EnRRICH project: Embedding RRI in Curricula (through community-engaged research/Science Shop projects)

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EnRRICH
A LIVING KNOWLEDGE PROJECT

Students Learning with Communities
10 years - 10,000 students
Research & learning through partnership

DIT Access & Civic Engagement
www.dit.ie/ace

What is a science shop (-type structure)?

- Supports community-based research, participatory action research, responsible research and innovation
- Staff/students collaborate with underserved community partners (local groups, not-for-profit organisations, social enterprises etc) to address their research questions through curriculum- based projects, for mutual benefit.
- Connecting teaching, research and engagement

QUB: 30 years
DIT: 10 years
CUB: 1 year

How does this fit into the policy context?

- RRI as cross-cutting theme in Horizon 2020, Science with and for Society as a key strand. GSCs and SDGs.
- Bologna working group (2005): preparing students for the labour market, preparing students for life as active citizens, personal development of students, and development and maintenance of a broad, advanced knowledge base
- EU Modernisation of HE (2013): Connecting teaching, research and engagement; active pedagogies; transdisciplinary learning; innovative mindsets; linking to communities and regions
- Renewed EU agenda for Higher Education (2017)- focus on addressing skills mismatch, social divisions, innovation gap, and lack of integration of parts of HE system.

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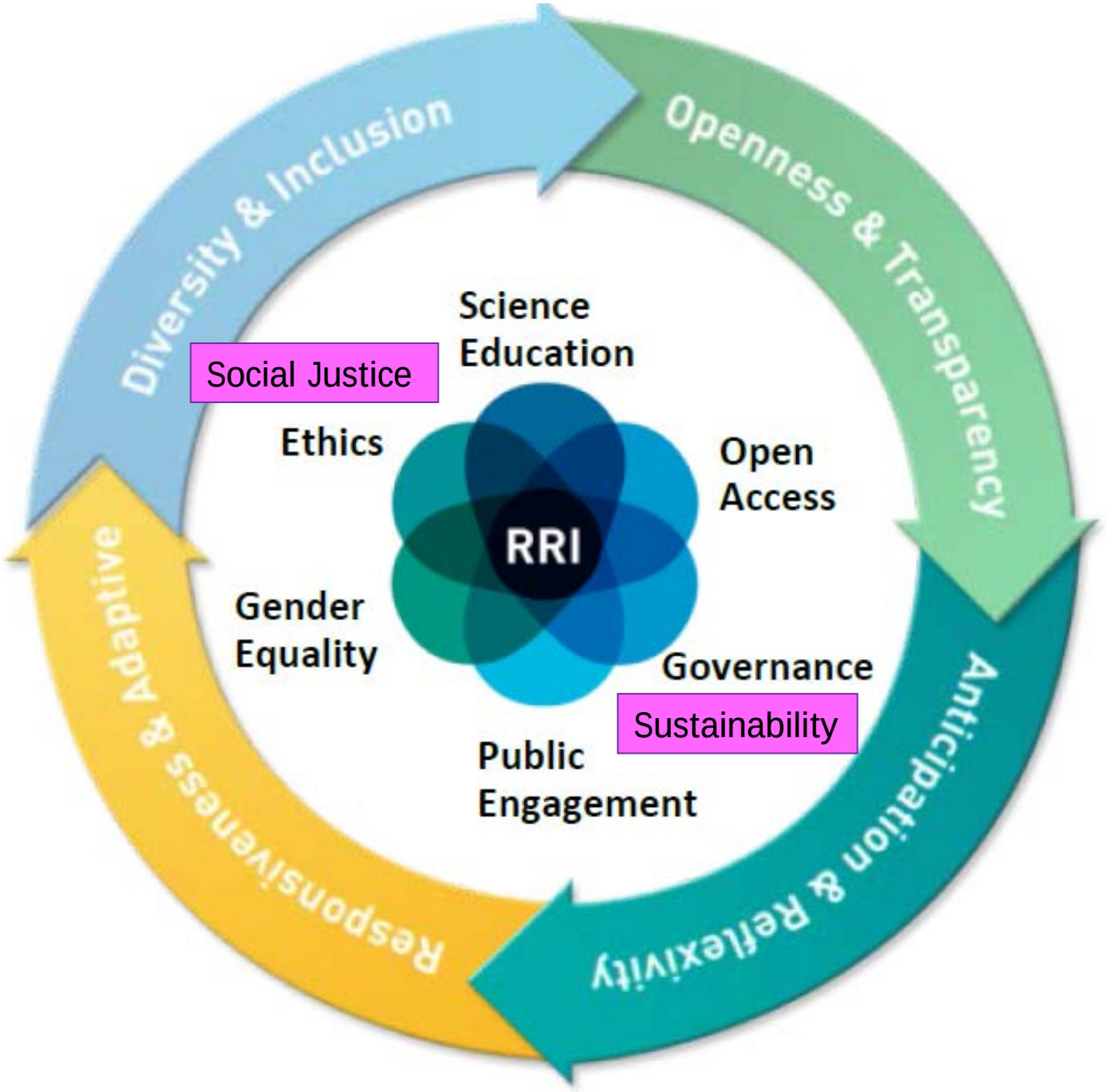
Responsible Research and Innovation (RRI) – a framework for engaged research

