thus defined by cultural factors that included interactions with everything around him/her, including or especially Nature, the tools of articulation showed up as being human-driven manifestations – the arts, the crafts, the vernacularly built spaces – all with local resources, animal and water-driven modes of transportations, local sources of energy, with a considerable imprint of Nature on man, or at least man working with Nature, and building the mechanisms required to mitigate as smoothly as possible, Nature's calamities from time to time – all in all, an attitude that remained deeply underscored by a sense of acceptance of the violent cycles of Nature.

Consequently, the human protocols thus developed have had to be

complex enough to decipher and intuit the workings of Nature, thus enabling society to help preserve the many cultural and physical facets of its life, as reflected in its visual, oral and performance cultures such as in the arts, the crafts, its communications, the mythologies and its storytelling, respectively. The end result across a human civilization spanning 11,000 years has seen the evolution of broadly two types of societies adhering to two distinct worldviews:

1. *the culturally-mediated societies/Society-type I (S1C), and*

2. *the technologically-mediated societies/Society-type (S2T)*

While historians from India in a line of Marxist tradition (Thapar, Kosambi and others), or those based abroad with a development outlook (Bhikhu Parikh, Amartya Sen and others) have attempted to portray the nature of such societies as being humanistic but not just humancentric, S1C type societies are often misunderstood as being regressive and living in the past. The fact remains, however, that India, for instance, continues to be home to some of the earliest living indigenous cultures of the world in coexistence with its IT and other industrial landscapes of today. And which should speak volumes of the complexity of the nature of such parallel existences, and the mindsets required to deal with these parallel worlds of realities. In such a situation, it becomes important for cultural historians to recognize that globalization, whether we like it or not, is today "at the heart of our runaway world, (and) it means that in many respects we now share a common fate" (Giddens in Nandy ed., 2010) Equally, it becomes incumbent upon hyperglobalizers – those who advocate a world to be undifferentiated in cultural terms and for whom 'cultural losses' as an idea remains immaterial or redundant – to attempt counting the 'cultural losses' that accrue to

society when technology seeks to sublimate man-made efforts, and production modes have developed under different worldviews, and innovation transplanted from the outside without heed to a society's particular worldview can only fail to take local roots.

To understand how differential attitudes to technology has a direct bearing on the way we innovate, we will now address this through a real world situation: the idea of seeds as a potent and universal symbol of the continuity of civilizations terms of two new sets of emerging but connected realities:

I. *the asymmetries set in by a techno-centric worldview; and*

II. *the 'cultural losses' accrued to society when ideas and technologies have been of an exogenous nature that have leeched on account of their failure to grow local roots.*

(IV) The new realities for innovation (1) – culture's ascendancy while addressing the asymmetries of a techno-centric world:

The need to find a different way to re-organize the idea of innovation arises from our desire to address this asymmetry, located in two sets of biases:

I. firstly, in a technocentric worldview that makes innovation and technology synonymous, leaving little room for an objective understanding of what technology realistically can achieve for innovation, and equally, what it can do to destruct cultural mores and "traditional meanings" (Manfred Stegar, 2003) in its wake, without leaving behind any documented trail of this destruction, blighted as they get, by the passage of time; and

2. secondly, the mistaken notion that those who are technologically

blessed do not need culture, and by that derivation, culture isn't that crucial to innovation. The altered perspective under which we seek to understand innovation here will demonstrate that every society – 'advanced' or not – possesses technology, but not all technology translates into innovations, nor is that a necessary precondition for the flowering of an innovation mindset. Equally, every society by virtue of having social organization will demonstrate some form of culture or the other, and foster culturally contextual ways to innovate. In cultures that are driven by faith, inspirations for innovation are a highly nuanced affair, with metaphors and symbolic expressions representing even consumer spaces. The conversion of a cell phone into a torchlight (as a source of light in a rural space without electricity) and the user's obvious delight at being able to find this simple at-hand solution speaks volumes of a culture (in rural India) where material deprivation isn't the end of the road. Cultural spaces and communitarian living often go to annotate these material absences.

The cellphone company that had envisaged this idea was Nokia. Considered modest in price, culturally-mediated in its approach to a solution of a lack of a light source while trucking across long distances, and a robust option of a cell phone especially for rural areas, Nokia's physical presence in India drove its understanding of the local culture. The icing on the cake was of course the cultural cues that emerged through its local (India)-global (Swedish-Continental) partnership. Amazingly, the solution had come from a context (lack of electrification) that is unimaginable for its host country, Sweden. In other words, the reason to understand technology and culture's place in society is crucial to realizing their relationships with innovation itself and accordingly frame the

questions for pursuing the idea of 'cultural loss' in the notion of 'cultural loss' and ways to plug this

(V) The new realities for innovation (2) – an alternate perspective containing both technology and culture to plug 'cultural loss'– an emerging anatomy of innovation:

In this altered perspective, we ask a few leading questions and mark some observations that will help outline some key requirements for innovation:

I. to begin with, isn't innovation an act germane to one's everyday life itself – the "unconscious daily round?" (as eminent material historian Fernand Braudel (1979) characterizes innovation as). And obviously not necessarily originating from the specialist worlds of business, science or technology. Alexander Graham Bell or Steve Jobs are not the average innovator.

II. isn't technology a tool for achieving an end result? Although quite at odds with the way technology is today perceived as, and not necessarily for the best reasons, it is inspiring to remember Marcel Mausse's (Braudel, 1986) view of technology, complete in its abstraction: "What I call technology is a traditional action made effective." Braudel himself says in his classical work on Civilization and Capitalism: "In a way, everything is technology: not only man's most strenuous endeavors but also his patient and monotonous efforts to make a mark on the external world; not only the rapid changes we are a little too ready to label revolutions (gunpowder, long-distance navigation, the printing press, windmills and watermills, the first machines) but also the slow improvements in processes and tools, and those innumerable actions which may have no immediate innovating significance but which are the fruit of

accumulated knowledge: the sailor rigging his boat, the miner digging a gallery, the peasant behind the plough or the smith at the anvil."

III. in spite of the generic nature of its association with the human's existence, doesn't innovation tend to take on distinct forms of its own across different geographies and cultures rather than unfold uniformly without variations? For instance, in China… "[the most common] tools have something peculiar in their construction, some difference, often indeed slight, but always clearly indicating that, whether better or worse fitted for their purpose than those used in other countries, the one did not serve as a model for the other. Thus, for example, the upper surface of the anvil, elsewhere flat and somewhat inclined, is among the Chinese swelled into a convex form." Sir George Staunton in Braudel, (1986) An authentic account of an Embassy… to the Emperor of China, 1797, Vol II, from Braudel (1979)

IV. to understand these distinct forms, isn't there a need to go back to the origins of human history and societal development, recognizing these to be essential milestones of the human's interactions with available resources and modes of production – notably in the form of its natural resources, technology and its cultural framework? And given the ongoing crisis of the natural environment, isn't there a need to add an ecological perspective to the already domineering perspectives of economies and societies?

V. all things being equal, isn't it possible to conceive at this stage of development, the idea of a worldview making an entry, and which, by intersecting with society's evolution trajectory gives to society its distinctive brand of culture, and through it, its innovations? Braudel observes: "if civilization is the ancient settlement of a certain

section of mankind in a certain place...with humanity divided between different planets, each the home of an individual civilization or culture, with its own distinctive features and age-old choices..." Even if they were to meet with each other, they would still retain the distinctive nature of their solutions. That, supposedly, is the power of how a worldview can shape a culture. Given this, it is unlikely that cultural diversity will give way to complete homogenization. And recognizing this could have implications for innovation by those located outside of the boundaries of these cultures.

VI. depending on its particular outlook of viewing its world through the prisms of either technology' (as in the West today) or 'culture' (as in many other parts of the world, such as in India, the Middle East, Africa of South America)? Wouldn't these societies emerge with a distinctive identity of their own, and for sake of convenience, nomenclatured as one of two societal-types: a culturally-mediated society (S1C) or a technologically-mediated society (S2T)?

VII. thus making it compelling for us to not only recognize this inter-societal distinctiveness but also pursue innovation not as a value-neutral, universal proposition, but as part of one's customs and habits and rituals? And, lastly

VIII. since every society is endowed with culture, would it not be rather inviting to put to test the application or efficacy of this culture-proposition by way of investigating if there were any noticeable 'cultural loss' accrued to society? 'Cultural loss' being representative of ideas and technologies of an exogenous nature that have leeched on account of their failure to grow adequate local roots – and a concept fore-fronted by Jared Diamond in the late nineties in his seminal work on cultures' progress through

technology across human history (Diamond, 1999)

(VI) In conclusion:

To recapitulate the above, the need to address the bias for technology in the context of innovation comes from its tendency to narrow down innovation's wider field of accomplishments as well as its problems, by completely obfuscating the idea (as briefly mentioned above) that innovation (as indeed design) as an activity, has a wider locus, and remains germane to the very manner in creativity to overcome constraints in order to make their lives more liveable as also more aesthetic and enjoyable. This generic nature of innovation is testimony to its earliest roots, going back to the first known tool that the human carved out of stone a hundred thousand years ago by simply splintering a stone to leverage its sharp curved edges in order to chisel other things into shape. It may not be an over statement, therefore, that innovation (and design) has remained our constant companions since the dawn of history.

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Integrative Design Thinking©, Toxicity and Sustainability

How integrative design thinking© can tackle complex product design challenges

Martin Beeh

1. Design in context

1.1. Concept, form, materials

Design work, industrial design work in particular, is today defined in three majors steps: ideation and concept work, definition of function and form, translation into a material and industrial reality. The process is a flow, defined in best practice and combines the intuitive and the rational. Design process today, at its best, is integrated into marketing and product development planning.

1.2. User-Focus

A deep understanding of the users' needs by applying Design Research and Consumer Insight is today's major driver for relevant innovation which reaches the end user. Latest technological developments, particularly for consumer goods and electronics, have proven that technical innovation alone can not bring valid solutions to consumers' needs. Stretching a brand identity, exploring the depth and width of target groups helps marketing strategists to plan and deliver product innovation that has a lasting added value, both for the end user and the company.

1.3. Technology

Technology is everywhere and can be used in many ways. As mentioned in section 1.2. technology standing alone is yet a vain endeavor when it is not linked with meeting relevant consumer needs, identified and connected by brand and design strategy. The electronics and IT industry moves on in supersonic speed yet real progress is rarely felt: what is best today is outdated a few months later. Technology in design context needs to be taken as a catalyst for turning concepts into reallife solutions that are, again, based on design research and consumer insight. Technology gets meaning and can become "sustainable" when all critical project factors are taking into account. The author will talk about strategies to encompass complex demands and knowledge levels into a walkable process solution.

1.4. Process

Process is a guideline, a check-list and an ever-evolving tool to communicate project intent. It defines ways of delivering it and makes it the "cement" of a work of a many united for one goal: project and product excellence. A process never stands still, evolves with practice and learning loops, fostered by constant feedback and improvement. Designing a process has become one of the key roles that project leaders of various disciplines today have to play. Process, know-how and a commitment to deliver the best possible solution put a project on the highway to success.

1.5. Economy

Economy drives design, defines start, project scope and outcome. Design work is not much entwined with economic key performance

factors and sometime seems to go against them. Costs may raise to deliver a design solution that the market is possibly not ready to pay.

Latest design practice is challenging traditional product evaluation and seeks for new criteria, "hard" and "soft" to judge innovative projects, combining intuitive and rational parameters.

2. From Design Thinking to Integrative Design Thinking©

2.1. .Design Thinking Definition

Tim Brown, CEO of IDEO defines design thinking as "a discipline that uses the designers sensitivity and methods to match people's needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity"1 Design Thinking, as defined by bringing design methods, as described in 1.1, into bigger project contexts for e.g. business challenges. It consists of the following stages:

• *Definition (of project scope and parameters)*

• *Research (Consumer Insight)*

• *Ideation (brainstorming and workshops)*

• *Prototyping (testing possible solutions)*

• *Implementing (of product or service, or business idea)*

• *Learn (and funnel the project with new insights)*

A few thoughts on Design Thinking and a tribute to Roger Martin, Dean of the Rotman School of Business (Toronto, Canada): "The most successful businesses in the years to come will balance

analytical mastery and intuitive originality in a dynamic interplay that I call design thinking", says Roger Martin in his book "The design of business". Roger Martin further describes the design thinker: "And rather than being confined to the knowing without reasoning of intuitive thinking, the design thinker uses an explicit form of reason and logic and a process that, while less certain and clear than analytical thinking, has promise for producing advances with greater consistency and replicability than pure intuition." (The Design of Business, 2010. Page 26). Roger Martin underlines that design thinking methods combine the best of "two worlds", the rational and the intuitive. The present article describes, how the practice of design thinking can further evolve and tackle challenges outside the design, product development or business context, reaching even more complex areas as sustainability and chemistry. Design thinking describes a mindset that needs to be fostered and nourished, that of "abductive thinking" instead of the prevailing deductive or inductive reasoning. Roger Martin calls abductive thinking as "the essential core capacity for design thinkers". (s.a., Page 27) Equally important, as Roger Martin says: " In addition to mastering tools for analyzing the past and using that analysis to predict the future, the design thinker develops the capacity for observation, for seeing features that others may miss. The design thinker is "a first class noticer" (s.a., Page 30).

