



*Scientific Empowerment of Civil Society
through the Science Shops:
Science for Citizenship*

Symposium

Science City in the 21st Century: Keihanna 2004

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1. Problems of Citizens in Advanced SciTech Society

- Profound impacts of S&T in both positive & negative aspects.
- Indispensability of SciTech literacy for people's daily, social, political lives, but it is in fact limited and little help.
 - Too many disciplines, too much information to learn, but people are occupied by their own business.
 - Problems faced with people are often highly contested, uncertain even for experts.
 - CSOs(NPOs/NGOs) have accumulate their own expertise and experience in various fields, but not in scitech.
- Scitech experts' accountability is limited to business needs, people's scitech needs are left behind promotion of academic-industry alliance.
- Deep mutual distrust between the public, experts, government and industries.

2. Another Form of Social Accountability and Contribution of SciTech Community

- Another form of accountability of scitech
 - Accountability to needs and concerns of civil society
 - Accountability is not limited to explanation
- Another form of social contribution of scitech
 - Political empowerment of people to create and change their social lives through expertise





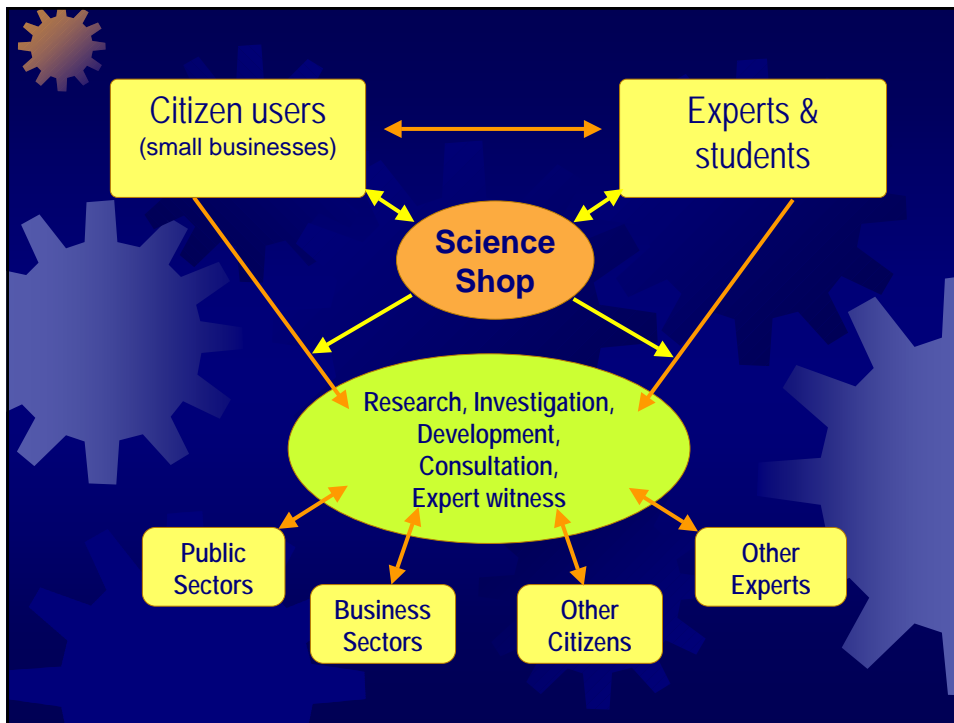
3. Another Form of SciTech Literacy

- Traditional notion of SciTech Literacy: Personal
- New conception of SciTech Literacy:
 - Social/collective nature of SciTech Literacy
 - Literacy as social networks of experts, expertise, resources, organization and institutions.
 - Coordinated division of labor of scitech & political practices



