



university of
 groningen

faculty of mathematics
 and natural sciences

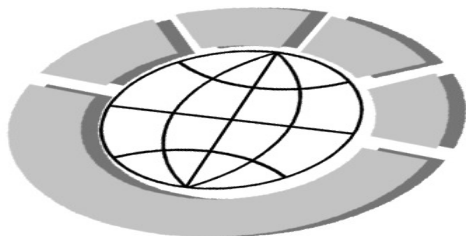
science shop

Seminar on Engaged Research in Europe: the Science Shop Experience
7 October 2020

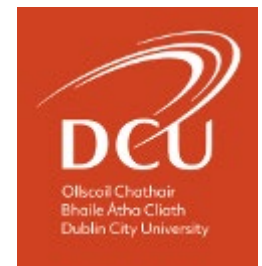
Engaged Research through Science Shops in Europe

Dr. Henk Mulder
University of Groningen

h.a.j.mulder@rug.nl



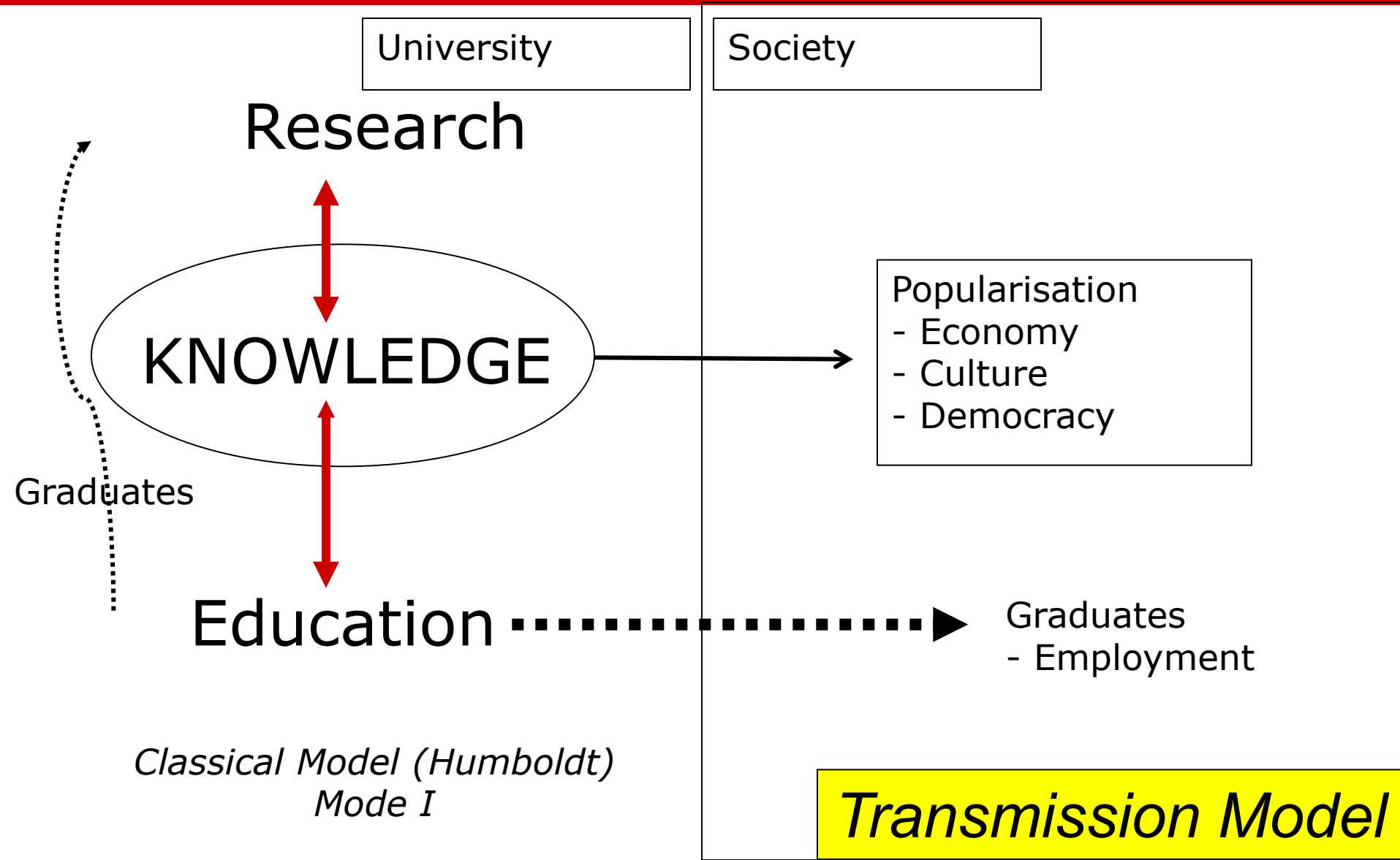
Living Knowledge
The International Science Shop Network