Methods of business analysis like Six Sigma have long been applauded and excessively applied, no doubt for good reasons and excellent result, but they have not shown great effect on relevant innovation, product or other. Roger Martin says: "Six Sigma and TQM (Total Quality Management, note of the author) systems drive out waster from the business as currently configured, but they will not

innovate (new business designs)." (s.a., Page 42).

Roger Martin further describes what Charles Sanders Pierce (1839–1914, an influential American philosopher working on the theory of pragmatism, founder of modern semiotics and a keen researcher on the origin of new ideas) stated "New ideas arose when a thinker observed data (...) that didn't fit with the existing model or model. (...) The true first step of reasoning, he concluded, was not observation but wondering. Pierce named his form of reasoning abductive logic.(...) Whether they realize it or not, designers live in Peirce's world of abduction. They actively look for new data points, challenge accepted explanations, and infer possible new worlds." Roger Martin describes (s.a., Page 165) design thinking as " the application of integrative thinking to the task of resolving the conflict between reliability and validity, between exploitation and exploration, and between analytical thinking and intuitive thinking. Both ways of thinking require a balance of mastery and originality."

2.2 Design Thinking mindset

Roger Martin describes the necessary mindset in the following fashion (the Design of Business, page 160): "The key tools of design thinkers are observation, imagination and configuration."

In order to identify and describe problems, to develop possible problem solutions the author recommends the three key tools identified by Roger Martin as well as the expertise in the respective fields in science, business and technology that help to give knowledge and best-practice substance to an appropriate, viable and effective process.

Observation :

Roger Martin describes it as (s.a., Page 161): "… deep, careful, open-minded observation. Since design thinkers are looking for new insights that will enable them to push knowledge forward, they must be able to see things that others don't (…). This requires careful watching and listening in a way that is responsive to the subject (…)."

Imagination :

Roger Martin says (Page 162): " Design thinkers programmatically hone imagination into a powerful tool, one comprised of an interference and testing loop." Abductive reasoning, as described above, is according to Roger Martin "underutilized and underdeveloped in the business domain in favor of deductive and inductive logic." "(…) interference-testing loop is so important. Here the design thinker tests the breakthrough inference by producing a prototype and observing whether it operates as desired or expected." There is yet high risk of failure, but the more that is being tested and thoroughly analyzed, the more the outcome gains validity and relevance.

Configuration :

Says Roger Martin (Page 163): configuration (…)- translating the idea into an activity system that will produce the desired business outcome. This is essentially the design of business that will bring the abductively created insight into fruition. Without that, all the observation and imagination will have no meaningful payoff". What Roger Martin describes for the "design of business" is equally relevant for challenges in the broader context of in science,

technology and other fields of growing uncertainty. See chapter 2.4. (Integrative Design Thinking).

Empathy :

Being able to think as others think, humbly listening to consumers, users, all sorts of stake holders helps creative professionals of all disciplines to constantly update what they know about relevant needs of their target group. These target groups are not only consumers any longer, it is everyone who is directly or indirectly involved in a process. Says Roger Martin (s.o. Page 169): "The only way to design a compelling solution is to re-2.3. Design Thinking practice has its limits It is in practice in many business fields, most in interface development, IT, service and finance as well as for consumer goods. It is an excellent tool to combine intuitive and rational methods to cope with complex challenges. Multidisciplinary teams thrive with it. It is yet not carrying any further content than creating consumer insight (based on proved methods in ethnography) and the established rules of project management combined with specific knowledge related to the given task.

2.4. Crafting a new practice:

Integrative Design Thinking Design Thinking as defined in 2.3. needs further "pollination" with content that can bring solutions to challenges we face in design education and design practice.

Apart from Consumer Insight that is already established in the conventional definition of Design Thinking, Integrative Design Thinking is an ongoing, "organic" process that integrates knowledge areas as sustainability, chemistry, materials science and technology. Economic thinking is also integral part of the "content" list. What is

Integrative Design Thinking©?

Design thinking talks about left-brain, right brain methods to develop new business opportunities. Integrative Design Thinking is a further development of design thinking, defined by the author. It is design thinking extended to new fields in science, technology and even society. It embraces expertise of the various disciplines, being an organic, nature-inspired process, that meanders and develops from stage to stage and from project to project, yet supervised by process review, milestones and evaluations. It is the antipode of a predefined, analytic-only, typical "left-brainer" (thus limited) process. Integrative Design Thinking″ is apt to tackle "wicked problems" which the industrial society faces in a growing number, as sustainable product development and other fields. Integrative Design Thinking© helps solving "wicked problems ": To be able to understand and develop measures to solve "wicked problems" integrative design thinking can light the path. So called "wicked problems", causing headaches to many and a particular challenge to be motivated from are defined as the problems beyond the "hard problems. Jennifer Riel in an article in Roger Martin's book "Designing business" defines them as ″merely harder or more complex than hard problems. (...) Analytical thinking alone does isn't going to generate an answer to a wicked problem. (s.a., Page 95). Jennifer Riel further explains that the definition of "wicked problems" goes back to mathematician Horst Rittel in the 1960s. Riel adds: " Rittel's notion of wicked problems was detailed by C. West Churchman in an 1968 issue of Management Science (long before the term design thinking was first described, note of the author). Churchman described wicked problems as ″a class of social system problems which are ill-formulated, where the information is

confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing." (C. West Churchman, "Wicked Problems" Management Science, vol. 14, no. 4 (Decembre 1967). Knowing, how wicked problems are defined, there is much sense in considering sustainable product issues and the process definition and execution of a sustainable product development as a typical "wicked problem". Chapter 3.1 and 3.5 will talk more about a suitable design strategies.

Jennifer Riel mentions Bill Buxton's statement, principal researcher of Microsoft: "Designers thrive on problem setting, at least as problem solving". Riel sees design thinking strategies as a truly needed and "sustainable" problem setting and problem solving tool (see B. Buxton): In a world rife with wicked problems, the end of oil, the battle for talent, confounding mysteries of all kinds – the companies that succeed will be those that make a valued place for design thinkers, for those people who thrive on setting and solving wicked problems, throughout their organizations." The author will explain its impact on design profession and design education in chapter 3.5.

3. Integrating key factors into Integrative Design Thinking©:

3.1. Sustainability

Bringing together design and environmental issues is not that new, at least in design theory. Victor Papanek (1927 to 1998) describes in Design for the real world (1976) that design thinking can foster social and environmental responsability. Buckminster Fuller (1895 to 1983, known by his biomorph architecture and geodesic domes),

Ralph Caplan (By design), Papanek stand as early disciples of integrating a broader spectrum of social and economic challenges into design thinking and design making. Not many designers today can pro-actively and with deep knowledge apply sustainable design and product development factors. Only few engineers, sustainable process "wizards" and chemists know how to cope with the sustainable aspects of product development. We are not even speaking of a mere idea on "sustainable business" …

Designers need to come up to date in sustainable matters. Sustainability "labs" as the "Sustainable Summer School" (www.designwalks.org) show the way. Inhouse projects in companies and best-practice guidelines from design consultancies light the path. Yet only a few hesitating "test runs" have been taken. Natural systems and biomimicry have million years long experience in making species adapt and develop for survival without harming future descendants. William McDonough and Michael Braungart (founder of EPEA) say in their book "The next industrial revolution" (German issue, free translation, Page 38 to 39): "Natural systems function and thrive through complexity. In contrast to standard solutions of the industrial revolution and the appraised uniformity of globalization nature fosters endless variety. (…) Designers can learn from this surprising biological diversity creating new niche for a multitude of design problems." Even if McDonough and Braungart stay vague describing the transferable potential of nature's principles into the tangible work of industrial designers, it is up to design and architecture professionals to understand the skills and methods of "mother nature".

William McDonough and Michael Braungart have, if not "invented" (nature has), yet largely and successfully communicated to an

interested international public the cradle to cradle principles, defining product development and consumption processes in "the biological cycle" (waste is "food") and the "technical cycle" (energy-intense or harmful substances stay in a closed loop, perfectly hermetic). According to McDonough and Braungart there is "room for more" if we change our way of "designing things" (German issue, free translation, Page 38 to 39):"If industry applies the efficiency of natural systems by manufacturing (new) things, it can create a healthy affluence and enable unlimited and useful industrial systems, that start with a positive synergy effect in following economic, ecological and social objectives." The two promoters of the cradle to cradle-concept (German issue, free translation, Page 22 to 23): "Sustainability is basically too modest (…) as it focuses more on tolerable effects than on what could be positive terms for the development of profitability, ecology and the social aspects of life. Sustainability creates neither innovation nor quality design, it rather limits creativity while being centred on efficiency (only)."

William McDonough and Michael Braungart discover early in 1995 that integrating various disciplines is the only way to develop solutions for environmental challenges " (German issue, free translation, Page 32): "We soon discovered that we need to work with partners and find other experts. For our integrative approach (in German: übergreifender Ansatz) we brought together knowledge from areas such as chemical research, architecture, urbanism as much as from (product development, adds the author) and industrial design."

3.2. Chemical science

Michael Braungart says (s.a., free translation, Page 27): "The study

of chemistry rather factors out solutions and environmental questions until today, science at university is more interested in the structural research of problems than in strategies of change. Scientists are usually paid for examining problems but not for finding solutions." Nonetheless, the science of the elements and their combination holds the key to many aspects of sustainability. It is no coincidence that some of the leading figures of sustainable product development, as Michael Braungart, are chemists. Given the methods of Integrative Design Thinking˝ and the number of "wicked problems" in the field of sustainability, "left-brainer" chemists should be encouraged to work more with "right-brainer" designers, combined with experts that qualify to the mindset map (see Chapter 2.2). Chemists, biologists, sociologists and designers are today's the key professions to advance relevant solutions for sustainability issues, in an integrative style.

3.3. Toxicity

A subject that is most feared and not a very heart-warming one! Little is known, even from product development engineers (even less from industrial designers) on the toxicity of substances that are used in production or that are permanently integrated into one's products. Apart from EU-listing on banned substances, little is known about the complex relationship between chemical substances, their effect on environment and the human being. Who has heard of the EU-List of the SVHC (Substances of very high concern)? Toxicity is today a "legal" problem, too little known in design education and design practice. Michael Braungart (s.a., free translation, Page 29, 30) describes toxicity as an every-day phenomena that industry and the consuming public is not willing to

realize in its every-day importance. There are psychological reasons, why people do not want to live in a "permanent status of intoxication" but fact is that many substances that "surround us" are harming health of may even contain toxic substances. Little is actually done to limit or fight toxicity except national or EU-legislation.

Parliaments are today's most effective advocates to fight toxicity but a citizen should be skeptical and responsible enough to learn more about the issue. Knowledge about toxicity less glamorous than a "green luxury-LOHALifestyle" but nonetheless holds the key to turn around many harmful effects. William McDonough and Michael Braungart (Cradle to Cradle, 2002., free translation, Page 145, 146) talk about the example of developing a shower gel for a European consumer goods company, a gel that does not "clean" men's hair, but also river beds and fish stock (drastically described, yet true) from any grease, sweat and scall (human) scales (fish) to a lethal tidiness. Professionals in product development and design, as well as in marketing and retail are supposed to get up to date with current discussions on toxicity. If they do not, their "next big thing" can be abolished form the market by containing substances that are not supposed to be in or that are not EU-listed (yet) and harmful. Typical example is the discovery of toxic substances in plastic toys for children. If you don't ask the supplier about harmful substances he will do little or nothing to inform you. Knowledge about typical toxic substances per product categories can help prevent damage from people and – indirectly – millions € losses in legal dispute and compensation.

3.4. User motivation and behavior

Sustainability is not only a matter of a lifecycle analysis, carbon footprint-measuring or related "physical" parameters to measure the impact of a product on the environment. Design has a major role in defining the user experience, thus the way the user interacts with a product or service. Behavior has a major impact on the ecological footprint. Car-owning or car-sharing makes quite a difference, everyone will agree. The Manifesto of the 1st Sustainable Sumer School states (1st sustainable summer school", 2009 booklet of the processes and outcomes of the workshop) the challenges for today's designers (Page 5): "dematerialize create attractive lifestyles that consume fewer resources.