In a nutshell:

- Solving real-world problems collaboratively
- Research and innovation (including applied research) addressing research questions from society
- Collaborations between researchers, civil society organisations (CSOs), policymakers, statutory bodies and/or industry at all stages of the research process

RRI Tools: RRI Process requirements

https://www.rri-tools.eu/documents/10184/107098/D1.3_QualityCriteriaGoodPracticeStandards.pdf/ca4efe26-6fb2-4990-8dde-fe3b4aed1676



RRI Tools
Fostering Responsible Research and Innovation

Pink Additions: https://publications.europa.eu/en/publication-detail/-/publication/306a7ab4-f3cb-46cb-b675-9697caf5df19/language-en

Enhancing Responsible Research and Innovation through Curricula in Higher education (EnRRICH)

Fostering RRI in higher education curricula is about equipping learners to care for the future by means of responsive stewardship of scientific and innovation practices that address the grand challenges of our time in a collaborative, ethical and sustainable way

Enhancing Responsible Research and Innovation through Curricula in Higher Education (EnRRICH) project. This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 665759.

www.enrrich.eu

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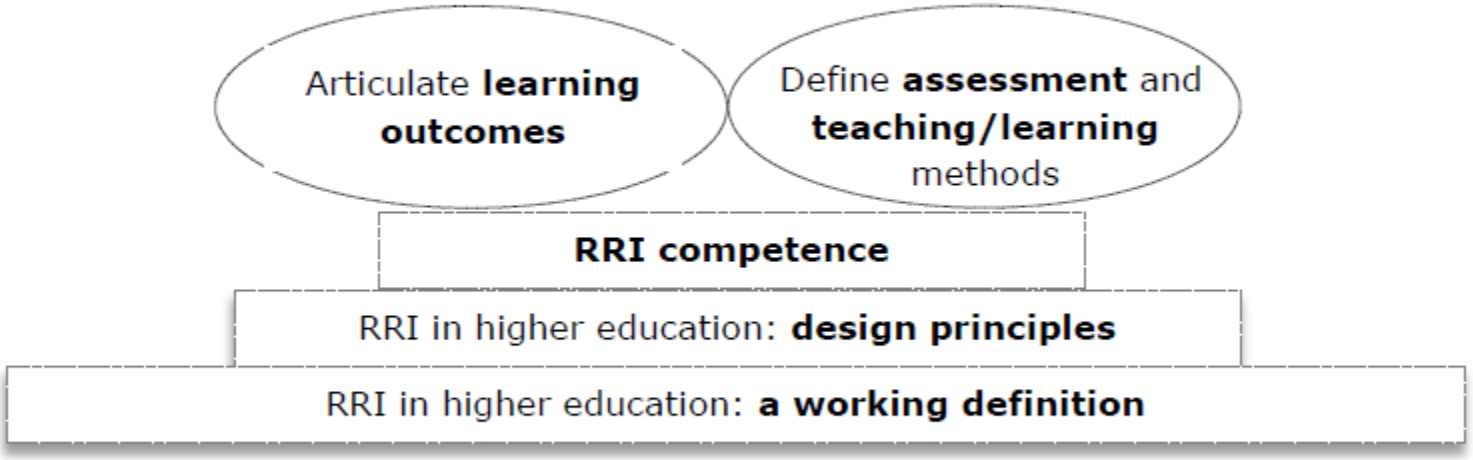
The EnRRICH Tool