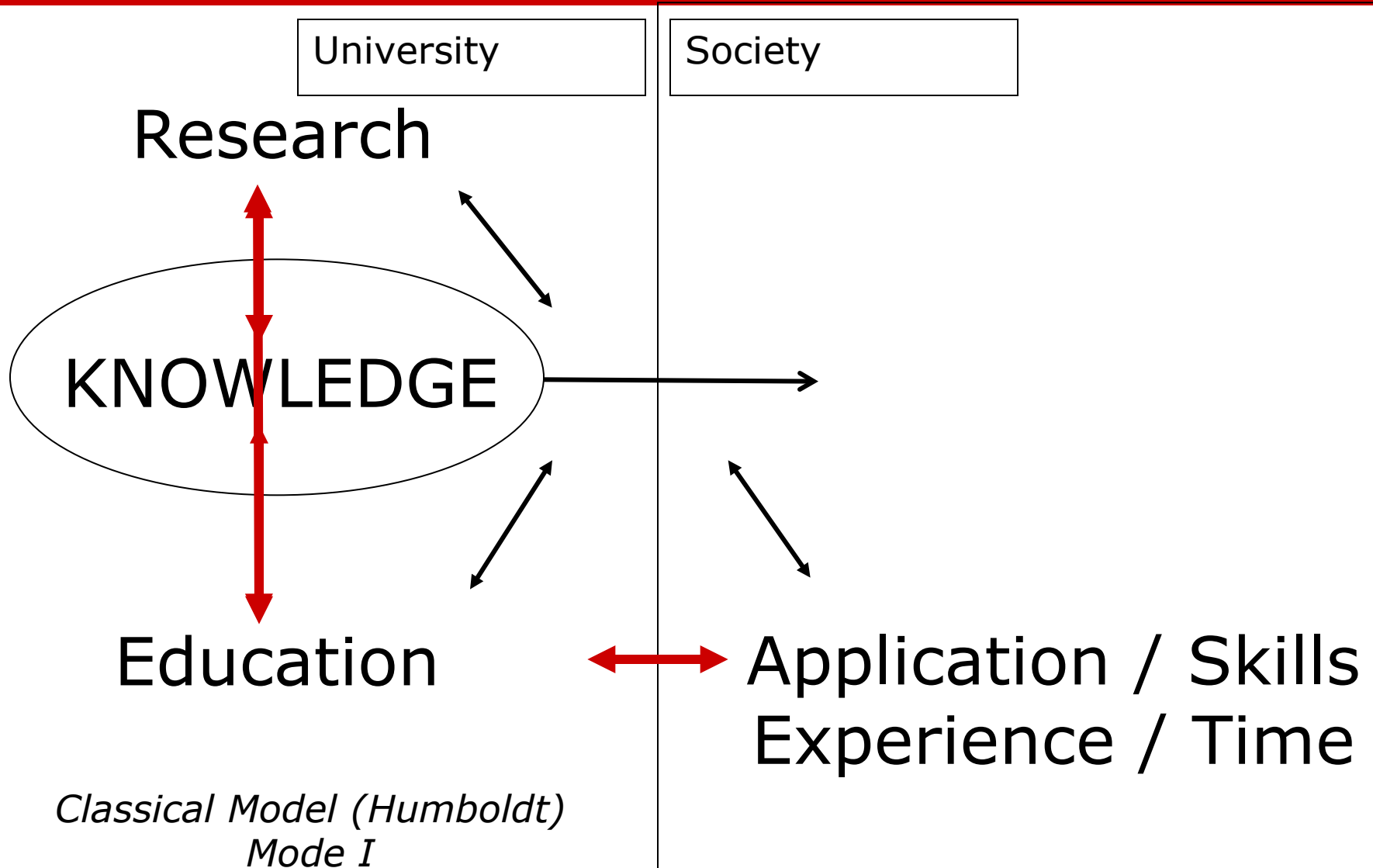


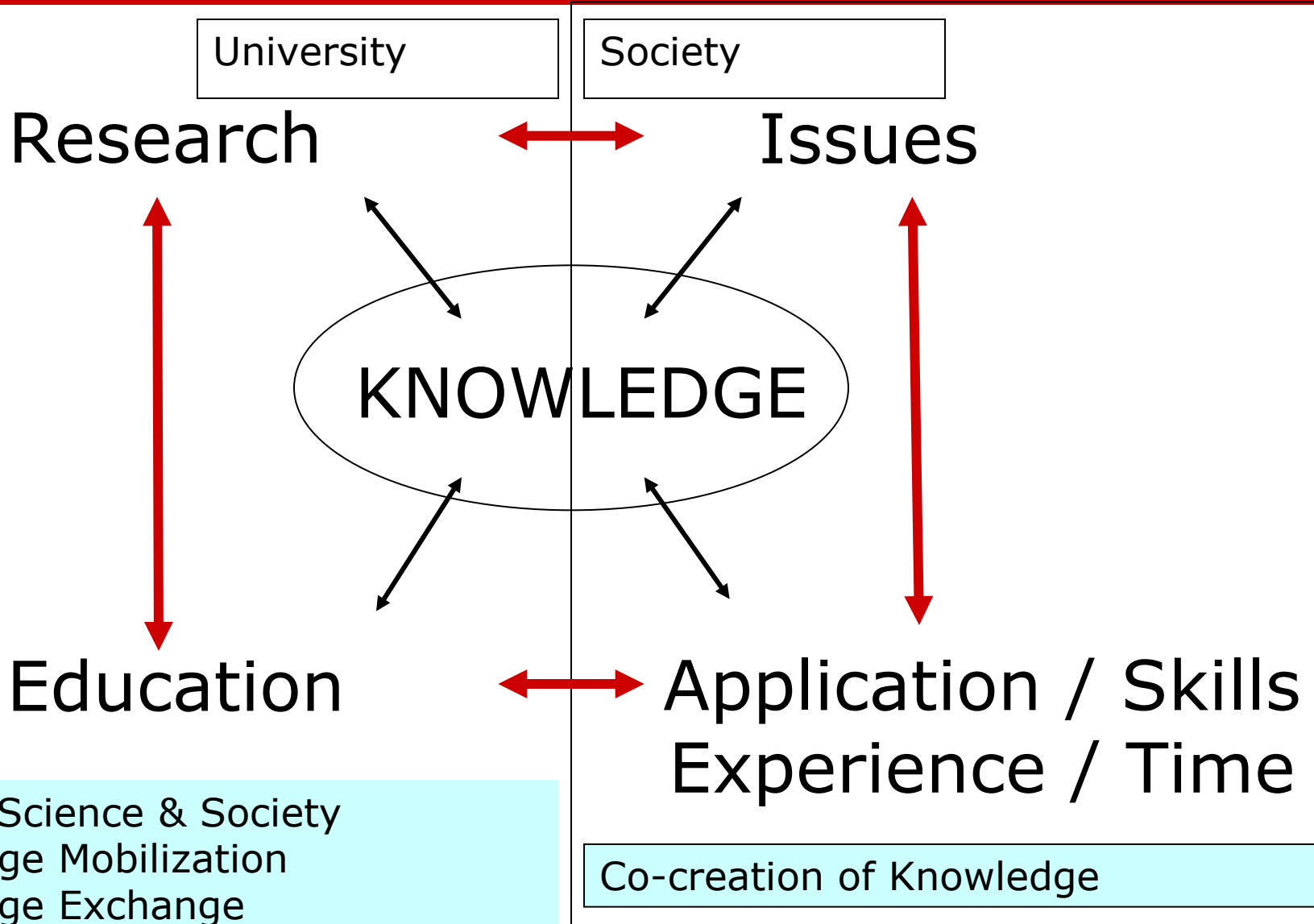


Structure

- > View on Knowledge Production
- > Science Shop in Context
- > Examples of Projects
- > Practice: Brokering
- > From The Netherlands to Europe
- > Living Knowledge Network
- > Impact