RETHINK existing systems and develop new ones.

CHANGE the cultural attitude – be aware of patterns.

LET your individual choices reshape markets and influence politicians.

SHARE your stuff.

MAKE IT cool to be green.

DEVELOP Media partnerships to raise public awareness.

CHERISH cultural diversity, for it is a precious resource.

CONSIDER people's health.

UNDERSTAND the "real price" of products ad services.

The use of nature also has its price. " It is evident that most changes for a "greener" world lie in reducing the impact of industrial

production, mobility, consumption patterns and the prevailing values of a society. As sustainable design is a complex issue, the understanding of the interaction and the effect of one's activity, be it in a business context or as a citizen, is a starting point. With practice, knowledge sharing, and the design thinking mind-set factors mentioned in chapter 2.2 a design student and a design professional can gradually gain confidence and know-how, allies and platforms to walk the path of sustainable design of which there will be no valid alternative in the future, nor from an economic nor from an ecological or social perspective. Continuous training, practice and quick learning is essential to become a "sustainable design champion". The good news is that there is no "restricted entry".

3.5. Applying Integrated Design Thinking© in the context of sustainability and toxicity

As William McDonough and Michael Braungart (s.a., free translation, Page 35,36) state that nature systems (Natursysteme, note of the author) can help development in many areas of human activity: "Systems can be created that are built after the intelligence, richness and efficiency of nature, e.g. energy currents and their natural resources."

Brigitte Wolf, professor of design management at Bergische UniversitaÅNt Wuppertal, summarizes in "1st sustainable summer school" (2009 booklet of the processes and outcomes of the workshop) the challenges for today's designers (Page 22): "Sustainable design does not mean merely saving ten percent in materials here or reducing energy consumption by five percent there. Nor does it mean simply substituting one material by another material with better recycling qualities. A "green" surface is not

enough. (...) Sustainable design therefore must focus on the complexity of the system as a whole and consider all of the material and energy cycles that are moved in order to maintain industrial production. One must consider the interaction between these varying influential factors. Environmentally friendly products and services are already economically successful, but shaping the future in a sustainable fashion poses designers both a great challenge and an ever greater opportunity." Craig M. Vogel in his article Notes on the evolution of design thinking: A work in progress in Design Thinking makes a call for adapting design education models to a broader spectrum: "(...) we need a new educational model in the spirit of the Bauhaus, a model that emphasizes equally both education and research." Vogel further states: "Although interest in the practice of design grows, research, graduate, and doctoral programs in design fields must grow with it to pull even with the more established branches of engineering, applied science, and business." Design education can define and develop green think tanks where design projects are initiated, developed and evaluated after a comprehensive set of tools, measuring and describing the effect of a design solution on environment, society and economy. Bruce Sterling in the introduction of World changing (edited by Alex Steffen, Page 13) jubilates: They (online visionaries and contributors of the book, note of the author) are finding, exchanging, assembling, and discussing information – with one another and with their huge ad growing global audience. By their nature, they are continuous process, rootless yet blooming, a kind of rolling, seed-spewing electronic tumbles tweed. They are forecasters of tomorrow's culture. They confidently predict that the tools, models, and ideas for building a bright green future are already here. The pieces are

scattered around us, awaiting a slow-gathering combustion of insight, the flash of a cultural gestalt." Alex Steffen, the editor of World changing is full of optimism and sees bright green futures ahead: (Page 23)" We're learning with every passing day that changing the world is a growth opportunity. Vast fortunes will be made by those companies that invest in clean energy and new technologies. Huge savings (and a better quality of living) will be realized by those cities that grow smart and that green their infrastructures. Green may not follow gold, but there is gold in green; there are fortunes in fairness:" The present article, the talk and the panel participation at the Cumulus conference aim to add Integrative Design Thinking˝ "to the movement", as an ongoing, adaptive and effective process for creating sustainable solutions, integrating the best possible motivations and competences in man.

3.6. About the CUMULUS Paris conference workshop

In the workshop, the author will show how Integrative Design Thinking˝ can be applied to challenges in a sustainable design process for a possible product development scenario. It will be discussed what needs to be taking into consideration when applying the approach in the context of design education as well as how design practitioners can benefit.

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Social Collaborative Design: Creating Knowledge base in Sustainable Development

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Abstract

Mattayom Praratchatan Nayoa School (MNY) was classified as an underdeveloped rural school in Chachuengzao province, Thailand. It was established in 1997 under the financial support from HRH Mahajakri Sirindhorn. With a collaborative partnership of MNY, King Mongkut's University of Technology Thonburi (KMUTT), and National Center for Genetic Engineering and Biotechnology (BIOTEC), the school has developed an integrated resource development curriculum following the directive to strengthen its educational quality using sufficient economy despite limitations. This paper presents a current actual collaborative project between school communities, design professionals, educators and design students to steer the school's physical development plan towards sustainable concept. The project aims to develop lifelong learning to all participants through socio-environment based learning, which incorporates local wisdom with design & technology. The project, further utilizes the existing resources, such as forest, rice field, and fish ponds, to create the school's master plan for sustainable site design. The designs were developed by university students working alongside MNY students and teachers. Through the social collaborative design process, the school has successfully upgraded

its understanding and commitment in utilizing land uses whilst preserving its environment. At the same time, participating university students and professionals have developed their skills in addressing problems, needs and solutions from community-defined perspective.

Review of Social Involvement in Design and Planning

Nowadays, Sustainable development is a critical issue, which most countries, including Thailand, are trying to conduct their growth towards, on their own context and agenda. To achieve the sustainable development, three integral issues which are environment, economic and social must be accessed and developed together in balance. Although social collaboration is one of the key successes in balancing the system, it is the most difficult task for any sustainable society to overcome. Social collaboration could be proceeded by different means during different development stages. The ultimate goal for sustainability is to include social collaboration in every possible step it takes.

The degree of social involvement, commitment and responsibility (participation degree), refer to eight ladders of participation in planning (Arnstein, 1969), which are, partnership, delegated power, citizen power, informing, consultation, placation, therapy and manipulation. However, the ladder of participation are ordered more upon the power of citizen in decision making, not upon collaborative degree from the most to the least collaborative. In *"Theory and practice of Transformational Collaboration"*, Himmelman (1996) had defined the word "Collaboration" as "exchanging information, altering activities, sharing resources, and enhancing the capacity of

another for mutual benefit to achieve a common purpose". He further recommended that partner, rather than collaborator, is a better way to describe participants. However, it has been remarked that the full model of collaboration is very complex. This project defines collaboration (which means "working together" in its Latin root), as a strategically process with participants degree is set to be in the form of partnership (working side-by-side) and/or consultation (sharing, discussing ideas, information) in the collaborative process.

From basic workflow of design process (Fig.1: Integrating Social-collaborative into Design Process), there are 7 steps from objective setting, data gathering, analysis, concept forming, schematic design, evaluation, and design development. Step1-2 can be called pre-design stage, step 3-7 called design stage, step 8-9 called post-design stage. In Thailand, there has been a continuous attempt to involve social factor in a process of design, but mostly on data gathering stage. Designers/planners use social interaction techniques, such as interview, observation, questionnaire, casual talking, and/or public meeting to involve communities in pre-design or pre-planning stage. Some projects with their nature relevant strongly with social context (such as urban planning project) might be forced to extend their social involvement to the design stage, but mostly only in the model of Public hearing and Public reviewers to get feedback from communities. In planning, since 1996, people participation in government project has been enforced by Administrative Procedure Act in some degrees. At present, direct participation is included in the pre-planning stage with the Public meeting/explanation, questionnaires, News announcement techniques, and in the planning stage with the Public hearings and

Public review techniques (**Pimonsatean,** 2004)**. Still, the roles of stakeholders in practice of most projects are information provider, requirement setter and/or reviewer as they are directly affected by the design. This could be understood as "social as user and/or client" in the design process. This project further demonstrates a model of "social as design generator" which involve social collaboration in every stage of design process. Therefore, the complete cycle of sustainable process from decision making (planning), installation, renovation and maintenance is under the monitoring and responsibility of the communities.**

The main objective of this project is to construct an understanding in design for students and teachers of MNY as a tool for initiating sustainable development of the school's physical development plan. Through Collaborative Design (Co-Design) approach, the school is expected not only to be able to utilize the existing valuable resources, but also properly compose new landuse to serve new requirements for upcoming future.
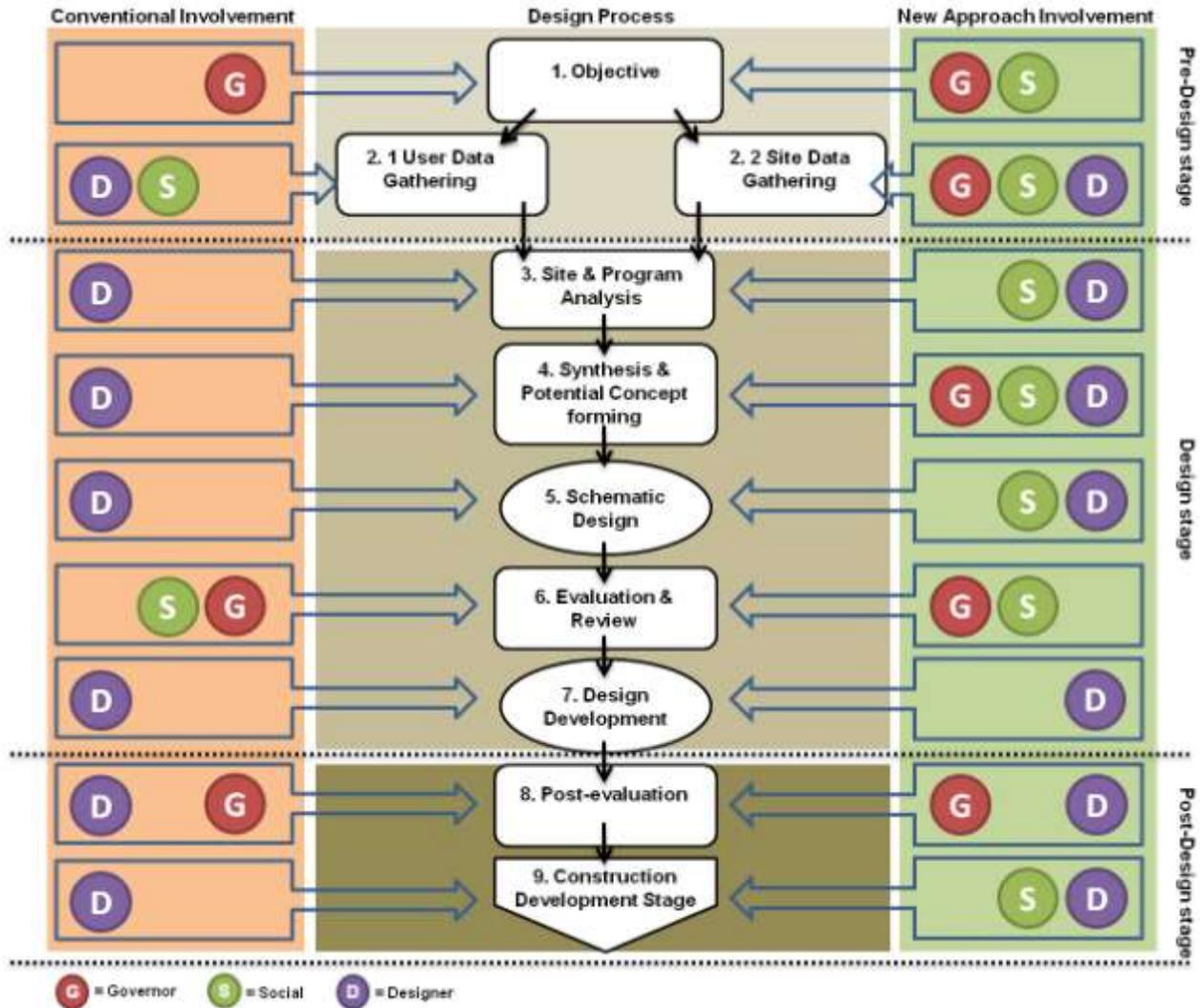
Fig. 1:Integrating Social collaborative into Design Process

The Project Background

Mattayom Praratchatan Nayoa School (MNY), a private school located only 200 kilometres from Bangkok, was classified as an underdeveloped rural school. The school was established in 1997 to serve as a high school for under-privileged students in the rural area of Chachoengsao province under the financial support from HRH

Mahajakri Sirindhorn. With a collaborative partnership of MNY, King Mongkut's University of Technology Thonburi (KMUTT), and National Center for Genetic Engineering and Biotechnology (BIOTEC), the school has developed an integrated resource development curriculum in science and technology and other subjects, following the directive to strengthen its educational quality using sufficient economy despite limitations. The school has a total land area of 240 rais (94.8.acres), composing of existing academic buildings, mechanical shops, accommodations and green areas of forest, rice field and fish ponds. When the master plan development project started last year, the school was in a developing stage with a need for new buildings and other facilities to support its growth. The direction of growth was then taken into consideration with a concern of what and how it should be.

