



FLUX: Design Education in a Changing World

DEFSA International Design Education Conference 2007

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INNOVATION IS HOPE

a program of non-prescriptive design in a culture of innovation

Abstract

In our understanding the Innovation is a space defined by the conceptual innovation and her implementation tools: technical innovation and formal expression. They are together the coordinates of this SPACE of INTEGRAL INNOVATION.

In this perception the dynamic axle, which is major in developing the space, the “z” coordinate is the conceptual innovation. This ability of creating genuine ideas is the most important asset of humanity and the reason of our overwhelming adaptability to change. From this point of view, educating the integral innovation is of high relevance.

Unfortunately the actual world ' academic portfolio doesn't include the specific education for conceptual innovation, which is expected to happen by inspiration or hazard. The implementation tools (engineering and design) of conceptual innovation enjoy a high attention instead.

Projecting the Integral Innovation as an apex profession is essential in the time of the arising challenges to humanity and the stagnation of our economy model.

As off 1992 the International Master Program Integral Studies educates as a School of Integral Innovation: Engineers, Architects, Scientists and Designers to control integrally the space of innovation.

The education is project-oriented and focused on solving chronic and emerging problems in real fields.

United Global Academy is franchising to her partner universities this Master Program for Integral Innovation and endorses the UGA Think Tank projects worldwide.

The program follows two goals: 1. educating inventors with a large variety of knowledge and cultural backgrounds and 2. generating solutions for actual problems, using local resources and involving local talent.

The results are replicated with local craftsmen in a non-prescriptive procedure “ face to face” and is free of copyright, enabling the replicators to interpret the concepts at their will and according with their skills, possibilities and taste.

The Program INNOVATION IS HOPE of United Global Academy addressed already successfully the living environment in townships in South Africa and the water harvesting and supply in desert areas.

The resulted, original solutions inspire and motivate the local craftsmen and users to improve their life quality by integrating these concepts as a genuine part of the local portfolio of solutions, creating business and an attractive, creative occupation.

The presentation will illustrate the two case studies mentioned above and describe the program and methodology.

Statement of the problem:

Inventors have created our economic model. Watt, Edison, Siemens, Bosch, Daimler, Benz, Bell and other authors of our actual portfolio of solutions interrupted the slow, millenary evolution of traditional ways of solving problems according with the local culture, skills and resources. Universal solutions for saving time and effort became available for the first time in the history of humanity.

These inventors have set the experiment above prescriptive routine, igniting a Culture of Innovation and daring entrepreneurship. In the eternal dilemma: “ making it better or making something new” their choice was newness. They have understood, that the experiment inspires and induces innovation whereas the routine is calling up boredom and resistance. An unprecedented success followed the snowball pace of inventions.

This success attracted the administrators, who started perfecting the concepts and defining prescriptions for multiplication and distributing them everywhere. The focus of the civilization was rapidly shifted from newness to perfection. Soon the routine and prescriptions replaced the creativity and the experiment. The focus on “better “ instead of “new” made the continuous process of innovation undesirable. Symptomatic are: the actual habit of using the term “ innovation” for incremental improvement and the practice of minimizing risk, by abusing design for masking with formal variety the conceptual stagnation.

There is a confusion of terms and an obvious need for a clear and structured terminology in the domain of Innovation. Unexpected ideas disturb obviously the linear process of improving. A consequence is the discriminative treatment of conceptual innovation.

The conceptual innovation is believed a result of hazard or of magic inspiration. The conceptual input is considered “ disruptive” and gets so far discouraged, that until recently, there was no academic education and qualification for the competence of creating and implementing new concepts.

We are experimenting the paradox of a prescriptive, low-risk, perfectionist mentality in an economic model based on innovation and unpredictability. As a result the effects are contrary to the intentions. Naming some of them: convulsive growth, market saturation and conceptual monotony, lost identity and harmful effects by mass producing solutions, which in limited quantities might be sensible (for ex traffic jams and pollution, where the intention was a higher individual mobility). Perhaps the worst are the changes in the dynamic and feeding pattern of a large part of humanity, the lost of regional diversity and the discrepancy in the access to the medially prized products and services.

First of all, we need a change of focus, from administrating our ancestors’ ideas to genuine new approaches and solutions. This describes the urgent need of a master platform for educating innovation.