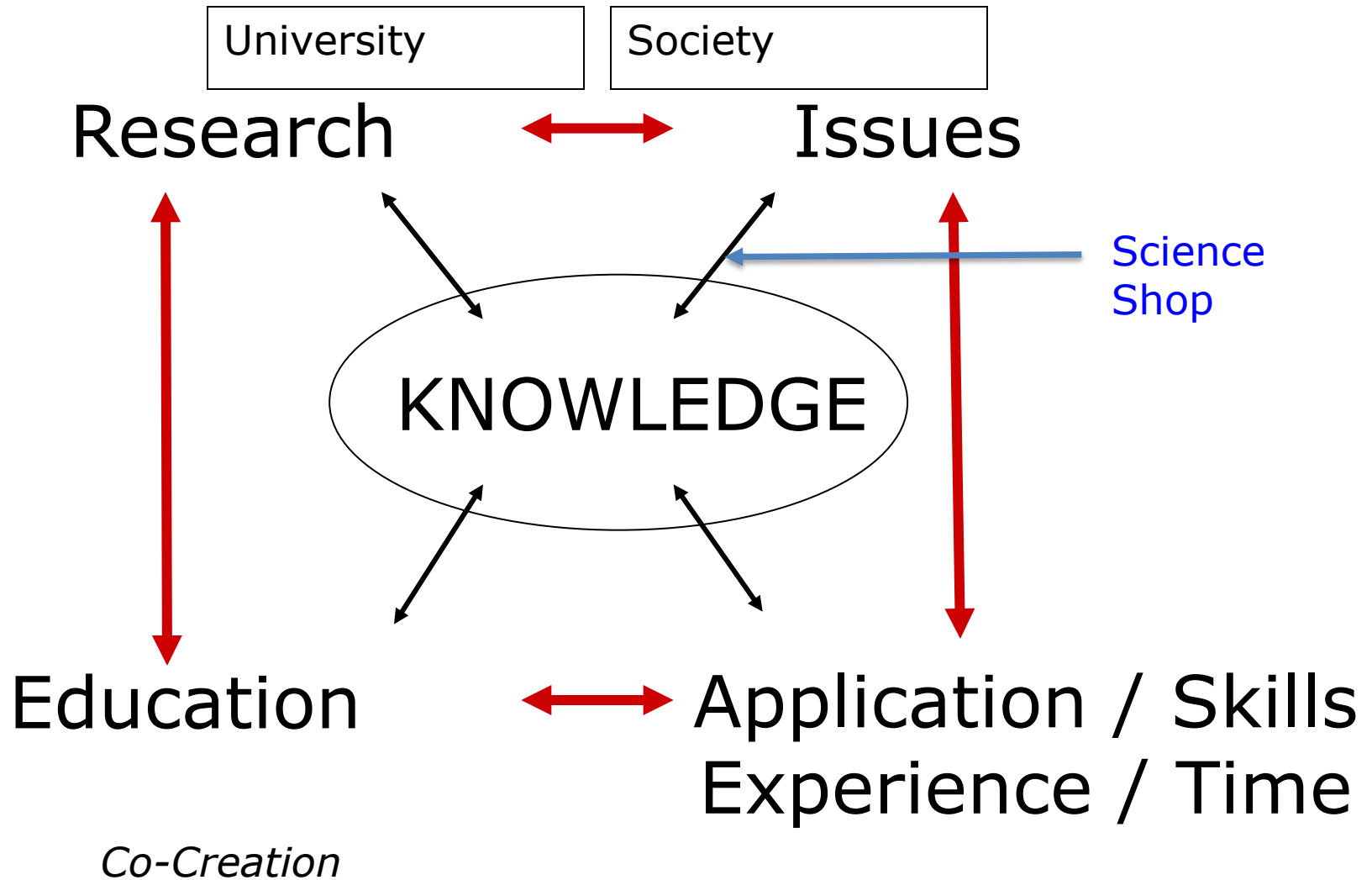
Science Shop

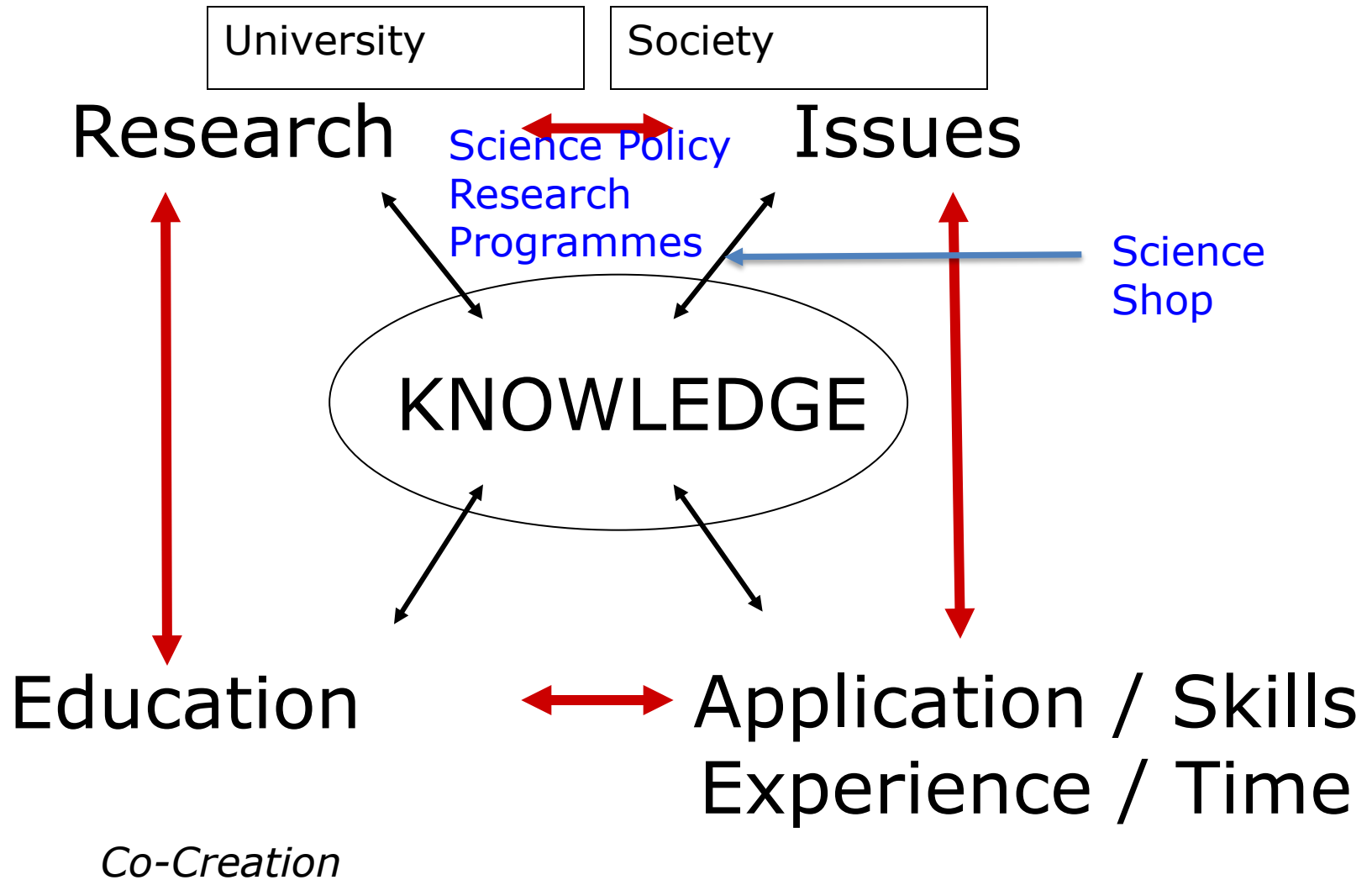
- > A Science Shop provides independent & participatory research support in response to concerns expressed by civil society
- > Research *for*: civil society organizations (CSOs), citizen groups, non-profit organisations
- > Research *by*: students (course credits) under staff supervision*
- > Free/low cost (coordination paid by university)
==> Dialogue!