Since 2004, the school and community have practiced on the basis of Sufficient Economy (SE), which has been accepted as an appropriate medium towards sustainable development for Thais. Sufficiency Economy is a philosophy that stresses the middle path as an overriding principle for appropriate conduct by the populace at all levels[1] (NESDB, 2007). It has been bestowed by His Majesty the King Bhumibol as a guidance for Thais to balance their way of life. It represents the realistic idea of moderation ranges from the ground

[1] *Sufficiency Economy is a philosophy that stresses the middle path as an overriding principle for appropriate conduct by the populace at all levels. This applies to conduct starting from the level of the families, communities, as well as the level of nation in development and administration so as to modernize in line with the forces of globalization. "Sufficiency" means moderation, reasonableness, and the need of self-immunity for sufficient protection from impact arising from internal and external changes. To achieve this, an application of knowledge with due consideration and prudence is essential. In particular great care is needed in the utilization of theories and methodologies for planning and implementation in every step. At the same time, it is essential to strengthen the moral fibre of the nation, so that everyone, particularly public officials, academics, businessmen at all levels, adheres first and foremost to the principles of honesty and integrity. In addition, a way of life based on patience, perseverance, diligence, wisdom and prudence is indispensable to create balance and be able to cope appropriately with critical challenges arising from extensive and rapid socioeconomic, environmental, and cultural changes in the world.[5],*
Sufficiency Economy Implications and Applications by Sufficiency Economy Movement Sub-committee

up. It also enlightens the wisdom and guideline for all Thai people from the toughest time of economy downturn through recovery. It does not deny the globalization or capitalism which driving world economy but respects interdependence among people and nature. Its basic concept stresses on the use of knowledge wisely due to circumstances and consideration. Its core values include integrity, diligence, harmlessness and sharing. Finally, its ultimate goal is seeking to achieve balance and sustainability. Sompit Moi Fusakul and Praoranuj Siridej (2010) have seen Sufficiency Economy Philosophy (SEP) as an alternative approach to sustainability, but remarked that "nevertheless, applying SEP approach in design sector is still relatively under developed". However, to develop its physical growth accordingly, the concept of SE, *the essential elements to sustainability, as well as the school components must be* reviewed in order to evaluate the potential growth properly.

Four basic requirements to achieve sustainability without poverty in developed community are:

- *Improve and promote knowledge and understanding (knowledge Base)*
- *Improve marketing strategy and increase production and cash income (Economic base)*
- *Pursue concerned citizens to participate in any stage of development process (Community base)*
- *Support local and national policy by good governance (policy base)*

The important of "knowledge and understanding (wisdom)" is not only mentioned in sustainability, but also in Sufficiency Economy

Implementation as one in two key conditions of success (Siridej & Fusakul, 2010). It is also stated that Sufficiency Economy requires breath and thoroughness in planning, and carefulness in applying knowledge and in implementation of those plans.

The project, were the quest of MNY School to lay out its master plan for building-area expansion and landscape development. The sustainable development of the school as well as community had been discussed to see the possibility and to set the strategy to achieve. Regarding to the MNY School and community components towards sustainable development, we reviewed the relationship of three key integral issues-- environment and natural resources, policy and social aspects. A list of its strength, weakness and potential has brought into discussion. The result implies opportunities or constraints in Collaborative design (Co-Design).

Strength,

1) Participants have basic understanding in sufficient economy and sustainability.

2) Encouraging of participation of all level is the main policy to develop the school.

3) There are strong relationship and interdependency between school and community.

Weakness,

1) Stakeholders have less participation in level of decision making or suggestion due to culture and social status in Asian society.

2) **Not every stakeholder is aware of the beneficial of preservation and reforestation, although the school policy is to preserving the forest area to 60% of its total area.**

3) **Decision making of development guideline comes from administrators; the lack of participation from every party might cause the main failure of sustainable development.**

Potential,

1) **Even though the lack of academic knowledge and professional practice, school and community have high ability to initiate and implement many projects by their own.**

2) **Ratio of developed area is still low, preventing the conflict of land use, while vast area is still available for future expansion. However the appropriate zoning and site capacity for the next phase of development must be aware.**

As the school has developed its education through collaborative partnership with various institutions in many subjects, we saw an opportunity to set up the strategy in designing the school's physical development plan through education, by the collaborative design (Co-Design) between KMUTT, MNY communities, educators and design professionals. This strategy will strengthen Knowledge Base and Community Base as it initiates community's sustainability in learning which leads to lifelong learning and self-dependence in long run. The model of Co-Design activity would allow all stakeholders, who are MNY administrative, students, teachers to be involved, and thus will build their understanding in design for sustainable development of their school.

Knowledge Aspects for the project,

1. *Acquire board knowledge in sustainable development*

2. *Provide knowledge and analytical thinking in physical aspect and site capacity such as opportunities and constraints, pros and cons*

3. *Provide understanding in decision making process for stakeholders in community*

4. *Develop student's intellectual, creative and imaginative capacity according to landscape architectural education.*

Objectives of the Collaborative Design (Co-Design)

- *To provide opportunities for administrators, teachers and head of students to study, participate and practice in sustainable landscape design and spatial/program management which can be applied for other areas/cases*

- *To develop an understanding in essential elements of sustainable development appropriated to their own community contexts which are resources and environment, macro economics, and community's identity*

- *To promote the importance of appreciation and awareness in the value of environment and hometown to the participants*

- *To demonstrate landscape design education for prospect students on how to apply those knowledge to their hometown*

- *To provide opportunities for students to develop and understanding of the professional practice of architectural design based on sufficient economy theory and to be aware*

of the influence of 3 essential elements in sustainability development.

- *To expand an ability of the students to engage/collaborate with 3 different parties which are local people as stakeholder, students in different field of study and expertise.*
- *To offer social contribution's opportunity for professionals*
- *To promote the importance and awareness of an involvement of social in design process*

Model of setting Co-Design activity

According to the Public Participation Manual (**Siroros,** 2003), many different techniques are recommended to apply in three different patterns of participation: Informing, Hearing and, Discussing. The selected technique to initiate discussing and consulting pattern in Co-Design is Training Workshop.

The Co-Design activity of the project was set up through a basic circle model. It was a continuing sequence of stages in circular flow, starting from Review and Analysis of resources and contexts to set collaborative Learning/Working model. This model defined framework of activity as well as collaborative parties and their roles. Then, the activity stage, collaborative parties were learning by doing, they worked side-by-side to propose the ideas. The Outcome was production (result) that was produced in an activity stage. Then, both result and activity were marked the strength and weakness in Evaluation and Refine stage. Consequently, some production may need refinement by a more skillful professional.

Finally, the Review and Analysis of the whole process were conducted, which was a starting stage for the next task.
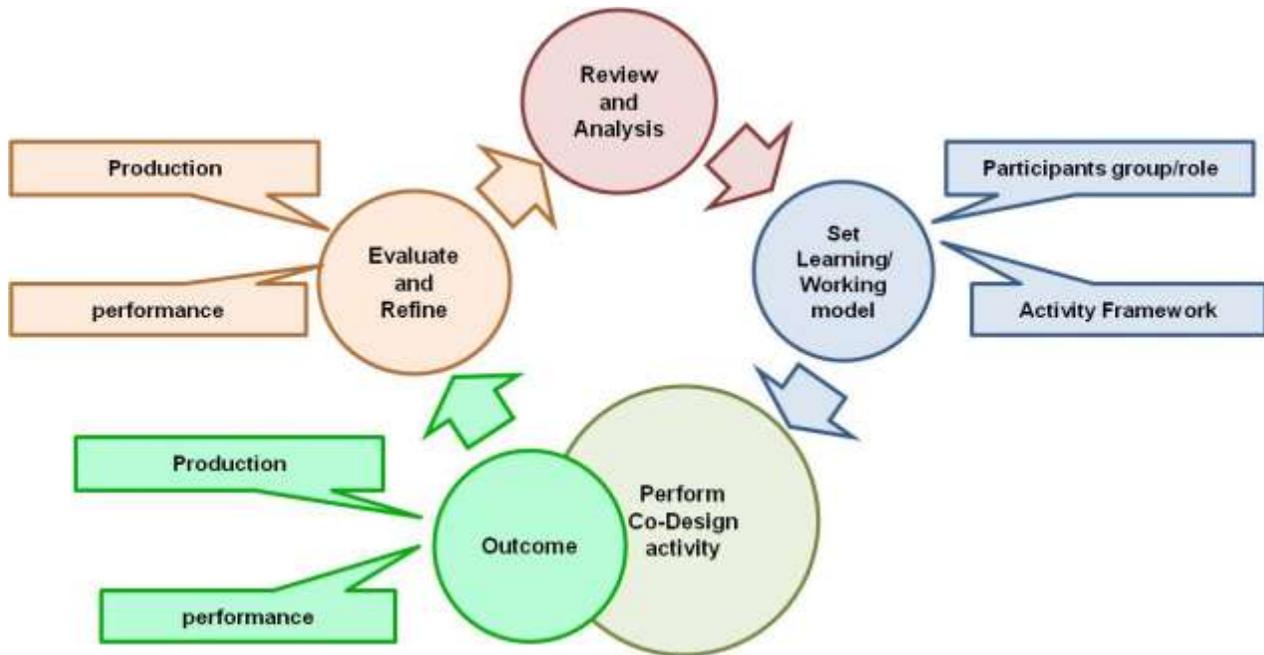

Fig. 2:Model of setting Co-Design activity

The Co-Design knowledge base process is based on the idea of "Learning by Doing". It will be conducted through workshops with the style of "PLAN without plan", it means that outline of objectives, working process, and target groups is carefully defined and set, but there won't be rigid schedule or activities for workshop. Along the process, the activity is evaluated from times to times and the schedule or activities will be conducted accordingly by moderator (or consulting team). The knowledge contents will then be inserted into each stage by brief lecture, comments and conclusion of the activity they have done. So the working model is flexible enough for different group of participants and it will be designed according to their potential, commitment and contribution.

Creating Knowledge Base by Co-Design

For MNY School, we set 3 phases of workshop (WS1, WS2, and WS3) with an intention to involve social participation into every stage of the Design process. The theme of Co-Design workshops is called FUN-FIND-FOCUS to avoid using various Design technical terms in communicating with school community. MNY, KMUTT and BIOTEC, first carefully discussed and set target groups of participants. During the activities, participants' capability, involvement and commitment were observed. After each phase, participants' performance was evaluated in order to plan the detailed schedule and components of the following phase.

WS1 "FUN": The purpose of first workshop was to give basic knowledge in Landscape Design to participants, so they would have some background before design phase in WS2 with Landscape architecture students (LA students). Consulting team was composed of 5 lecturers (experts) in planning, design, architecture, social study, resource management. They played various roles during the activities as lecturer, visitor, moderator, consult or conductor. Community participants are composed of 3 groups of stake holders, 25 MNY students in high school level who live in a village, 5 MNY teachers and school president.

The FUN activity started with brief lecture from KMUTT to MNY communities about definition in design and some basic information about site plan data and investigation techniques, such as scale, map, direction, plan etc, Then the knowledge and practice would be achieved through play + learn exercises such as site survey, brain storming, mind mapping, and informal discussing. Finally, they had produced a zoning map by their own sketch, together they named

the zone from voting for most preferable name. It implied that they started to propose the concept and program for each zone.

WS2 "FIND": The second workshop, by working alongside with LA students, they will depict their vision on to paper. It was the demonstration of how to design systematically from analysis to final production. Consulting team was composed of lecturers from 5 institutions in design with collaboration of 3 experts from Thai Association of Landscape Architects (TALA). They would be advisors and critiques during the analysis and design activities. Academic participants were 50 LA students from 5 institutions who would work alongside with MNY students to purpose the Landscape Master Plan. Community participants are composed of 25 MNY students, 5 MNY teachers and MNY president; most of them continued their tasks from WS1.

The FIND activity started from a brief background of the site and philosophy of the school by school president. MNY students presented about what had been done in last workshop (WS1), their dream school and the outcome production, which was the sketch

zoning plan from their discussion. Then LA students showed the zoning map in 1:2000 and 1:500 scale which they had prepared by CADD from MNY sketch, so it was the first time MNY saw their work in technical drawing map. After that they were separated in 8 groups to work on design, starting from site analysis, site selection, conceptual design and proposed landscape development design of the area they picked .Each group were composed of MNY students, teacher and landscape students from 2 institutions or more. MNY president, lecturers and experts would give comments and critic their work in each stage. Each member in a group had to present the work and how they involved.