APPROACH:

A. Space of innovation (the theoretic background)

In our understanding there is a Space of Innovation with the coordinates:

- Conceptual innovation
- Technologic innovation (R & D)
- Formal innovation (Design)

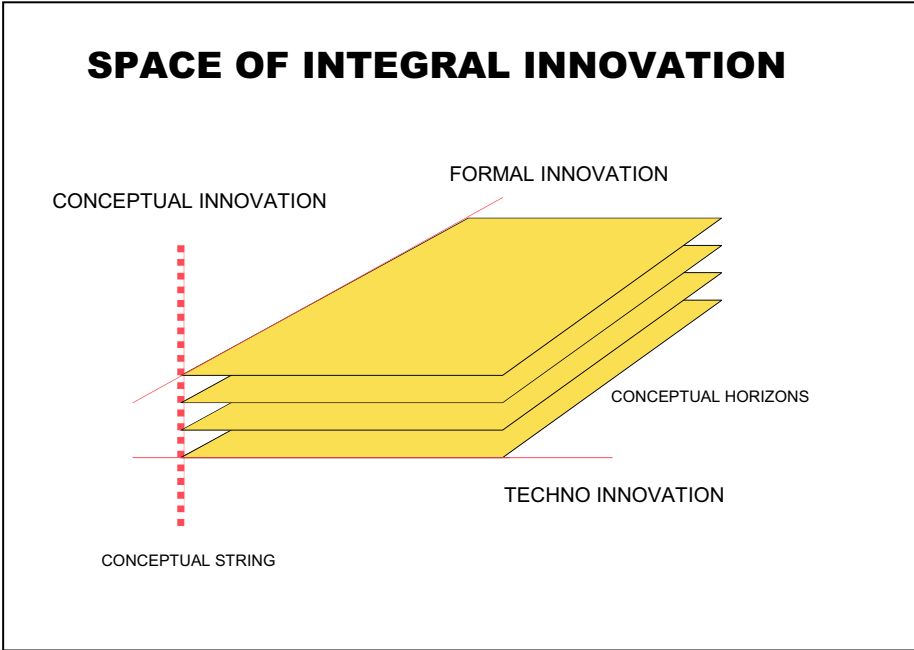


Figure 1

The Conceptual Innovation generates the **conceptual horizon**, where Formal Expression and Technologic Solutions transfer the concepts to perceivable reality. The Formal Innovation and the Technologic Innovation are essential for the materialization of a new concept and for improving the real product or service extending his conceptual horizon with new forms, performances and features, but the generative force of innovation space is the conceptual innovation. The **conceptual string** the “z “ axle corresponds to a diagnosed problem, a perceived need, a temporary or a chronic one.

From this integrative understanding of innovation became evident both:

- The instrumental roles of engineering and design and
- The apex importance of conceptual innovation.

Ignoring the education of conceptual innovation and concentrating the academic effort on engineering and design education contradicts the fundamental need of growth of the innovation space by generating new conceptual horizons. The extension of the existing ones by improving technology or changing forms can't balance the shortage of fresh conceptual input. Such a practice generates saturation and price based competition, as well as conceptual monotony.

B. Master Program for Integral Innovation (the academic platform)

Creating a Master Program for Integral Innovation with a focus on conceptual innovation became a mission, which resulted in the International Master Program Integral Studies in 2002.

The 2 years, project-oriented curriculum addresses graduates in natural sciences, engineering, architecture and design from different cultures. The goal is educating the competence for integral control in the space of innovation, the skills of perceiving real problems in field, diagnosing and conceptualizing, inventing genuine solutions, by involving local resources and talent.

The selection of the candidates defines a tantalizing team composition essential for a highly creative interaction. The work involves a repeated crossing of the "abstract / concrete" frontier, extensive field diagnose and creativity sessions catalyzed by the group dynamic. Instead of engaging up-front the apparent problem, we make a reflective step back, in order to perceive the larger context, where the reasons of the problems mostly are. Based on the scientific / technologic background of the previous degree and endorsed by a parallel education for charismatic expression the resulted original concepts are meeting a high degree of acceptance.

Along the curriculum the spirit of entrepreneurship and the perception and evaluation of risk, the passion for experimenting and the understanding of a mistake as a chance are strongly encouraged. Such a creative powerhouse deserves and owes working for a real, sensible and relevant goal.

The projects are clustered in three programs:

- **Innovation is Hope:** Think Tank projects addressing chronic and emerging problems in real field, particularly in developing areas.
- **Cultures of Humanity:** compiling across cultures and along time a portfolio of solutions sustaining the life under specific site conditions.
- **Sky is the Limit:** trans generational projects involving students and children (9-12 years old), fathoming the unrestricted space of fantasy, encouraging the free, speculative imagination and early recognizing talents.