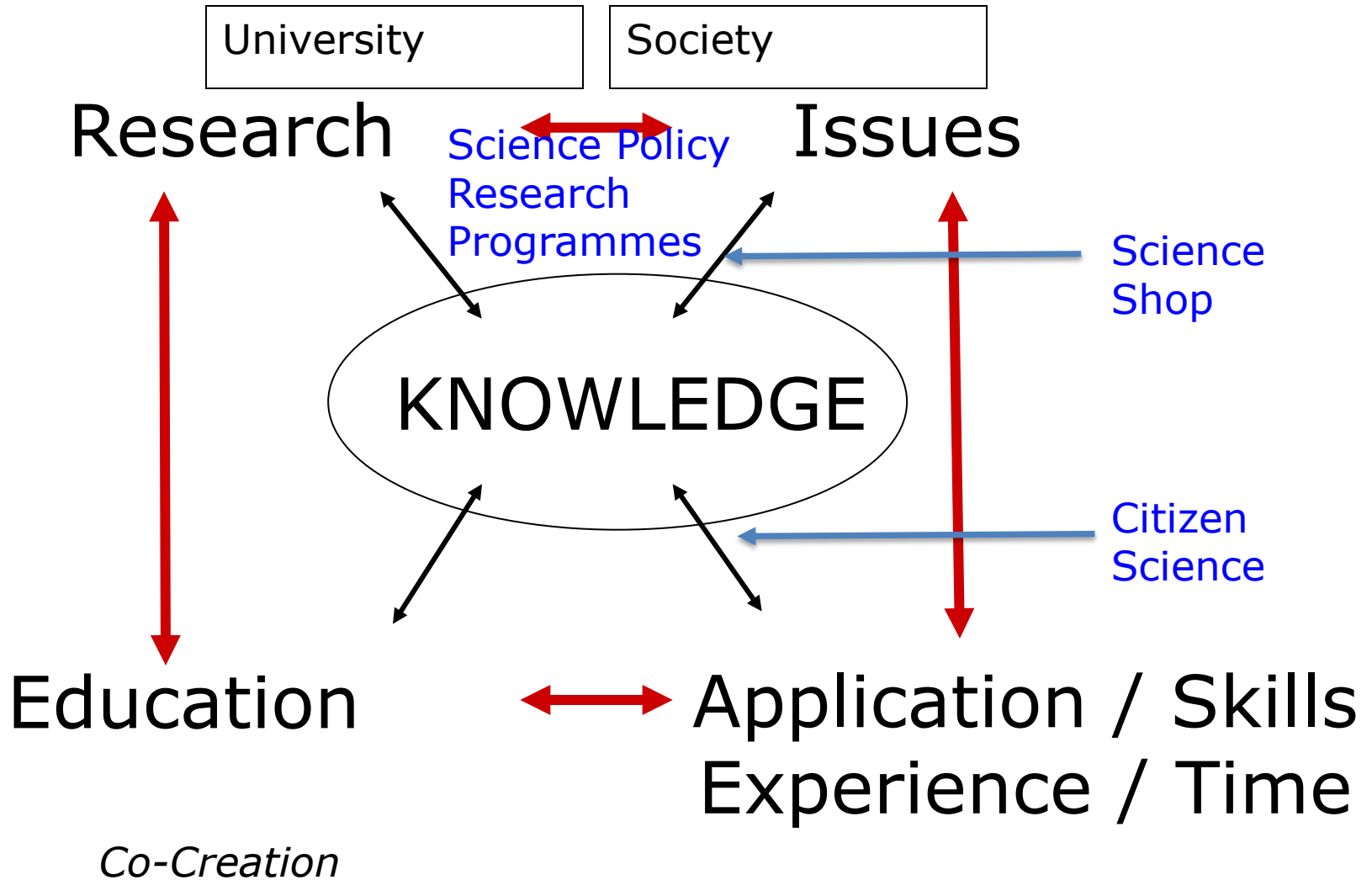


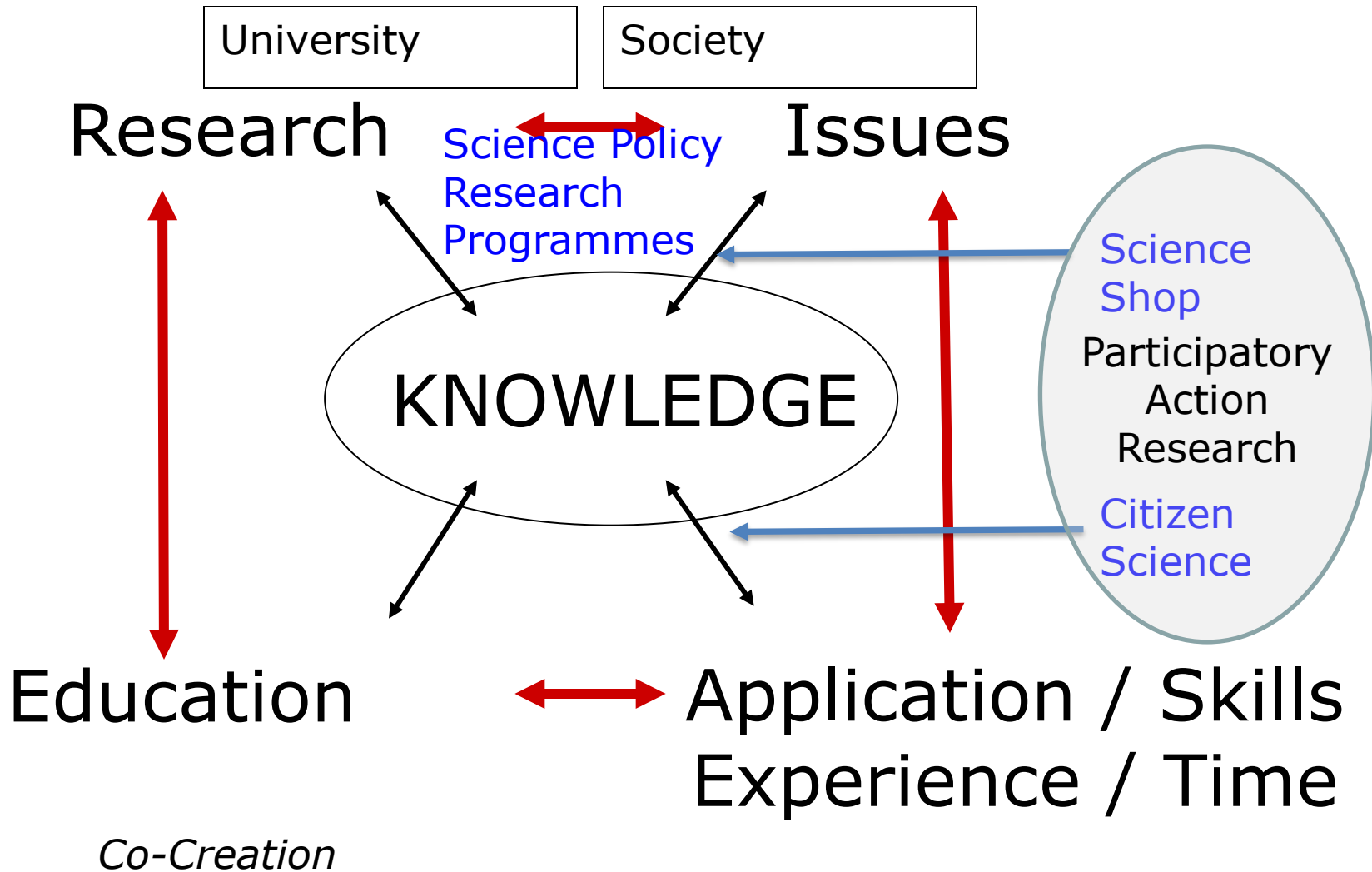
Science Shop

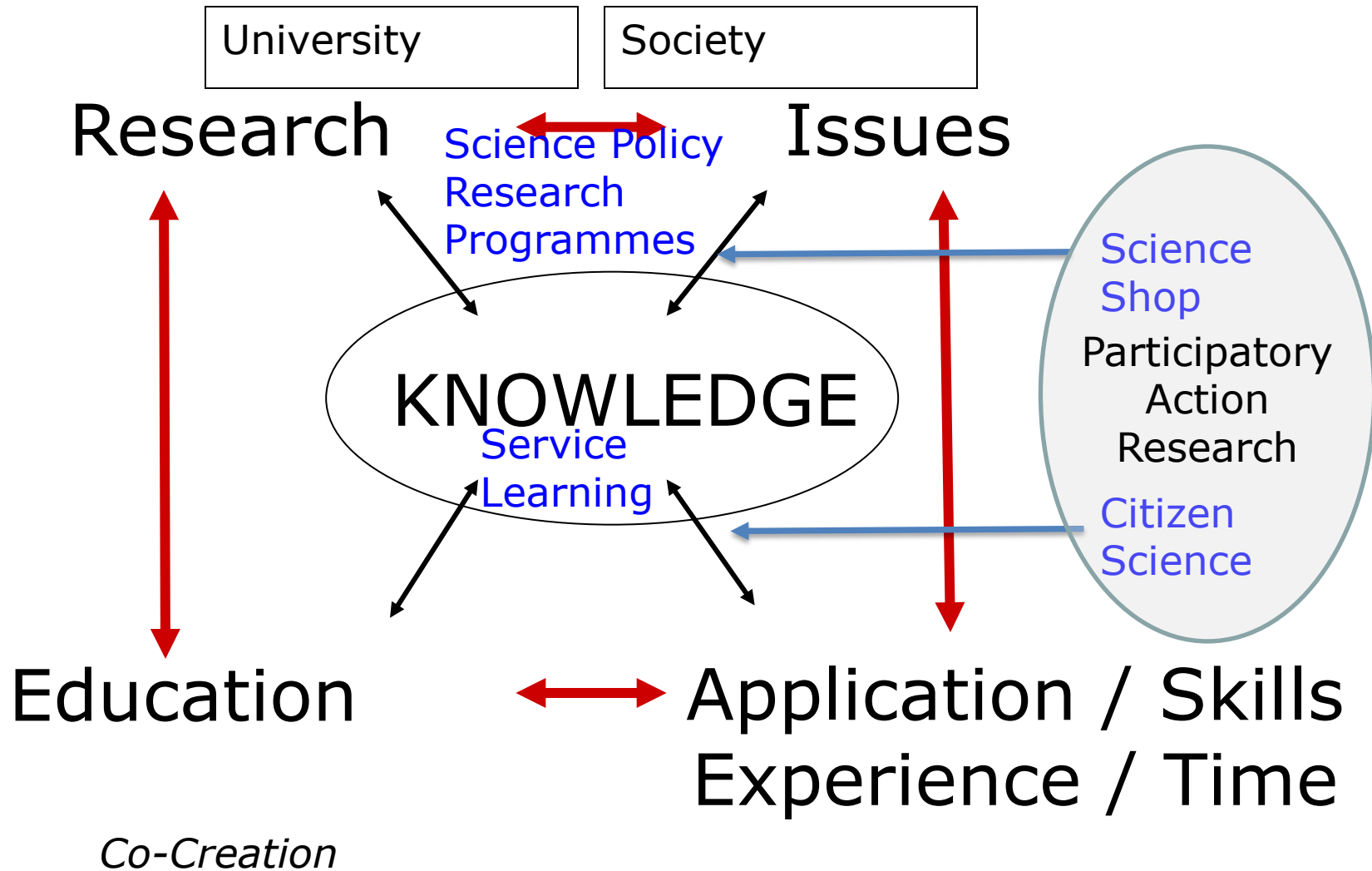
- * Other business models
 - Separate (non-profit) organization
 - More towards implementation of projects
 - Partnerships













University of Groningen

Since 1614
Classical University
30,000 Students
5,000 Staff



**# 69 (ARWU Shanghai
Ranking)**

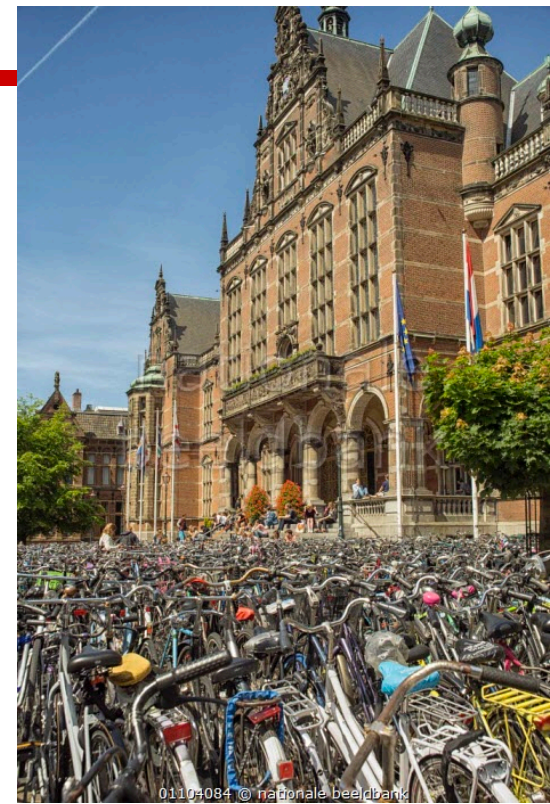
#80 (THE Ranking)



University of Groningen

6 Science Shops (since 1979)

- Business Management and Economics
- Medicine and Public Health