4. What are “Science Shops (SS)”?

- **Science shops provide independent, participatory research support in response to concerns experienced by civil society on a demand driven and affordable basis.**
 - Independence
 - Participatory: partnership/interaction between user’s perspectives, experiences and (local) knowledge.
 - Demand-driven, knowledge production as well as transmission
 - Affordable
 - Enhancing public access to R&D resources, not limited to public awareness/understanding of scitech. People can learn what ST is.
 - **Democratizing Expertise & Expertising Democracy through SS**
- Originated in Dutch students movement in '70
- Today: 70 science shops exist in Europe alone. Most of them are located in the Netherlands, Austria, Denmark, France, Germany, Romania, and the UK.
- USA: Community-based Research (CBR)
- EC promotion of SS: Science & Society Action Plan 2002

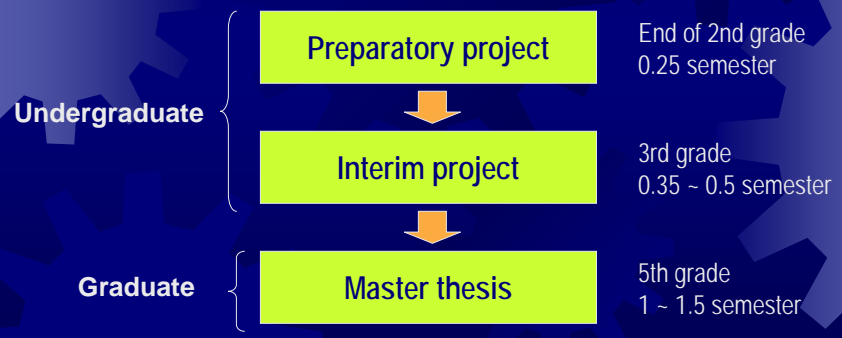


Types of Science Shops

HOST:	University based			Mixed (University-based and independent)		Non-university based	
MODEL:	Dutch Model	US Model					
LOCALE:	Central Office	Faculty Office	CBR Centres	CURA (Community-University Research Alliance)	NGO as incubator	NGO (Univ. related)	NGO (Non-univ. related)
COUNTRIES:	Netherlands Denmark Germany Austria UK (Norway) USA/Canada Australia South-Korea Malaysia	Netherlands Denmark Romania South-Africa USA/Canada	USA Denmark (Canada)	Canada	Israel	(Germany) (Austria) USA	Germany Austria USA
MODE:	Mediation Some: Internships	Research Mediation	Participatory action research (PAR)	Participatory research	Mediation	Mediation Research Some: Participatory	Research Some: Participatory

Science Shops at University: Case of DTU

1. Optional course:
2. Obligatory project built in disciplinary classes
3. Course module specialized for SS project



Office of Science Shop at DTU



Knowledge needs of users

- **Problem documentation:** the citizens group experiences a problem, which they want documented in order to make governmental authorities, companies etc. aware of the problem. This can also include counter-expertise.
- **Knowledge enhancement:** the citizens group wants knowledge about possible future changes in technology, public policy etc. within a field of industry or a region, in order to be able to participate in the shaping of the future.
- **Perspective change:** the citizens group wants assistance in developing preventive solutions to a problem, in order to support their efforts for social and environmental improvement.

(Michael Sogaard Jørgensen. "An introduction to the concept of science shops and to the Science Shop at The Technical University of Denmark", January 2001.)

Installing Science Shop in Community



5. Effects of Science Shops on SciTech Community

For students

- Practical knowledge & skills for R&D and communication
- New insights for designing their own works
- Possibilities of new career courses

For researchers/teachers

- New R&D topics/tasks assimilating social needs and relevance
- Learning from society and the publics
- Interdisciplinary projects
- Curriculum designing

For universities

- Social contribution through SS
- New form of Social *raison d'être*

6. A New Dream of Science and Technology

- New job opportunities for young researchers and students.
 - New values and meaning of becoming scientists and engineers: SciTech for society
- New life opportunities for retired scientists and engineers: precious resource for society!
- Keihanna is one of the most suitable place for running science shops.