Fig. 4: WS2 FIND Collaborative activities

WS3 "FOCUS": The last workshop is planned to be detail design and installation stage. MNY communities will build the selected area from their design with the help of professionals and contractors. The purpose is to focus their knowledge in refining detailed design and construction, so they will be trained some skills in maintenance.

The FOCUS activity is now on process of setting private sector collaboration both in terms of funding and professional supporting.

Outcome and Discussion

WS 1 " FUN": Fun in Knowing, Addressing, Imaging

We have to ask which kind of knowledge is needed to address their identity, their values, and what could encourage them to think about their needs and their dreams and how they can achieve them. The other results we should have from WS1 are we should be able to estimate the participant's commitment, their learning potential and their abilities in design.

1) Components

The components in WS1 were defined to assure that three issues of sustainability were involved. Preserved forest, agriculture field, and local way of living represented resources (environmental issue). Students and teachers represented user and community (social issue) and school president represented policy, philosophy, and financial resource (economic issue).

2) Collaboration activities

Participants had a chance to practice their observation and thought about their identity, their like and dislike through "FUN" activities as followed;

"Meet your new friends" introduce brief knowledge and definition of site design and master plan to them.

"Show me your school and village" let the students and teachers investigate and observe school environment in details and be able to explain to others.

"Why I like here most" is the practice of analysis and synthesis,

"impossible dream?" allowed the students to dream further from existing context and express through their mind-map,

"Storm your brain" is the brain storming session to practice opinion expression,

"What we will name it". Allowed them to create concept, and give zoning fit to site on to the map.

3) Review and discussion

In the WS1, the intention of social collaboration model between KMUTT and NMY community was more likely to be coaching system than partnership. The important thing was that they were encouraged to express their thought and speak out their opinion. The role of collaboration parties would take turn from teacher to learner and vice versa in different activates. The school had an opportunity to be a host, a tour guide who knows more than visitors. This would help to create sense of belonging and pride of local identity.

Fig. 5: WS1 Outcome

Compare to critical thinking of design process, WS1 is data gathering, site investigate; program forming, and conceptual design. In addition, we had to insert knowledge background about what was the purpose and definition of Site Design to the participants in between each activity.

The production outcome showed that even though the students were able to understand the site condition and able to propose land use zoning, their graphic communication was limited by lacking of drawing skill. Therefore this minor obstacle was assisted by LA student who reproduced their sketches to AUTOCAD later on.

WS2 "FIND": Find problems, needs and solutions

We have to ask which kind of knowledge is needed to put vision into drawing, and how they can achieve it.

1) Components

Again, the components' role in WS2 was defined to assure that three issues of sustainability were involved. Natural and agricultural land represented resources and value role in development (environmental issue). School students represented owners *a*nd design driven (social issue) in designing Master Plan. School president and teachers represented supporter in management and budget in investment and operating plan (economic issue).

2) Collaboration activities

To demonstrate the working process in design and to exchange ideas + skill in team working (creative thinking) with stakeholders. The MNY community was lead step by step through the design process. In this stage, more technical terms in design and planning such as analysis, concept, Zoning map, harmony and contrast, landmark etc.,

were introduced to educate MNY participants in design. Participants had a chance to practice on group working, sharing ideas and exchanging knowledge through the "FIND" activities as followed;

"Find what are good and bad points" was the exercise of analysis and group discussion to identify problems and opportunities.

"What do we want to do/what we can do" was the practice of group discussion about site selection and concept

"Present your ideas" allowed participants from all levels to talk about their idea.

"Show me your design" allowed only students to propose their solutions while teachers and experts became critics.

3) Review and discussion

In WS2, we observed that there were knowledge and skill sharing between MNY students and LA students according to the changing of role they were responsible. For example MNY students taught LA students about plant ecology and water supply system produced by their own school and LA students taught MNY how to draw and use technical drawing tools in return. During the oral presentation and critic stage, they also shared their point of view and in their part.

Fig. 6: WS2 Outcome

Compare to critical thinking process, WS2 ranges from site and program analysis, conceptual design to proposed development plan. Moreover in WS2 the degree of involvement and commitment of student were encouraged as much as possible.

At the end of WS2, NMY students and participants would understand the whole design process regarding to their experience. Moreover the administrator had more confidence in students' opinion and potential which leaded to more involvement of decision making in the future development of the community.

In the WS2, the social collaboration model between KMUTT and NMY community was changed to be more partnership system to increase the degree of participation in design of NMY community.

Conclusion

From observation, we found out that it is possible to construct knowledge base in design for sustainable development for the

community in some certain level. However the achievement of knowledge base is composed of 3 following aspects;

1. *Awareness and respect in nature and culture of the participants.*

2. *Involvement of stakeholders who are in charge of policy setting, investment and management.*

3. *Collaboration and commitment of the community.*

With this composition, the participants are expected to be self-dependence in the future by sustainability approach. The Ultimate goal of sustainable knowledge is to develop critical thinking ability of school community in order to tackle any problems in a future with or without assistance from expert.

However the interim evaluation of this phase cannot reflect the accomplishment of the whole project because of the last workshop (WS3: "Focus") has not been executed yet. Therefore, to assess the level of success in constructing sustainable knowledge, the post evaluation requires 2 evidences as achievement indicators which are;

1. *Students and community are able to apply knowledge and experience from this project in other cases.*

2. *Students and community are able to pass over this knowledge to next generation.*

The significant evidence in this project proves that the collaboration of different background of people is possible even in design. It would strengthen their sense of belonging and their pride of local wisdom. This would lead to sustainability society at the world.

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APINYA LIMPAIBOON

Obituary:

Douglas Engelbart, the visionary electrical engineer who invented the computer mouse and laid out a vision of an internet decades before the influx of personal computers, died at his California home on Tuesday. He was 88.

Engelbart's work at SRI, then called the Stanford Research Institute, resulted in 21 patents. The last one, granted in 1970, was for the mouse. "I don't know why we call it a mouse," he said, except it resembled a rodent, with its cord as a tail.
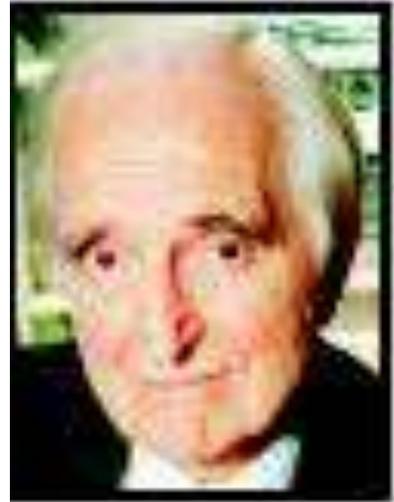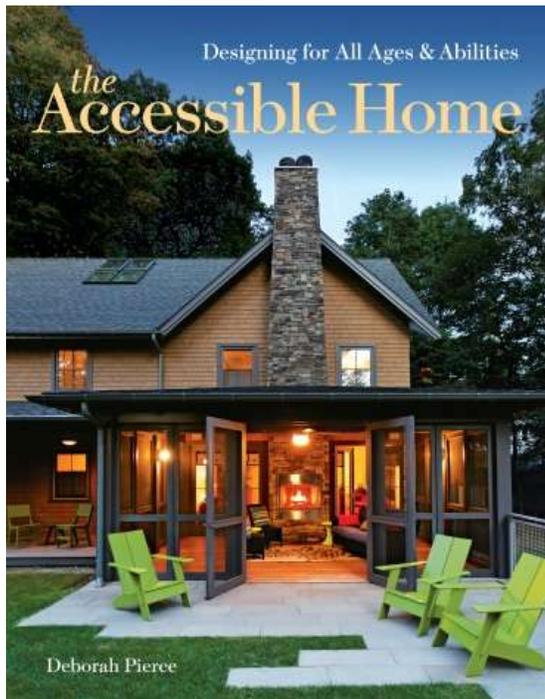
(Source: Times of India)

BOOK RECEIVED:

Press Contact:
Linda Stephen, IWPR Group
linda@iwprgroup.com
402-483-0747

The Accessible Home: Designing for All Ages & Abilities
New Book by Architect Deborah Pierce

Newton, Connecticut (October 23, 2012) – The Taunton Press is pleased to announce the publication of *The Accessible Home: Designing for all Ages and Abilities,* by Deborah Pierce. Foreword by Michael Graves, FAIA.

This first-of-a-kind home design book addresses the needs of families, couples, and visitors looking for an accessible home that is both beautiful and functional. The Accessible Home shows how ordinary people with extraordinary challenges can partner with architects, designers, and their own families to create homes that restore capabilities, independence and the grace of daily living.

The book is also a tool for the more than 80 million Baby Boomers to age in place in their current homes and lead a lifestyle with

independence, comfort, and safety for decades. A recent survey by AARP revealed that 84 percent of Boomers would like to stay in their current homes during retirement, but only 16 percent have taken any steps to adapt their homes accordingly.

Author Deborah Pierce is one of our nation's foremost experts on universal design. As an architect for the past three decades, she has been focusing on how a home serves the activities of daily living. As a result, the projects in this book convey the power of universal design – useable by everyone.

Michael Graves, FAIA, says, "Deborah Pierce tackles the small problems along with the large in her quest to make wonderful places where people with disabilities can live comfortably and safely."

Homeowners, architects, designers, remodelers and builders will find ideas, inspiration and courage to create homes that are unique to each household's requirements and at the same time, attractive to broad segments of the population. She shows us that "accessible" can be beautiful and functional, light and airy, low-maintenance, safe and comfortable, and that universal design today is a far cry from the grab-bars and ramps of yore.

The Accessible Home features 25 new and remodel projects and 225 photos from across North America to show readers how to create a home that serves its owners for years to come.

Title: *The Accessible Home: Designing for All Ages & Abilities*
Publish date: October 23, 2012
Publisher: The Taunton Press
ISBN-13: 978-1-60085-491-0
Price: $27.95
Pages: 224
Photos: 225
Drawings: 30
Cover: Paperback
Trim Size: 8 ½ x 10 7/8 inches
Taunton Product: 071400
Web site: http://www.taunton.com
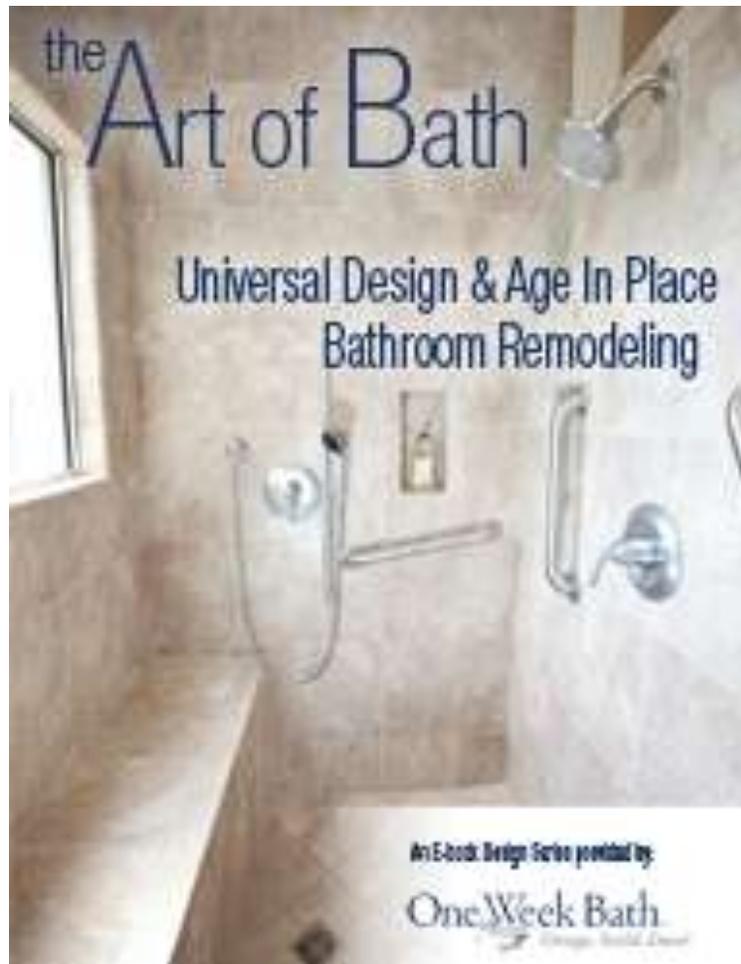
About the author: Deborah Pierce, AIA, is principal of Pierce Lamb Architects in Newton, Mass. and lectures across the country on the topics of architecture, accessibility and universal design.

2.