Figure 1: the EnRRICH Tool



http://www.livingknowledge.org/fileadmin/Dateien-Living-Knowledge/Dokumente_Dateien/EnRRICH/D2.3_The_EnRRICH_Tool_for_Educators.pdf

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The EnRRICH Tool.

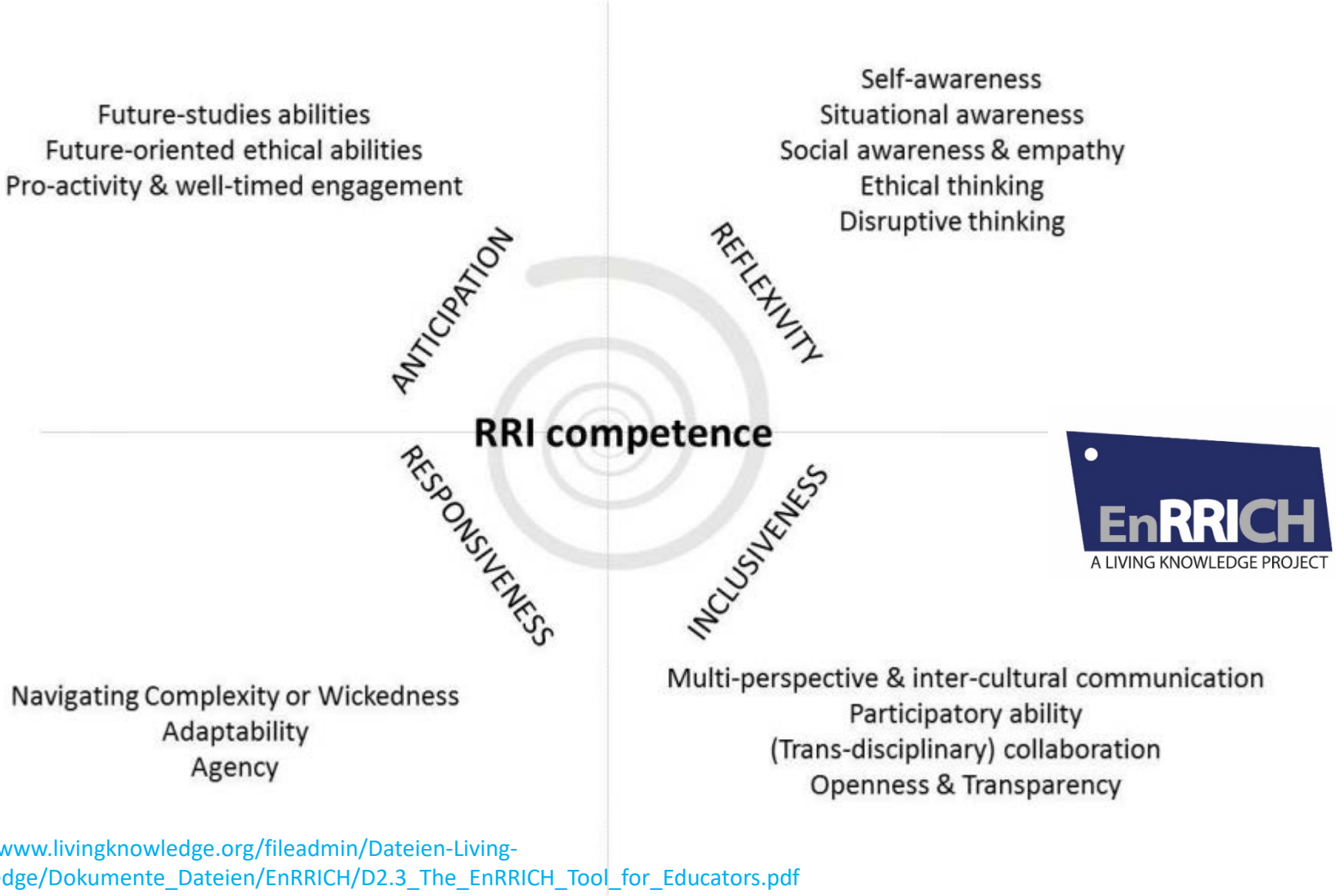
Framework for RRI in Higher Education:

Design Principles for RRI for learners

- Principle of ‘Education for Society’
- Principle of ‘Education with Society’
- Principle of ‘Whole Person Education’

http://www.livingknowledge.org/fileadmin/Dateien-Living-Knowledge/Dokumente_Dateien/EnRRICH/D2.3_The_EnRRICH_Tool_for_Educators.pdf

EnRRICH RRI competence framework



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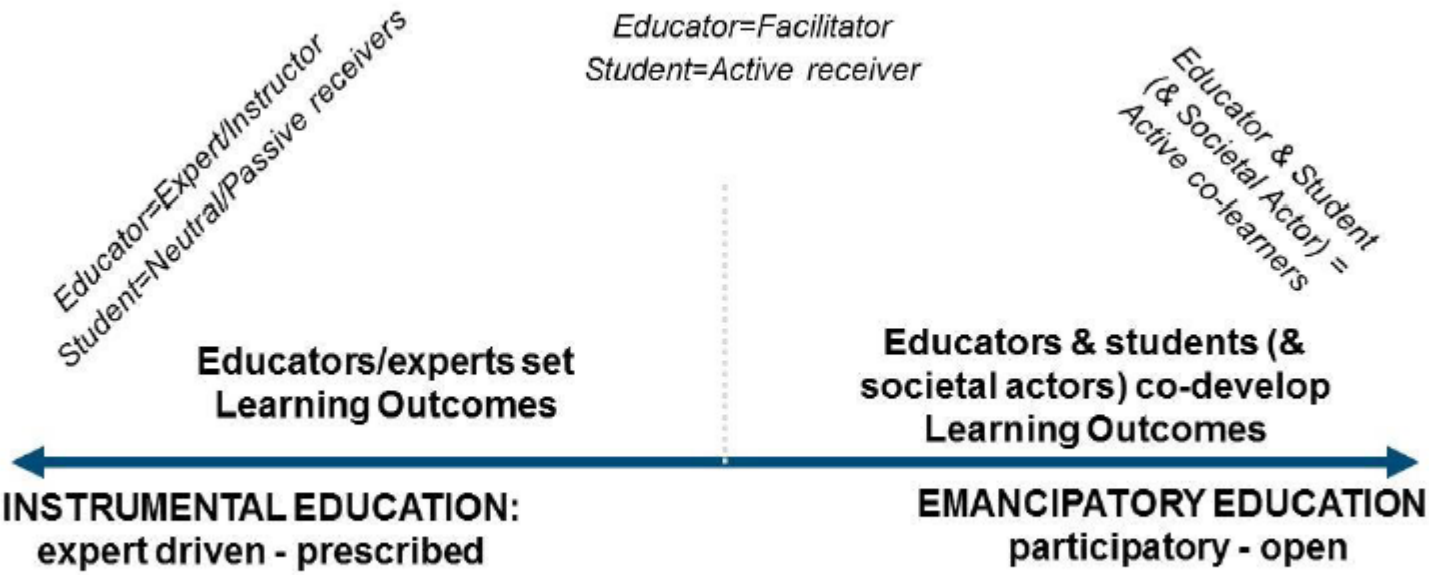
Learning Outcomes

Figure 3: Defining who articulates learning outcomes



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How do CSOs benefit?