- Languages, Culture, Communication
- Education Studies
- Science and Engineering
- Philosophy
- + Green Office



Approx. 200 projects/yr
Approx 825 students/yr
(~12% of cohort)

Neighbourhood Efforts Students and Young People (~WISE) (since 2017):

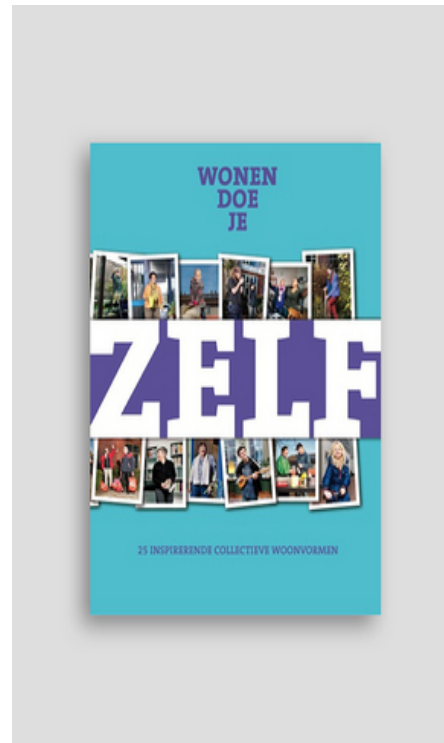
Hanze University of Applied Sciences,
Municipality of Groningen,
Social Work Foundation Groningen,
Alfa and Noorderpoort
(vocational schools)



Groningen Science Shops

Philosophy:

- Housing Cooperations / Living Together



Groningen Science Shops

Language, Communication and Culture:

- Archeology Monastery Thesinge



Groningen Science Shops

Medicine and Public Health:

- “Landlady 2.0”



Groningen Science Shops

Education Studies:

- “Pearl-plan” Village Schools



Groningen Science Shops

Business Management and Economics:

- Diversity Management



Groningen Science Shops

WIJS:

- Loneliness



Science Shop Groningen

- City of Assen: Street Lighting in Natural Area:
 - Social Safety
 - Energy saving
 - Does not disturb nature
- Ecology Department
- NGO “Bats Working Group”
- Green coloured LED lights
- GREEN LIGHT FOR BATS!