New E-Book on Universal Design Bathroom Remodeling Provides a Blueprint for Artful Style and Accessibility

APPEAL:

The Disability Experience:
State of the Arts, Scholarship and Research

A Call for Papers

Set aside the dates and submit an abstract! The Students for Disability Advocacy, a newly formed student group at the University of Pittsburgh whose mission is to advocate for students with disabilities, will be holding a conference October 31st and November 1st, 2013 at the University of Pittsburgh William Pitt Union entitled *The Disability Experience: State of the Arts in Research, Scholarship and the Arts*. The purpose of the conference is to highlight the arts, scholarship and research concerning the disability experience. The conference will focus on panel presentations by students with faculty respondents. A variety of submissions will be accepted from students with and without disabilities at the University of Pittsburgh and around the country. Panel presentations will draw from a variety of disciplines including: Assistive Technology across disability, Health & Wellness (disparities), Employment, Policy and Law, the Arts, Education, History, Philosophy, and English. A faculty-student round-table discussion is the final event of the conference with discourse concerning relationships between faculty and students with disabilities. Limited scholarships for travel may be available and food will be available free at the conference.

Purpose and objectives of the conference:

The aim of this first ever disability studies conference at the University of Pittsburgh is to bring together a wide spectrum of faculty, students, and other individuals – especially those from the University and its communities – whose interests capture the experience of disability and who wish to advance disability-related fields and further their integration into the curricula and in community life. The conference will:

- Invite students to present their field-specific disability-related work from across the curricula of science, the arts and the humanities to an interdisciplinary audience
- Promote discourse across disability-related fields in order to integrate disability studies into the curricula
- Provide networking opportunities by encouraging and enabling attendees to establish connections with individuals of varying fields
- Create dialogue between students and faculty about issues and experiences students with disabilities have and to identify mechanisms for resolution of problems.

Submissions:

Abstract submissions should be no more than 500 words and up to three keywords for the paper. Submissions must include 1) your name, contact information and discipline 2) title of your presentation and 3) the panel (e.g. Assistive Technology, Health & Wellness, Employment, Policy and Law, Education, History, Philosophy, or English and the Arts) in which you would like to be included. There will be three accepted abstracts for each panel. Papers will be shared with other panelists in mid-September and power points will be due two weeks before the conference. The authors will be asked to make a 15 minute presentation with 5 minutes for Q and A. If you want to display art or show a film, provide a description as well as space and other requirements.

Please submit abstracts by July 1st to Jonathan Duvall at sorc-disability@pitt.edu. Authors of accepted abstracts will be notified by August 15, 2013. Direct any questions or inquiries to Jonathan Duvall at sorc-disability@pitt.edu. Please feel free to share this announcement with anyone who might be interested in participating.

This conference is supported by University of Pittsburgh, Students for Disability Advocacy and other organizations.

NEWS:

1. Universal design is smart - NorthJersey.com

NorthJersey.com

Remodeling trends may come and go, but one trend has evolved into an improved design movement focused on increasing accessibility for everyone in the home. The National Association of the Remodeling Industry (NARI) recognizes universal design projects as proven design solutions for not only aging-in-place, but for families with special needs or anyone who wishes to move about his or her home freely, without barriers.

Russell Long, president of Aloha Home Builders based in Eugene, Ore., is a pioneer of universal design, remodeling his home to fit the accessibility needs of his 16-year-old son who was born with cerebral palsy.

Though Long's accessibility needs may be greater than others, he always communicates the benefit of universal design to all of his clients. "Most people don't think about universal design until it's too late," he said. "A healthy person can be injured or need to care for a loved one who is aging, and suddenly, your needs have changed," he said.

Long believes many of the design elements incorporated into his project, which won a 2012 Northwest Regional CotY Award in the Entire House $500,000 to $1,000,000 category with Universal Design Project Recognition, are convenient and luxurious, as well as functional and wheelchair accessible. For example, the universal design features from his project include:

Zero barriers, which mean there are no steps in the home, especially for entryways. All living quarters are on the first floor, with the exception of an upstairs area that was converted into an apartment with the purpose of housing a caregiver at some point.

Wide hallways, open living spaces and dual entries in all rooms are common design elements used in wheelchair accessibility. Long's hallways are more than 5 feet wide, and living spaces are expanded so wheelchairs can move around furniture easily. Also, two entryways in all rooms-including the living room, dining room and kitchen-allows for ample traffic flow throughout the house.

Microwaves drawer and/or refrigeration drawers are also common in universal design, but Long says it is also a stylistic feature for those who prefer to showcase beautiful cabinetry and granite countertops rather than the eye-sore of a microwave taking up counter space.

Hardwood flooring is superior over carpeting for wheelchair accessibility. Long removed all carpeting on the first floor and installed engineered hardwood flooring throughout the entire floor, only covering certain areas with rugs. The new flooring also allowed for a five zone, energy-efficient radiant heating system throughout the house, which couldn't have been accomplished with carpeting.

Ramped pool entrance is a unique design feature developed by Long to make it easier for his son to be transferred in and out of the pool safely. However, once installed, the ramped entrance doubles as a convenient bench for guests to sit on while they enjoy the pool.

The key to universal design, according to Long, is to come up with design solutions that address current needs and future needs down the road. "We tried to think of solutions that could easily be added or taken out if we needed them or decided to sell our home one day," Long said.

North Jersey Media Group Inc.

2.

List of Awardees: NCPEDP MPHASIS UNIVERSAL DESIGN AWARDS 2013

CATEGORY A: PERSONS WITH DISABILITIES

Awards in this category are given to people with disabilities who have created an impact in accessibility and universal design in any of the areas such as built environment, transport infrastructure, service provision, information and communication technology (ICT), universally

designed consumer products, mobility & independent living aids, or assistive technology in their personal/professional capacity.

AWARDEES

1. Mr. Nekram Upadhyay, Rehabilitation Engineering Technologist & Head, Department of Assistive Technology, Indian Spinal Injuries Centre, Delhi.
2. Dr. Satendra Singh, Assistant Professor, University College of Medical Sciences and Coordinator, Enabling Unit, Delhi.
3. Mr. Srinivasu Chakravarthula, Senior Accessibility Program Lead, Consumer Quality & Engineering Services, PayPal .

CATEGORY B: WORKING PROFESSIONALS

Awards in this category are given to people who work for the cause of accessibility and universal design in any of the areas such as built environment, transport infrastructure, service provision, information & communication technology (ICT), universally designed consumer products, mobility & independent living aids, or assistive technology.

AWARDEES

1. Ms. Arathi Abraham, Principal Designer, 99 and 1 Design, Chennai.
2. Dr. Arun Mehta, President, Bidirectional Access Promotion Society, Delhi.
3. Mr. Bhushan Verma, CEO, GearCraftSolutions, Delhi.

CATEGORY C: COMPANIES/ORGANISATIONS

Awards in this category are given to those companies or organisations who have taken up the cause of accessibility and universal design in any of the areas such as built environment, transport infrastructure, service provision, information and communication technology (ICT), universally designed consumer products, mobility & independent living aids, or assistive technology.
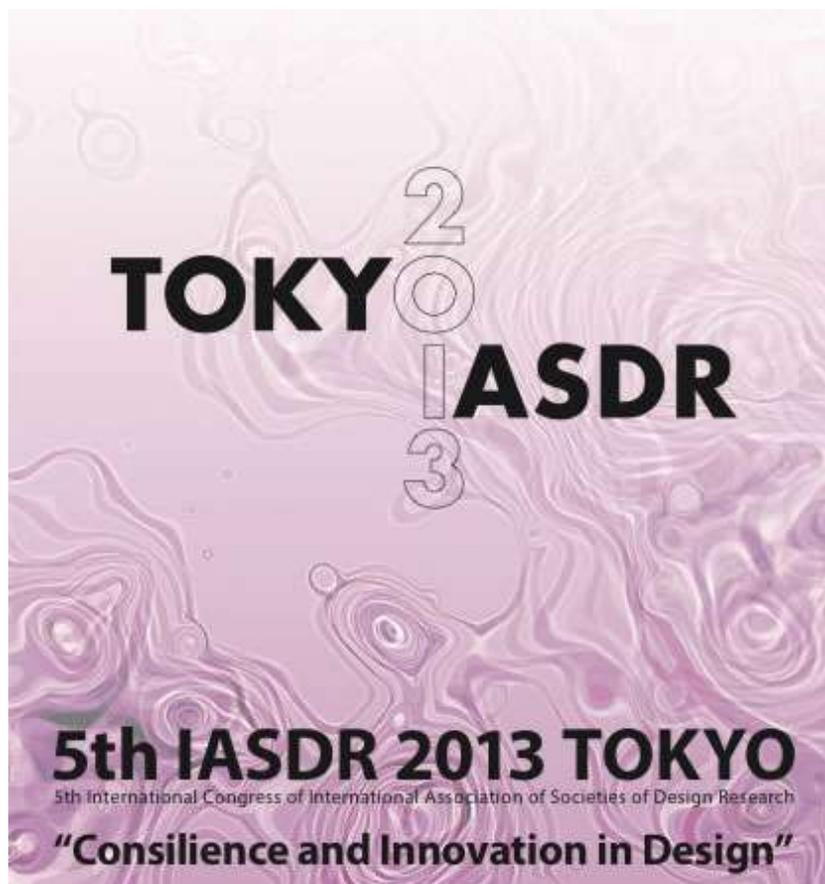
AWARDEES

1. HANDICARE - Indian Association of Persons with Disabilities, Lucknow.
2. Kriyate Design Solutions Pvt. Ltd., Delhi.
3. NCR Corporation India Pvt. Ltd., Mumbai.
4. School of Planning and Architecture, Bhopal.

View more details of NCPEDP MPHASIS Universal Design Awards.

Program & Events:

1.

2.

3.

HCI International 2013

21 - 26 July 2013, Mirage Hotel, Las Vegas, Nevada, USA

4.

AWARD CEREMONY

The Award Ceremony will be a dinner held in Sydney in September. All finalists will be notified and invited to attend the Award Ceremony. Winners will be announced on the night.

Minister for Disability Services, The Hon. Andrew Constance MP will present the Awards.

IMPORTANT DATES & INFORMATION

NOMINATIONS OPEN

Wednesday 10 April 2013

NOMINATIONS CLOSE

Friday 31 May 2013

COMPLETED NOMINATION FORMS

Email, fax or post to:
Ms Jacquelyn Johnson

Address: GPO Box 2687
Sydney NSW 2001
Fax: 02 9256 3123
Email: nswdiia@nds.org.au

NOMINATION ACKNOWLEDGEMENT

Nominations will be acknowledged within 10 days of receipt.
If you do not receive an acknowledgement please contact Ms Jacquelyn Johnson on the details listed below.

CONTACT FOR ENQUIRIES

Ms Jacquelyn Johnson
Sector Development Officer
National Disability Services

Phone: 02 9256 3161
Email: nswdiia@nds.org.au

5

products, news, business
2013 IDEA open for entries

28 November 2012 by Kate Jones
The 2013 International Design Excellence Awards is open for entries.

home / 2012 / november / 2013 IDEA open for entries

The Industrial Designers Society of America (IDSA) are calling for entries for their annual International Design Excellence Awards® (IDEA) competition for 2013.

6.

International Istanbul Initiative on Ageing 4-6 October 2013

The International Federation on Ageing and Turyak Seniors Council Association cordially invites you to **submit abstracts for oral**

presentations at the International Istanbul Initiative on Ageing. All abstracts will be reviewed by the Program Committee and assigned to the appropriate concurrent session for oral presentations. Abstracts from around the world are welcomed to share best practices to the regions of the Middle East, Northern Africa, Eastern Europe, and surrounding countries of Turkey. Abstracts must relate to one of the 13 sub-themes identified.
 Abstract submissions are entirely separate from full paper submissions, and will therefore *not* be eligible for financial prizes or publications. For more information about Full Papers visit www.ifa-fiv.org.

 Deadline: May 31, 2013 at 5pm EST
7.

8.

9.

10.

Fifth Universal Design Summit 2013 (UDS5)

For four previous conferences The R.L. Mace Universal Design Institute (UDI) staff has collaborated with The Starkloff Disability Institute (SDI) to provide a unique educational experience showcasing good examples of universal design that can be incorporated into housing and neighborhoods.

As North America's only conference focused on housing and communities usable by all, UDS5 continues a tradition of providing exceptional content on universal design in housing, sustainable design, community design, and affordability. UDS5 will offer learning opportunities through informal discussion, breakout, and plenary sessions. The conference will feature exhibits, design charrettes, workshops, and a tour of universally designed housing and neighborhoods.

Continuing Education Credits are available. See what people are saying about UDS4 and UDS5.