- Collaborative learning with students during the project - energising

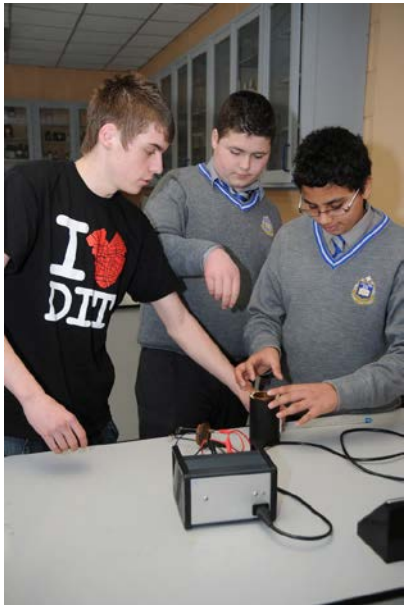
- Project has usable end-product (eg research report, designs)
- Influence research agenda, address local/societal issues
- Opportunity to educate future professionals about community, and influence curriculum

How do staff benefit?

- Makes teaching/supervision more interesting, meaningful, relevant and engaging
- Enhances own research work, builds networks with CSOs to do collaborative work
- Greater sense of connection to other staff and the institution, and to communities

Mutual benefit:

- Knowledge exchange and co-creation
- Collaboration for mutual learning
- Combined energy to work for social change



Case study – DIT - postgraduate

Transport and Mobility module: MSc in Sustainable Development, MSc in Local Development and Innovation

- Students work with The Northside Partnership, on Healthy Communities project. Research aspects of transport of mobility with a view to influencing policy.
- Collaborative research outputs, eg:
  - O'Connor, D., Borscheid, M., Reid, O. & Ni Lochlainn, M. (2015). Northside Partnership "Healthy Community" Pilot Area Walkability Audit. *Proceedings of the Irish Transport Research Network, 2015.*
  - O'Connor, D., Borscheid, M., Reid, O. An Assessment of Mobility among Key Disadvantaged Communities in North East Dublin, Proceedings of the AESOP-ACSP Joint Congress, Dublin 2013
- Policy change, eg development of local greenway

Case study – DIT postgraduate

Product Design PhD with Enable Ireland:

- Developed method for involving end-users in the design process (for assistive technology)
- Developed customisable assistive technology interface for people with disabilities
- Student had done U/G community-based research project
- Lecturer and partner had been collaborating for years, jointly applied for funding.

(Image Dr Pearl O'Rourke)

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10 years - 10,000 students

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Case studies – DIT Undergraduate

- Final year chemistry students do soil testing in community gardens, looking for heavy metals
- Tourism students research the tourism potential and develop marketing plans for local areas
- Visual Communications students work with a range of community groups to design awareness campaigns, posters, booklets, re-branding
- Public Health Nutrition students researched Folic Acid intake and awareness among students, with Spina Bifida Hydrocephalus Ireland