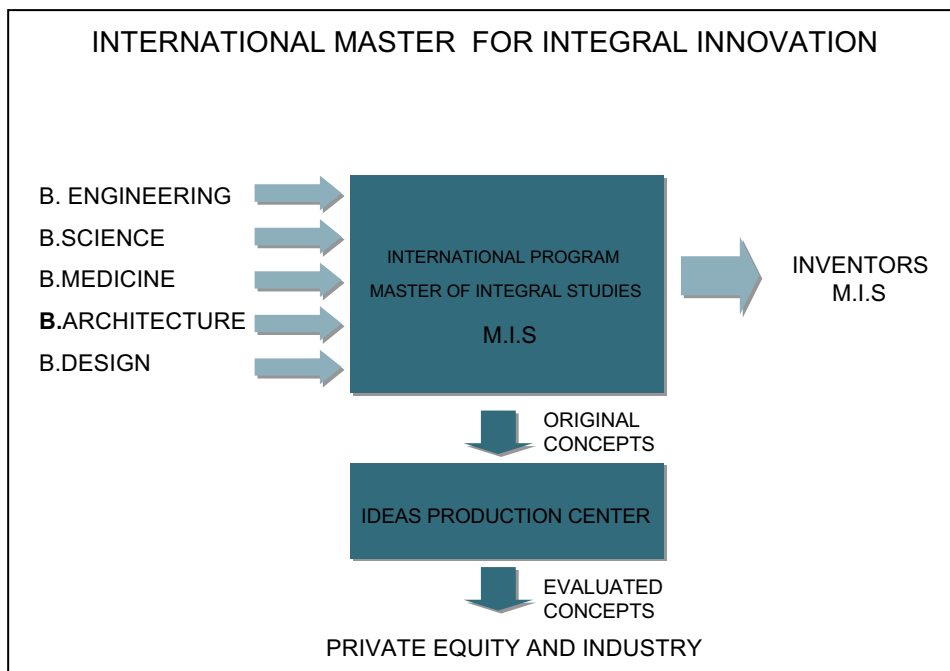


Figure 2

C. The program “Innovation is Hope” and Project RUMOS

The project RUMOS was ignited by the participation of our Think Tank at the Interdesign 2005 in Rustenburg, ZA. The Think Tank included Integral Innovation students of United Global Academy from: China, Korea, Russia, Romania, Germany and Mexico. Experiencing the living conditions in the townships of North West Province a complex of striking problems became obviously more relevant, than the initial topic of rural mobility.

In a diagnose process, we have defined the need for new structural solutions, enabling the local craftsmen to build and maintain shelter and furniture with locally available materials, tools and skills.

For reaching the depth required by the life quality relevance of the topic, we have decided to plan the project in three phases:

- Field research 12 days
- Semester project 180 days
- Replication “ Face to Face” 16 days

This became further the format of the program “ Innovation is Hope”.

The frequency of changing the site and the quite exclusive women-power set hence additional restrictions to be considered in our RUMOS project.

One of the problem sources is the general desire of humanity to transferring arbitrarily acquired habits and existing solutions in a new territory, which has different resources and chances. Learning to perceive and use these local potential in original, territorially rooted solutions might be one mission of integral innovation, avoiding expensive logistics and as such adaptation costs.

The field research made clear too the need for a new procedure in transferring the concepts to the local reality. It became evident, that clean-cut prescriptions with blue print character and the copyright topic could be two major roadblocks along realizing the concepts with the township inhabitants.

Prescriptions might be useful in mass production for insuring a homogenous level of quality and security, but is counterproductive in artisanal, vernacular crafts. The **non-prescriptive design** method, which we have developed and applied in the RUMOS project inspires and leaves a large room for interpretation and individual expression. It enhances as such the acceptance and invites one’s experiment drive, sensitivity and imagination.



The results might be surprisingly different from the author’s initial intention, but the array of resulted interpretations would cover more nuanced specific perceptions of the addressed need and for sure would be anchored in the local living and tradition environment. As the authorship is here not an issue,

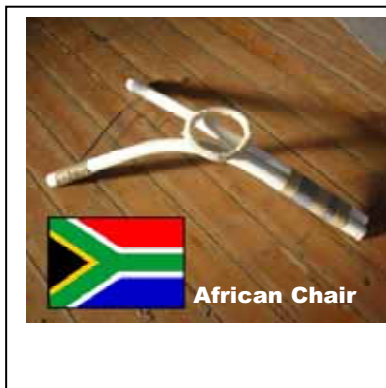
the anonymous conceptual work, is largely adopted as a new element of the local portfolio of solutions.

Along the conceptualizing phase, the focus was on generating solutions for:

- Shelter, structures which can be produced and set up by everyone,



- Screen, for protection against UV-B during outdoor activities
- Body supports for sitting and laying activities, including portable cradle



- Shelf structures, for home and commercial storage and display
- Human transportation of wood branches and bulk load

The selected solutions for the replication didn't require any tools or mechanical parts, the structural concepts derived from the arch tension in a flexible beam.