Universal Design Summit 5, May 6-8, 2013

Saint Louis University
Busch Conference / Student Center
20 North Grand Boulevard
St. Louis, Missouri 63103

11.

Making Steps Forward - Accessible Tourism For All
Project:
"Inclusion Through Accessibility"

12.

The National Council on Independent Living (NCIL) will hold its annual conference on July 24 – 27, 2013 in Washington, DC.

13.

Applications can be submitted on-line until 10 September 2013 (midnight Brussels time) in English, French or German via http://ec.europa.eu/justice/access-city.

For more information, visit http://ec.europa.eu/justice/access-city

14

15.

ESCAP-SASAKAWA AWARD
FOR DISABILITY-INCLUSIVE BUSINESS
IN ASIA AND THE PACIFIC

Nominations opened 20 May 2013 and will be accepted until 19 August 2013.

16.

17.

Hong Kong Young Design Talent Award 2013 - Call for Application HK$500,000 Award grant for supporting elites to undergo overseas work attachment

Organised by Hong Kong Design Centre (HKDC), "Hong Kong Young Design Talent Award" (HKYDTA) has started calling for application on 1 May. HKYDTA aims to support young design practitioners and design graduates to undergo overseas work attachment in renowned design companies for half to one year and contribute to Hong Kong's design and creative industries afterward. HKYDTA awardees may receive a grant of HK$500,000 including sponsorship of daily expenses and valuable chances of overseas work attachment in renowned design companies such as Muji(Japan), Ecco Design(United States) and 3XN(Denmark).

HKYDTA aims to cultivate up-and-coming design talents with sponsorship granted for them to undergo overseas work attachment. They will contribute to the development of Hong Kong's design and creative industries by returning to Hong Kong immediately upon completion of overseas work attachment and working for not less than 2 consecutive years for a Hong Kong business. Also, they will become the ambassadors of HKYDTA and share their overseas experience with the organisers or sponsors. Organised since 2005, more than 400 applications were received. More than 40 awardees were given grants to continue their professional pursuits overseas.

There are 4 grand awards in HKYDTA 2013: "CreateSmart Young Design Talent Award" will sponsor 2 design practitioners in maximum with a grant of HK$500,000 each. "CreateSmart Young Design Talent Special Award" will sponsor 2 design practitioners or design graduates in maximum with a grant of HK$250,000 each. "PolyU School of Design Young Design Talent Award" will sponsor a design graduate with a grant of HK$250,000. "HKDI Young Design Talent Award" will sponsor a design graduate with a grant of HK$250,000. Besides, HKYDT Special Mention Award is introduced to reward excellent applicants.

Candidates will be assessed by a panel of expert judges based on several criteria such as their possible future contributions to the development of design and innovation in Hong Kong, effectiveness of communication, quality of portfolio and plans for using the Award's grant. The deadline for online application of HKYDTA will be 31st July 2013 and deadline for submission of supporting document by post will be 15th August 2013. For more information of HKYDTA, please visit www.ydta.hk .

Overview of awardees' designated overseas design companies

Category	Company Name	Country
Apparel and Accessory Design	HENRIK VIBSKOV STUDIO	Denmark
Communication Design	Base Design	Belgium
Communication Design	Studio Dumbar	Belgium
Environmental Design	JDS Architects	Belgium
Environmental Design	Grant Associates	United Kingdom
Environmental Design	3XN	Denmark
Multi-disciplinary	ROSAN BOSCH	Denmark
Multi-disciplinary	ISKOS-BERLIN Design	Denmark
Multi-disciplinary	Fabrique	The Netherlands
Product and Industrial Design	Phoenix Design GmbH + Co KG	Germany
Product and Industrial Design	Nosigner	Japan
Product and Industrial Design	MUJI / Ryohin Keikaku Co Ltd	Japan
Product and Industrial Design	Takram Design	Japan
Product and Industrial Design	Tamawa Design Studio	Belgium
Product and Industrial Design	ECCO Design Inc	United States

* More design companies may be added to the list, please periodically visit
http://www.ydta.hk/2013/pages/en/categories/worldwide.php to review the latest information.

Showcase of 2012 Awardees'works
"CreateSmart Young Design Talent Award": Au Yeung Wai-hon, Hamlet, Kwok Yum-tsung, Calvin

Work from Au Yeung Wai-hon, Hamlet

Work from Kwok Yum-tsung, Calvin

"CreateSmart Young Design Talent Special Award": Chan Wing-kei, Quai, Lau Wein-sie, Fiona

Work from Chan Wing-kei, Quai

Work from Lau Wein-sie, Fiona

"PolyU School of Design Young Design Talent Educational Award" (renamed as "PolyU School of Design Young Design Talent Award" this year)**:** Chow Ka-wa, Key

Work From Chow Ka-wa, Key

"HKDI Young Design Talent Educational Award" (renamed as " HKDI Young Design Talent Award" this year)**:** Lam Wai-keung, Sonic

Work From Lam Wai-keung, Sonic

About Hong Kong Young Design Talent Award (HKYDTA):
Hong Kong Young Design Talent Award (HKYDTA), organised by the Hong Kong Design Centre (HKDC), aims to support and cultivate up-and-coming designers with sponsorships granted for them to undergo overseas work attachment in renowned design companies to unleash their potential.

The awardees are entitled to undergo overseas work attachment for at least 6 to 9 months, which allows them to elevate their versatility and professional knowledge.

All awardees will contribute to the development of Hong Kong's design and creative industries by returning to Hong Kong after completion of their overseas work attachment. They will become ambassadors of HKYDTA to share their overseas experience.

About Hong Kong Design Centre:
Design for Society is the major undertaking of Hong Kong Design Centre (HKDC). HKDC is a non-profit organisation and a strategic partner of the HKSAR Government in developing Hong Kong as an international design hub in Asia. Since 2002, HKDC has been on a public mission to (i) champion strategic and wider use of design for creating business value and community benefits; (ii) promote and celebrate design excellence; and (iii) educate the professions and the community to be resourceful champions for sustained developments through design and innovation.

This press release was distributed by **DT Communications Asia Pacific** on behalf of **Hong Kong Design Centre**. For any enquiries, please contact:

DT Communications Asia Pacific
Karen Ng

18.

19.

UNITED NATIONS
enable

Development and human rights for all

| Our Work | Convention | News | Priority themes | Disability and the UN |

Sixth session of the Conference of States Parties to the Convention on the Rights of Persons with Disabilities, 17-19 July 2013

The Convention on the Rights of Persons with Disabilities was adopted by the General Assembly by its resolution 61/106 of 13 December 2006. It came into force on 3 May 2008 upon the 20th ratification. Article 40 of the Convention stipulates that "The States Parties shall meet regularly in a Conference of States Parties in order to consider any matter with regard to the implementation of the present Convention." Since 2008, five sessions of the Conference of States Parties have been held at United Nations Headquarters, New York.

Bureau

President (elect): Kenya
Vice-Presidents (elect): Bangladesh, Bulgaria, El Salvador, Israel.

Theme:

Ensuring adequate standard of living: empowerment and participation of persons with disabilities within the framework of the CRPD

Sub-themes:
1. Economic empowerment through inclusive social protection and poverty reduction strategies
2. Disability-inclusive development in national, regional and international processes
3. Community-based rehabilitation and habilitation for inclusive society.

Documents

(Details forthcoming)

Civil Society Participation

(updates forthcoming)

- **Civil Society Forum**: 16 July 2013
- Application for NGO Accreditation to the Conference of States Parties (Deadline: **31 May 2013**)
- Registration for NGOs wishing to attend the Conference of States Parties (Deadline: **8 July 2013**)
    - Information note for NGOs registration
- List of NGOs accredited to the Conference of States Parties
- NGOs in Consultative Status with the Economic and Social Council (ECOSOC)

20.

CALL FOR ENTRIES

POSTER DESIGN COMPETITION

You are invited to design poster for ICSID interdesign 2014 workshop Contest Theme:

Humanizing the Metropolis

Background

Under the theme Humanizing the Metropolis, the Interdesign workshop aims to design solutions to address critical service issues in the metropolis. The goal is to enable the city to become self-reliant on its resources, as well as increase its citizen's sense of pride.

"In the context of emerging economies, Mumbai presents numerous opportunities for a dialogue about infrastructure, housing, sanitation, mobility, education and health care to name but a few. It demonstrated the challenges of this densely populated city and a desire to work towards the betterment of its communities through an inclusive process. In selecting their proposal, we hope to help the city bring forward a substantial level of affordable solutions to address some of these critical issues."

The competition calls for poster that expresses the interdependence of citiy's services, its resources and the people.

Awards

First winner Rs. 100,000. (One lakh) with citation)
Second winner Rs.50,000. (Fifty Thousand with citation)

Grand Jury

The member of the Grand Jury panel comprise of leading designer, thinkers and communication experts. People who love Mumbai.

Participation Eligibility

Entry to the contest is open to all Professional designers, design students living in India
Participation is open to teams and individual submissions.
Submitted designs must be original and not currently in publications.
Submit the design with a brief write-up of around 150 words.

Specifications

Dimension of the final poster: 420mm X 600mm only in portrait format
Resolution: 300dpi
File type: JPEG or PDF

Colour mode; CMYK

Your Contact Information
Name, Postal Address, E-mail, Telephone no. Cell No

Last date of Submission of your entries
Friday June 21, 2013, 4pm.

If you have any queries, pl. do not hesitate to contact us:
Sudhakar Nadkarni
nadkarni36@yahoo.com
or Anand James Dev
anand.dev@welingkar.org
Send Entries to:
ICSID Interdesign 2014
Business design
weschool,Matunga,
Mumbai-400 019

21.

DESTINATIONS FOR ALL World Summit that is set to take place in Montréal from October 19 to 22, 2014.

22.

DESIGN FOR ALL

Game Changing in Business & Society

Knowledge of Design Week 2013

The 2013 Knowledge of Design Week will take place on July 2-6 in Hong Kong, with a theme of "Design for All: Game Changing in Business & Society."

23.

cumulus dublin 2013
more for less - design in an age of austerity

More for Less - Design in an Age of Austerity , Dublin, Ireland , 7 - 9 November 2013 , Call for papers extended till June 21, 2013!

Cumulus conference Aveiro ,Aveiro, Porto, Portugal ,8 - 10 May 2014

More information to follow soon!

24.

25.

'Typography and Culture'
http://www.typoday.in/

Typography Day will be organized for the seventh time on 28th Feb, 1st, 2nd March 2014 at the Symbiosis Institute of Design, Pune in collaboration with the Industrial Design Centre (IDC), Indian Institute of Technology Bombay (IIT Bombay) with support from India Design Association (InDeAs) and Aksharaya.

26.

27.

'Expo CD'
3 Day Workshop:
'Communication Design for IT and Media Professionals'

29th - 31st August 2013 from 9.30am - 5.30 pm
at IDC, IIT Bombay
http://www.idc.iitb.ac.in/events/expo-cd-2013.html

Job Openings:

1.

Required: Sr. Design-Merchandiser, Baaya Design, Lower Parel, Mumbai
Baaya Design is a folk art and specialised skill based styling store and studio. We work with a wide range of crafts and arts from across India. We offer a very creative, young, energetic and learning environment. Responsibility:·   To work on customised design projects, using indigenous skills for residences, hotels, restaurants, etc.·   Create and develop various home design ranges for Baaya Design like art furniture, lighting, accessories, etc.·   Source and negotiate with vendors for merchandise selection and for other merchandise requirements· Any other relevant work that maybe given from time to time. Experience:2-3 years in a relevant field

Qualification:Graduate from a reputed design school (preferably craft design/furniture design/accessory design)Email us at: baayadesign@gmail.comCall us at: 02265210165

2.

Tata Elxsi invites you to come and be a part of this dynamic and powerful group.
About Us:

Tata Elxsi Ltd. is a part of the Tata Group of Companies. Seamlessly integrating precision and ingenuity, our abilities stem from our creative leadership in hard-core technology and strength in design. Augmenting these capabilities is our expertise across our practice areas to provide point services and end-to-end solutions across the product lifecycle. From Automotive to Aerospace, Bioinformatics to Consumer Electronics, Entertainment to FMCG, media to Storage, Semicon to Telecom, we provide customized design solutions to companies across the globe. Conforming to strict processes, a highly motivated skilled workforce driven by strong design principles! And ethical business practices ensure cost-effective, time-to-market solutions. Touching people's lives in myriad ways! , Tata Elxsi's solutions can impact directly or subtly, leaving a mark of excellence in its wake.

With over two decades of experience, Tata Elxsi has stamped its presence on the Indian market and leads the Indian IT industry. Headquartered at Bangalore, our business spans India, Japan, USA, UK, France, Germany, South Korea, Taiwan and some of the Asia pacific countries.