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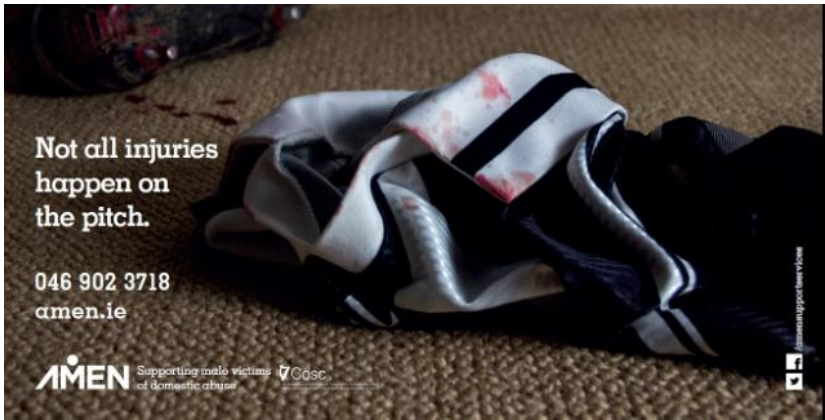

RRI/CBR projects should incorporate:

- Regular high-quality contact between students and communities
- Student reflection to maximise learning and competencies: personal, academic and social. Templates are available (eg Gibbs; ‘What, so what, now what’)
- Students presenting usable end-product to community for feedback and for them to use

Where could you start?

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- Have you got a module that you might like to adapt/reinvigorate? (Ideally with continuous assessment component).
- What are the learning outcomes – do they need to be adapted?
- What community partner could you work with, and on what? What might they want from the project?
- How will the students actually do the RRI work – to develop the competencies?

Remember…

Principles and competencies for RRI for learners

- Principle of ‘Education for Society’
- Principle of ‘Education with Society’
- Principle of ‘Whole Person Education’

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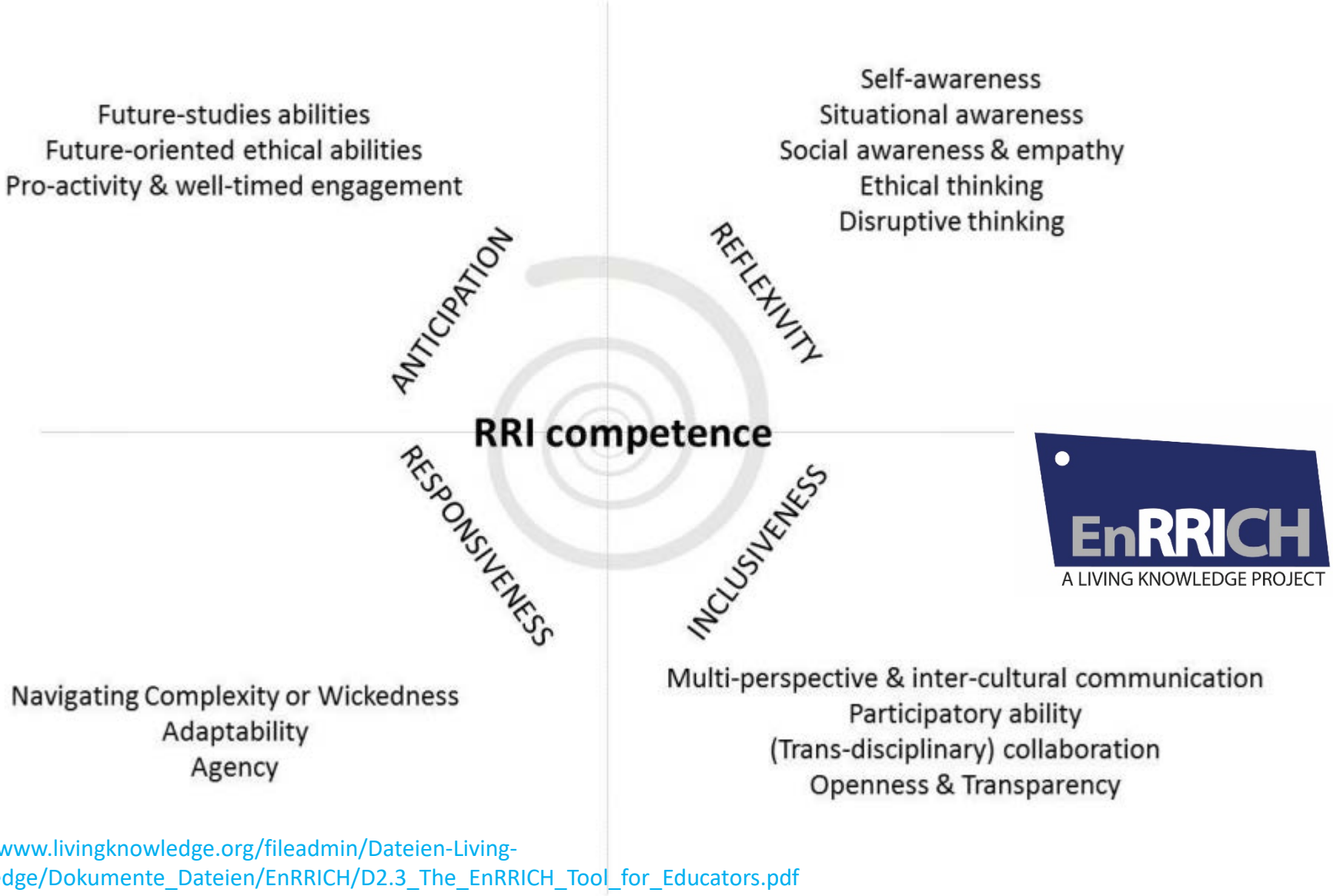
EnRRICH RRI competence framework