Before initiating the third phase of replication in the real field, we have prototyped and tested the selected solutions in the University with external test persons.

The Face to Face replication in Cape town involved students with different backgrounds: engineering, architecture, design and informatics and local craftsmen from the township community. The event had the format of a workshop with a main modeling component and comprised four steps:

- Introduction of the concepts to the workshop participants
- Selection of concepts for replication and "concept-mixed team" building.
- Experimenting and individual interpretation of the concepts.
- Introduction of the realized prototypes to the community and on INDABA 2006

The reticular activation by newness impact and the induced inspiration-drive managed to create the expected snowball effect for generating multiple versions and even derivative concepts.

The group-dynamic holds the creative atmosphere at the critical mass, the dialogue among the teams facilitated hybrid concepts and unexpected new insights, channeling some concepts into a different area of use.

Conclusions:

Our experience shows, that some local craftsmen involved in the process of replicating the concepts develop an unprecedented creative mode and continue to generate original ideas in the spirit of the seminal concepts, they have been exposed to during the Face-to-Face replication phase.

The influx of conceptual innovation is waking up latent creative potential and the desire to contribute creatively to solving problems. Beyond the problem solving value, it is igniting enthusiasm and hope.

The exchange along the workshop confirmed the assumption, that genuine innovation shifts even across largely different levels of education and a variety of cultural backgrounds and generates a pool of mutual inspiration. We have repeatedly experienced the thrill of the intelligence-resonance and won friends and the trust in the power of creativity as a major facilitator of mutual understanding.

Beyond solving problems and creating employment, our non-prescriptive design experience demonstrated the attraction of newness as a genuine instinct, challenging and inviting one's own contribution, sustained by the generosity of anonymous conceptual input.

Contribution to the field:

- A holistic understanding of the **Innovation as a Space**, positioning the conceptual innovation as a driving force of the adaptability of humanity to a changing living context.
- **Non Prescriptive Design**, a new method for approaching problems in field, involving local resources and empowering local talents.
- A new mission for the creativity as a facilitator of smooth understanding platform between human intelligences and not least as a Hope.
- A new UGA project with the same coordinates and methodology“ Water for Everyone” is developing concepts for harvesting and processing water in arid areas. The results are expected in early 2008.

Acknowledgements:

We have enjoyed along the replication the cooperation and support of the C PUT and Cape Craft and Design Institute CCDI as well as the SAFRI and GTZ – South Africa. CCDI selected and invited the craftsmen and provided the workshop venue.

We want to express our gratitude especially to Prof. Mel Hagen, Prof. Bart Vervecken from C PUT and Ms Erika Elk from CCDI for their enthusiastic endorsement of our work in Cape town and to SABS for organizing the initial workshop in Rustenburg, North West province.

Cologne, June 15. 2007



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• **Curriculum Vitae**

- 2007 present Director of Institute of Integral Innovation of KGIT – Seoul, Korea
- 2006 - present Executive Board Member of United Global Academy
- 2006 International Adviser China Design Festival Wuxi , PR China
- 2005 Honorary Member VNIITE, Russia
- 2006 Member East Asian Forum of German Universities
- 2005 Honorary Prof. Academy of Visual Arts Guangzhou, China
- 2004 Honorary Prof. North West Univ- Xian, China
- 2004- Creating the Euro network Danubius Design (2004 Calarasi, 2005 Belgrade, 2006 Ulm)
- 2003 Member KDU, Konsortium Deutscher Universitäten
- 2002 Honorary Professor, Beijing Institute of Technology, China
- 2001-2005 Member of the Executive Board ICSID-World Design Organisation
- 1992 – present Head of International Master Program, “Integral Studies”
 State Academy of Visual Arts Stuttgart, Germany
- 1992 – 2005 President of TESIGN- International Design Consulting
- 1997 – 2006 Head of International Institute of Integral Design(iiid), Stuttgart- Steinbeis
- 1997 – present Consulting CII, New Delhi, India
- 1995 – present Consulting KIDP, Seoul, Korea
- 1996 – 1997 Professor, IDAS, Seoul, Korea
- 1989 – 1991 Professor, Wuppertal University- Design Department
- 1988 – 1992 Design Manager, Leybold A.G:
- 1986 – 1988 Industrial Design Manager LH Group, Cologne and USA
- 1980 – 1986 Industrial Designer, Leybold A.G., Cologne
- 1972 – 1980 Architect and Designer, Romania
- 1972 M.A. in Architecture, Bucharest, Romania
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Languages: German, English, French, Italian, and Rumanian

• **Expertise**

Conceptual Innovation, Product Finding, Innovation Training
 Product Mix Strategy, Problem Solving,
 Integral Innovation, Advanced Design
 Design Management, Corporate Design, Product Design
 Educator