Examples Groningen

Science Shop Physics

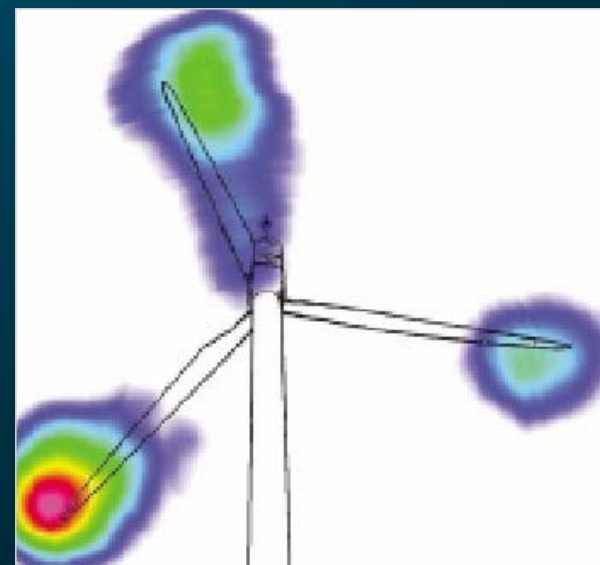
- *Wind Turbines –
Noise at night
(Residents) → PhD*



$$L_W = L_{eq} - 6 + 10 \cdot \log(4\pi \cdot R^2 / A_0)$$

The sounds of high winds

the effect of atmospheric stability on
wind turbine caused and microphone noise





Examples Science Shop

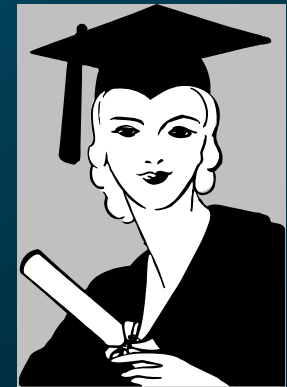
- Earth Quakes from Gas Winning
- Headlice



Mediation Tasks



- 1 Receive/solicit “clients” and questions
- 2 Map the problem (articulation)
- 3 Preliminary research: Refer, Refuse, Advice or Formulate (scientific) research question (Incl. funds if required)
- 4 Find a (co-) supervisor
- 5 Find a student or researcher
- 6 Maintain communication and process
- 7 Facilitate useable presentation/publication of results
- 8 Help client implement results and formulate follow up actions
- 9 Make inventory of follow-up research/themes
- 10 Evaluation



Projects in curriculum

- ❖ In existing (or new) courses / practical periods
 - ❖ First year physics practical
 - ❖ “Communication & Presentation”
 - ❖ Minor “Future Planet Innovation”
- ❖ Novel optional “course”
 - ❖ “Science shop project”
- ❖ As B / M thesis / project
- ❖ Practical placement
- ❖ As PhD thesis
- ❖ Honours Programmes
- ❖ Skills Portfolio



Make project fit



Split

- ❖ *Disciplines (Chemistry, Medicine, Communication; Economics)*
- ❖ *Multi-disciplinary teams → multi-disciplinary course units (Academic Consultancy – Wageningen; Minor Future Planet Innovation Groningen, ...)*

❖ Enlarge

- ❖ *Case + theory (thesis)*

❖ Timing

- ❖ *Fit client's scheme & students availability*



Dutch Science Shops



University of Groningen (6x)

Hanze University Groningen

Technical University of Twente

Wageningen Agricultural University

Technical University of Eindhoven (1x)

Vrije Universiteit Amsterdam (1x)

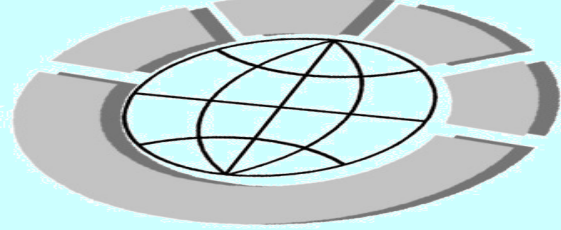
City Deal “Making Knowledge / Getting Acquainted”



Delft
Amsterdam
Utrecht
Rotterdam
Wageningen
Groningen
Nijmegen
Maastricht
Leiden
Enschede
Tilburg

Den Haag
Arnhem
Zwolle
Den Bosch
Breda
Leeuwarden
Deventer
Ede

City Deal
Kennis Maken



Living Knowledge

The International Science Shop Network



*Science Shop – Wetenschapeswinkel – Boutique de Science – Epyion
Videnskabsbutikken – Wissenschaftsladen – BioSense – IntHum
Bazar de las Ciencias – Intermediu – Interchange – CUPP Helpdesk
Community Knowledge Exchange – Research Shop – Echop a sciences
Forskningstorg – Knowledge Co-Op – Community Based Research Center
Community Academic Research Links – Students Learning with Communities
Teadusturg – CURL – ShopFront – Office of Community Based Research
上海大学生科学商店 - Научная лавка – Accès Savoirs - Sportello della Scienza*

- 1970s Netherlands (USA, Canada)
- 1980s Australia, Denmark, England, Northern Ireland, Germany, Austria, France, Belgium
- 1990s Canada, Spain, Romania, New Zealand, Malaysia, Czech Republic, South Korea, South Africa
- 2000s Belgium, France, South Korea, Portugal, Japan, Ireland, Hungary, China, Italy, South Africa, Latvia, Turkey
- 2010s Cyprus, Israel, Norway, Lithuania, Belarus, Tunisia, Poland, Scotland, Finland, Haiti, Benin, Senegal, Burkina Faso, Cameroun, Ivory Coast, Niger, Togo, Burundi, Guinea, DR Congo, Estonia, Greece, Wales

International Science Shop Network 'Living Knowledge'

General objective:

To give citizens around Europe (and beyond)
better access to scientific information and expertise!