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Where could you start? (2)

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- What additional skills will they need – eg group work, reflective writing, wiki training?
- How will you assess it?
- How will you evaluate it?

Exercise

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- Think of an example of a challenge that might exist locally – for example a local club, group, CSO or community that you are involved in, or know about – or start with a bigger issue such as the Sustainable Development Goals.
- **Think about one of your own modules and answer these questions individually**

Key considerations in designing CBR/CBL courses:

- **What are your learning outcomes?**
- **Who is a suitable community partner? What might they want from the project?**
- **How will the students actually do the RRI work – to develop the competencies?**
- **What additional skills will they need – eg group work, reflective writing, wiki training?**
- **How will you assess it?**
- **How will you evaluate it?**

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Tips and lessons learned

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- Process of relationship-building and mutual learning with community partners
- Start communication by telling each other what you do – mutual understanding
- Brainstorm all possible ideas for overlaps between your goals and theirs
- Narrow ideas to a realistic small-scale start-up project, to be built on over years
- Manage expectations
- Allow more time than for a class-based module

Lessons learned: relationship-building

- Regular open communication is crucial
- Review and evaluate as you go – don't be afraid to consult with the community partner and to change the goals – responsiveness and adaptiveness is NB
- Individual student projects require more communication with community partner on the supervision of the student
- Assess strengths and weaknesses at end and jointly plan for year ahead

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Making the policy case – a practical guide

Living Knowledge
The International Science Shop Network

https://www.livingknowledge.org/fileadmin/Dateien-Living-Knowledge/Library/Project_reports/PERARES_Practical_guide_to_developing_policy_and_strategy_D7.1_Nov_2013.pdf

Making the policy case in your institution

- Get to know the policy context in your HEI by doing desk and background research
- Find people who are likely to support the work you are doing – personal & professional interests
- Make your case- inform, involve and participate
- Prepare to mobilise!

https://www.livingknowledge.org/fileadmin/Dateien-Living-Knowledge/Library/Project_reports/PERARES_Practical_guide_to_developing_policy_and_strategy_D7.1_Nov_2013.pdf

- See more on recorded InSPIRES webinar on Policy work for Science Shops http://inspiresproject.com/isgnews/28-september-join-the-inspires-webinar-policy-work-of-science-shops/ -
- the webinar will eventually be here: http://inspiresproject.com/training/

General resources on RRI in curricula

- www.enrrich.eu

- www.dit.ie/ace/slwc

- https://www.livingknowledge.org/

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