At Tata Elxsi, we offer you a work environment that quenches your thirst for knowledge while helping you nurture your career ambitions. You get to traverse a path that is strewn with values, performance, learning, innovation, quality, camaraderie, and career growth - all those facets of work life that you cherish the most.

We are looking for dynamic professionals to work on the below profile :

Visual / Communication design:

We are looking at talented Visual / Communication designers who can support creating overall UX by communicating Brand essence, coming up with impeccable themes for visual designs based on latest trends, understand the difference and constraints of creating visual designs for different form factors and interaction modes. They should be able to work on required creative design and prototyping tools such as Adobe Photoshop / Illustrator / Flash etc. It would be added advantage if they have experience in new design prototyping tools such as HTML 5 and have experience in - In Vehicle Infotainment, Smart phone / Tablet interfaces, App development, Product based UI's

Experience Level: 2 to 7yrs of industry work experience.

Job Location: Pune

Qualification: UI/UX or Communication or Interaction Design Graduates(UG or PG) preferably from any reputed design institutes(ex:IDC IIT, NID, MIT, Srishti etc) will be preferred.

 Kindly share your resumes with any work samples in likithkumark@tataelxsi.co.in or feel free to contact me @ 8861611222 for more info. Pls share this with your friends, colleges and help me out in finding good responses & references. Thanks in advance.

3.

Oracle India, Applications User Experience team is looking for Senior Interaction Designer and Principal Interaction Designer in Bangalore.

About Oracle Applications User Experience

The Applications User Experience group at Oracle is a centralized team that provides comprehensive interaction design, usability engineering, visual design and HCI research for Oracle's enterprise applications. Team members have experience in a wide variety of disciplines, including cognitive psychology, graphic design, interaction design, usability engineering, Human Computer Interaction (HCI). The group is spread across US, Canada, UK, India, Mexico and Australia.

We follow a user-centered design methodology that includes activities such as user research, heuristic evaluations, design iterations, prototyping and usability testing. We work primarily on enterprise applications including next generation of applications for tablets and mobile devices.

Visit http://usableapps.oracle.com to know more about the global Oracle Applications User Experience Group.

Job Title – Principal Interaction Designer

Position– 1

Job Description

As a member of the user experience team, you are responsible for leading design and usability engineering activities throughout the UCD process. You produce storyboards, scenarios, wireframes, prototypes, and UI specifications and work closely with the larger UX team to define front-end research and author design patterns and guidelines. You take a leadership role and co-ordinate with other Interaction Designers, Usability Engineers, Product Strategists/Managers, and Developers to continuously improve the user experience of Oracle's enterprise products.

Job Responsibilities

• Collaborate with product teams to produce scenarios, task flows, storyboards, wireframes, and interactive prototypes

• Work independently with members of product management, strategy and development on the design of products

• Create complex UI prototypes, UI models and/or UI standards for new and existing products

• Assist in managing and prioritizing overall product direction in design

• Serve as primary design contact with product management, strategy and development on the design across multiple products

• Lead cross-functional team meetings

• Work with global UX team and product teams to evangelize UI design directions and resolve design and implementation issues

• Lead product design reviews for compliance with corporate UI standards

• Write design patterns and guidelines, white papers, and product UI specifications

- Collaborate with usability engineers to conduct user research and support usability efforts throughout the development cycle
- Plan, conduct and/or manage user research activities (contextual inquiry, surveys, focus groups)
- Educate individual developers, product managers and strategists about UCD process and deliverables
- Present at industry conferences and contribute papers to professional publications

Eligibility

- Master's degree in Interaction design, Industrial Design, Visual Design, Human-Computer Interaction, or related discipline
- 7-10 years of industry experience designing and prototyping UIs for products
- Strong conceptual and analytical skills and demonstrated ability to prototype and design elegant UI solutions to user problems
- Must have advanced knowledge of UI design principles across platforms (Web, Mobile, Tablets)
- Proven track record in applying user-centered design processes and methods to product development
- Good communication and people skills in working in a multi-disciplinary, collaborative environment
- Must have advanced knowledge and experience of design and prototyping tools
- Must have portfolio available for review
- Experience in the interaction design of enterprise business applications preferred

Job Title – Senior Interaction Designer

Position – 1

Job Description

As a member of the user experience team, you are responsible for planning and executing design and usability engineering activities throughout the UCD process. You produce storyboards, scenarios, wireframes, prototypes, and UI specifications and work closely with the larger UX team to define front-end research and contribute towards design patterns and guidelines. You take a leadership role and collaborate with other Interaction Designers, Usability Engineers, Product Strategists/Managers, and Developers to continuously improve the user experience of Oracle's enterprise products.

Job Responsibilities

• Collaborate with product teams to produce scenarios, task flows, storyboards, wireframes, and interactive prototypes

• Work independently with members of product management, strategy and development on the design of products

• Participate in design reviews of products for compliance with corporate UI standards and provide feedback and recommendations

• Contribute to design patterns and guidelines, white papers, and product UI specifications

• Collaborate with usability engineers to conduct user research and support usability efforts throughout the development cycle

• Participate in user research activities (contextual inquiry, surveys, focus groups)

• Educate individual developers, product managers and strategists about UCD process and deliverables

Eligibility

• Master's degree in Interaction design, Industrial Design, Visual Design, Human-Computer Interaction, or related discipline

• 4 to 7 years of industry experience designing and prototyping UIs for products

• Strong conceptual and analytical skills and demonstrated ability to prototype and design elegant UI solutions to user problems

• Must have knowledge of UI design principles across platforms (Web, Mobile, Tablets)

• Proven track record in applying user-centered design processes and methods to product development

• Good communication and people skills in working in a multi-disciplinary, collaborative environment

• Should have knowledge of HTML, Dreamweaver, Photoshop, Visio, and other prototyping tools

• Must have portfolio available for review

• Experience in the interaction design of enterprise business applications preferred

*** Please do not reply to this mail****

Please send your resume along with portfolio to Chaitanya Arikati <chaitanya[dot]arikati[at]oracle[dot]com>

4.

A small team at intuitivedezines is looking for a creative thinker who love to do great stuff for online products.

Position: UX Designer

Experience: 1 - 2 Years

Location: work from home

Key Responsibilities :

You have knowledge working with industry-leading User Experience designs.

You recognize best practices in interaction design: > 1. Discovery > 2. Competitive Analysis > User tasks and goals identification > Flows > Wireframes (add interaction design).

You solve problems from a user-centered perspective, always stepping back to understand the customer needs and desires, and champion the customer at all times

You strive to create simple and intuitive solutions that are effective and efficient

You understand a broad range of UX patterns and solutions, knowing how, when, and even when not to use them.

Desired Skills:

Fluent with tools such as adobe suite, microsoft visio, & axure

Fast and efficient in producing photoshop mockups, wireframes and sketches

Please send your latest resume to jobs@intuitivedezines.com with the subject line mentioning your name.

5.

Sr. Interaction Designer(One position)(experience 7 - 9 Yrs) and

Interaction Designer (One position)(4 - 6 Yrs)

Work location: Bangalore

Company and Job Description

ARIBA (an SAP company) is one of the fastest growing mid-cap technology companies with the largest global supply network in the world and full suite of cloud-based solutions that enable collaborative business commerce. Ariba is the market leader in collaborative business commerce solutions, combining easy-to-implement, on-demand technology with the world's largest web-based trading community to help companies discover, connect and collaborate with a global network of partners – all in a cloud-based environment. Our goal is to significantly improve our customers' bottom line by providing them with the tools needed to assess spending activities, conduct effective sourcing, and capture and reconcile

spending. **More than 500,000 companies around the world in every industry use Ariba's solutions to manage their commerce activities – from buying and selling to managing cash.**

Working closely with Product Management and Development, the Designer will materialize a product vision that melds business owner/PM objectives and continuous user research into a compelling user experience.

Duties and Responsibilities

Design as a stakeholder in an agile development process that values close collaboration between disciplines, while following Lean user experience design methods.

Work with Product Managers, business owners, and engineering to understand end-user requirements

Design and deliver user interaction flows and screen mockups in a from sketches to high-fidelity prototypes

Support processes for gathering customer feedback and iterating prototypes

Evangelize UCD principles to the stakeholders

Work as part of a larger multi-disciplinary team that includes Product Management, engineering, documentation and training

Take independent charge of projects.

Qualificaiton

Diploma, BDES, MDES or PG Diploma in Design, in Disciplines like, Industrial gn, Software UI Design, Interaction design or Digital Design Degree from a major accredited college or university like Industrial Design Center (IDC) IIT, NID, IISc or equivalent. Human Factors Engineering from any of the universities. Visual Communication Design background with experience in UX.

Solid track record designing user interfaces for software products in a product development environment. Experience with applications and sites like online banking, shopping, and social networking. Preferably worked in a large enterprise software environment.

Exceptional portfolio of work that demonstrates elegant workflow solutions

Excellent analytical, oral, written, and visual communication skills

Ability to collaborate actively and effectively with multidisciplinary teams

Deep understanding of and commitment to user-centered design principles and methods knowledge or experience in Lean UX process is an added advantage.

Strong design skills, e.g., sketching, storyboarding, producing quality UIs with sensitivity to task flow/interactivity and layout. Knowledge and skill of graphic design tools like Adobe is required.

Familiarity with Internet development technologies and tools (e.g., HTML, DHTML, CSS, databases, Dreamweaver, Prototyping tools like Axure etc).

Ability to meet ambitious deadlines and deliver high-quality work on schedule

Working with distributed global engineering and user experience teams

Please respond to psiingh@ariba.com

6.

UI Designers

UI Designers who can design elegant and enriching experiences for web, mobile and other devices. Must be able to communicate ideas to a team and present to clients.

Must have 2-5 years' of experience in

- creating wireframes, paper prototypes

- typography and end-to-end design experience

- photoshop

- illustrator

- Flash (is a +)

- HTML

- Indesign

JD - UX Designers

We are looking for UX professionals with experience in creating information architectures, work flows, wireframes and rapid prototypes for web, mobile and other devices. Must be able to come up with and communicate ideas easily.

Must have 1-3 years' experience in

- Wireframes + Process flows

- Usability methodologies

- Photoshop

- Illustrator

- Indesign

Send your resume to letstalk@interactionone.com

7.

Job Description:

Lionbridge is looking for an Interaction Designer. As an interaction designer, this person should have a strong design background and understand information architecture and wireframing.

Location :

First choice for location is in Bangalore, second choice is in Mumbai

Duties:

• Ability to quickly and accurately turn design concept sketches into working wireframes and prototypes.

• Ability to translate user experience research into design concepts.

• Developing user interaction models, information architecture, user design paths, and screen flows.

Required Experience:

• 3+ experience with design fundamentals, including information design, visual design, and industry UI.

Desired Experience With:

• Complex web applications

• Strong design background

• Information architecture

• User-centered design/human factors.

• Industry standards and best practices for mobile and web-based applications.

• Html, css, javascript, or Axure rapid prototyping tool.

• Design tools, including Photoshop, Flash, Illustrator CS5, or Mobile development.

• Effectively articulating ideas and directions both verbally and in writing.

• Working with all levels of the organization, and facilitating meetings as necessary.

• Participating in large-scale, long-running projects

• Current user experience industry trends.

• Contributing to the design of UI tools, processes, and strategies.

Please send your resume along with portfolio to "Philip, Mini" <Mini(dot)Philip@lionbridge(dot)com> or "Divella, Sarath" <Sarath.Divella@lionbridge.com>

8.

Design Specialist at IMRB Innovation labs, Bangalore

Innovation Labs is the consulting division of IMRB International, a WPP

Group (UK) company. We provide strategic innovation expertise to companies

serving Indian consumers. Our multi-disciplinary team of specialists apply design thinking process to envision and develop innovative products. services and consumer experiences. Our clients include ITC, Godrej, Pepsico, The World Bank, Zee Network, Airtel, Alcatel-Lucent among others. We are looking for a designer with background in design research, product design, service design, communications design, information design or related areas to join our team of talented consultants (Alumni of IDC, NID, CEPT, IITs, INSEAD France, IIT Chicago, TU Eindhoven). A Masters degree and a minimum experience of 3 years is required. International exposure and a portfolio with consumer products will be a plus. The position is based in Bangalore.

Our team members work on a wide range of projects (television show - financial services for urban poor - chocolate confectionary - household care product, to name a few) in tight timelines and engage with cross functional stakeholders and senior management at client's side. We value excellent communication skills, ability to grasp new domains and adapt to different corporate cultures, a deep empathy for Indian consumers and an unrelenting drive for professional excellence.

Please send portfolio link along with profile to:

raghu.kolli@imrbint.com

Advertising:
To advertise in digital Newsletter
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Readers are requested to express their views about our newsletter to the Editor
Feedback@designforall.in

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