- Open, collaborative network / No legal entity
- Limited funding through projects of 'members'
- Community of practice
 - Information exchange
 - Training / mentoring

The Living Knowledge Network



Living Knowledge
The International Science Shop Network



Living Knowledge
The International Science Shop Network



Search



Science Shops

Resources

Projects

Events

Contact



Living Knowledge – Exchange, Networking and Building Partnerships

The Living Knowledge Network is composed of persons active in -or supportive of- Science Shops and Community Based Research. Living Knowledge aims to foster public engagement with, and participation in, all levels of the research and innovation process.

Twitter

Tweets by @ScienceShops

Living Knowledge Net
Retweeted

www.livingknowledge.org

- Open, collaborative network / No legal entity
- Limited funding through projects of ‘members’
- Community of practice
 - Information exchange
 - Training / mentoring
 - Joint projects
- Strategic impact
 - Visibility, spin-off
 - Policy impact

EU and Science Shops



Living Knowledge
The International Science Shop Network

SCIPAS (2000 – 2001) STRATA-AM

INTERACTS (2001 – 2003) STRATA-AM

ISSNET (2003-2005) RPA-TN

International Science Shop Network

LIVING KNOWLEDGE

MinForeignAf: MATRA-RUG-Romania
1998-2000 / 2002-2005

[CIPAST (CA), EFSUPS (SSA)]
[SpidERA (SSA), ACCENT (NoE)]

TRAMS (2005-2008) S&S-CA

Science Shop
Call 2006

[WINDFARMperception]
[NewCom, VECTOR, InMoSion]

FP 7 – PERARES (2010-2014)

Engage2020 (2014-2015)
RRI Tools (2014-2016)

H2020 Science Shop Call 2016

[InSPIRES] [scishops.eu]

**H2020 (2015-2022)– EnRRICH, Sparks,
BigPicnic, BLOOM, TeRRIFICA**

Erasmus+: ENtRANCE, CIRCLET



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Networking



Living Knowledge
The International Science Shop Network

GACER
Global Alliance on
Community Based Research

PRIA
Participatory Research in Asia

UNESCO Chair
for Community Based Research

GUNI
Global University Network
for Innovation

ENGAGE Australia

KmbF
Canadian Knowledge
Mobilization Forum

PASCAL
Observatory

EUA
European University Association

Community Based
Research in Canada

International Science Shop Network
LIVING KNOWLEDGE

NCCPE
National Coordination Center
for Public Engagement

Midwest Knowledge
Mobilization Network

WISSNET
Verbund deutschsprachiger
Wissenschaftsläden

Ecsite
European Network of
Science Centres and Museums

APUCEN
Asian Pacific University
Community Engagement
Network

CCPH
Community Campus
Partnership for Health,
USA

EUSEA
European Science
Engagement Association

ECSA
European Citizen
Science Association





Science Shop Impact

- > CSOs: empowered in their work and actions for the wellbeing of society & citizens (*inclusive*)
- > Students: motivation, (*employability*) skills, social awareness
- > Staff: data, networks, new angles, outreach
- > “Science”: new knowledge, new research themes (*follow-up*)
- > University: PR, education, social responsibility, societal impact (by *starting* from a need....)
- > Policy makers: more data to base decisions on

- > Efficient: add-*in*, combines 3 missions university
- > Limitations: timing, funding → grants!
- > Limitations: support from ‘the system’



Responsible Research and Innovation (RRI)

“generate innovation that
 reflects societal views & needs”

Process:

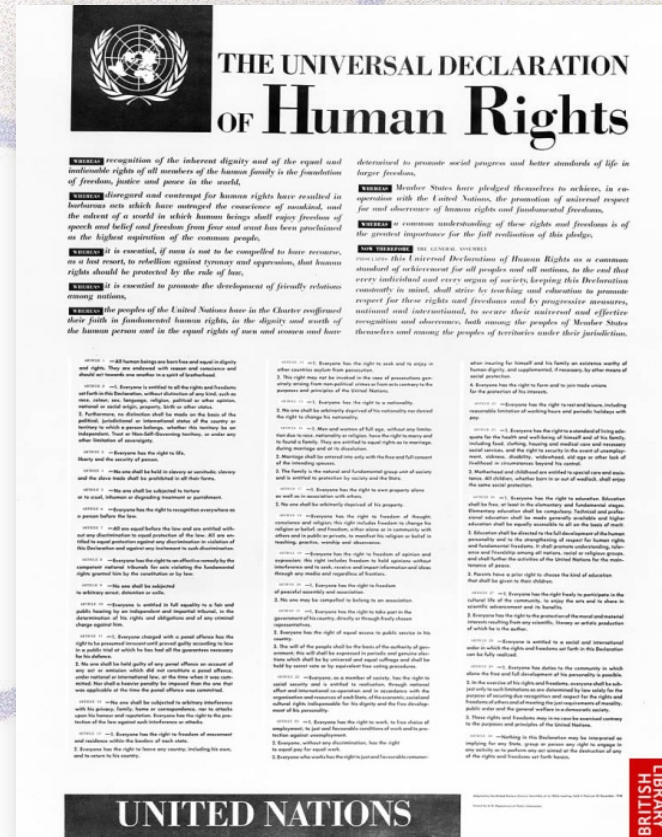
Anticipation, Reflexivity, Inclusion
 and Mutual Responsiveness

Remember



Living Knowledge
The International Science Shop Network

**'Everyone has the right
freely to participate in the
cultural life of the community, to
enjoy the arts and
to share the scientific
advancement and its benefits'**



Universal Declaration of Human Rights, Art 27(1) (United Nations, 1948)





9th living knowledge
conference 2021
Groningen

Pre-conference: 28-29 June

Conference: June 30-July 2

Plan A: Regular Conference

Plan B: Hybrid Conference

Plan C: Fully On-line Conference

Groningen













Groningen







9th living knowledge
conference 2021
Groningen

Pre-conference: 28-29 June

Conference: June 30-July 2

GRONINGEN – NL

<https://livingknowledge.org/lk9/>

YOU'RE WELCOME!

Thanks!

Our Annual Report:

<https://www.rug.nl/society-business/science-shops/over-de-wetenschapswinkels/nieuw-nieuws/living-together-working-together-making-knowledge-together>