



# Quality Assurance and Evaluation of Transdisciplinary Projects

Lecture

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*Summer School*

*Brilliant Minds for Social-Ecological Transformations*

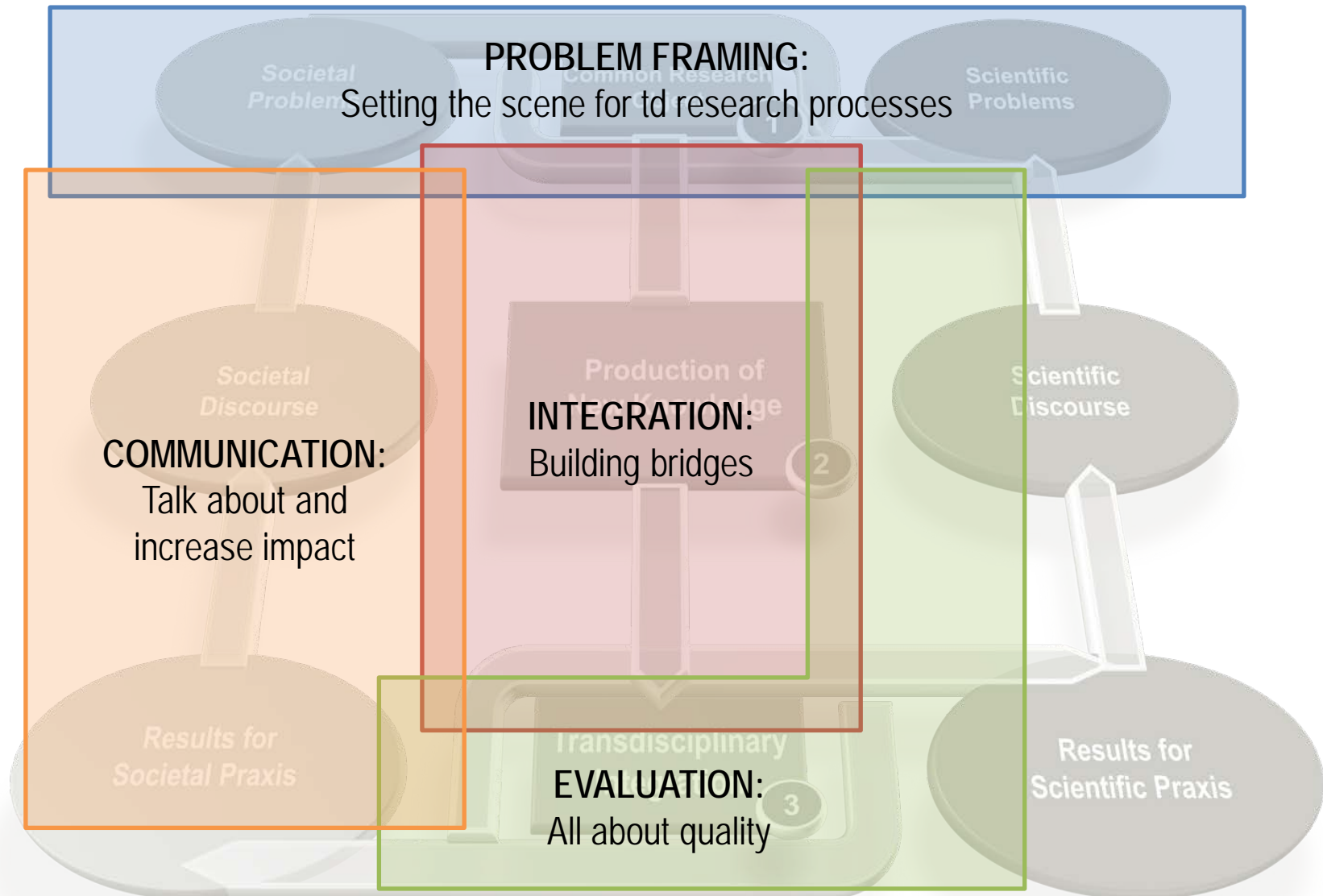
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Brilliant Minds  
for Social-Ecological  
Transformations



# Main Topic for Today



# What are your interests in quality assurance and evaluation?



## Quality Assurance

- Quality of documentation processes – with examples
- ...

## Evaluation

- Long-term effect of TD
- Own contribution to research perspectives
- Examples for what could be evaluated
- Inclusion of stakeholders in evaluation
- Standardisation of evaluation



# Outline

- Evaluation
  - Some basics
  - Summative, formative and self-evaluation – with examples
  
- Quality assurance
  - Some basics
  - Quality dimension of Sustainability Research
  - Recommendations for impactful research
  
- Introduction to the upcoming workshops



# Evaluation

## ■ Character of evaluation:

- „Evaluation is the systematic investigation **of the merit or worth** of an object (program)“ (*Mertens 1998:219*)

## ■ Procedure of evaluation:

- „The evaluation process normally involves some identification of **relevant standards** of merit, worth, or value; some **investigation** of the performance of the evaluands on these standards; and some **integration or synthesis of the results** to achieve an overall evaluation or set of associated evaluations.“ *Scriven (1991: 139)*

## ■ Purpose:

- To **study, appraise, and help improve** social **programs** in all their important aspects, including the diagnosis of the social problems they address, their conceptualization and design, their implementation and administration, their outcomes, and their efficiency.“ (*Rossi et al. 1999:4*)



# Evaluation – different types of reference

## ■ goal based

- measure if objectives have been achieved



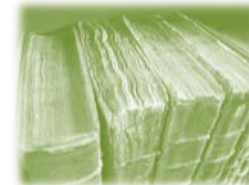
## ■ process based

- analyse strengths and weaknesses



## ■ outcomes based

- examine the results (and its broader effects)



# Forms of Evaluation for (td) research projects

- Summative Evaluation
- Formative Evaluation
- Self-Evaluation



# Forms of Evaluation for (td) research projects

## ■ Summative Evaluation

- Conducted (often) by an external consultant after a project has finished
- Assessing adequacy of processes or final results/products for a target-actual-comparison with regard to their goals or their (expected) impacts
- Addresses ex-post assessment, but allows conclusions for similar projects in future

## ■ Formative Evaluation

## ■ Self-Evaluation



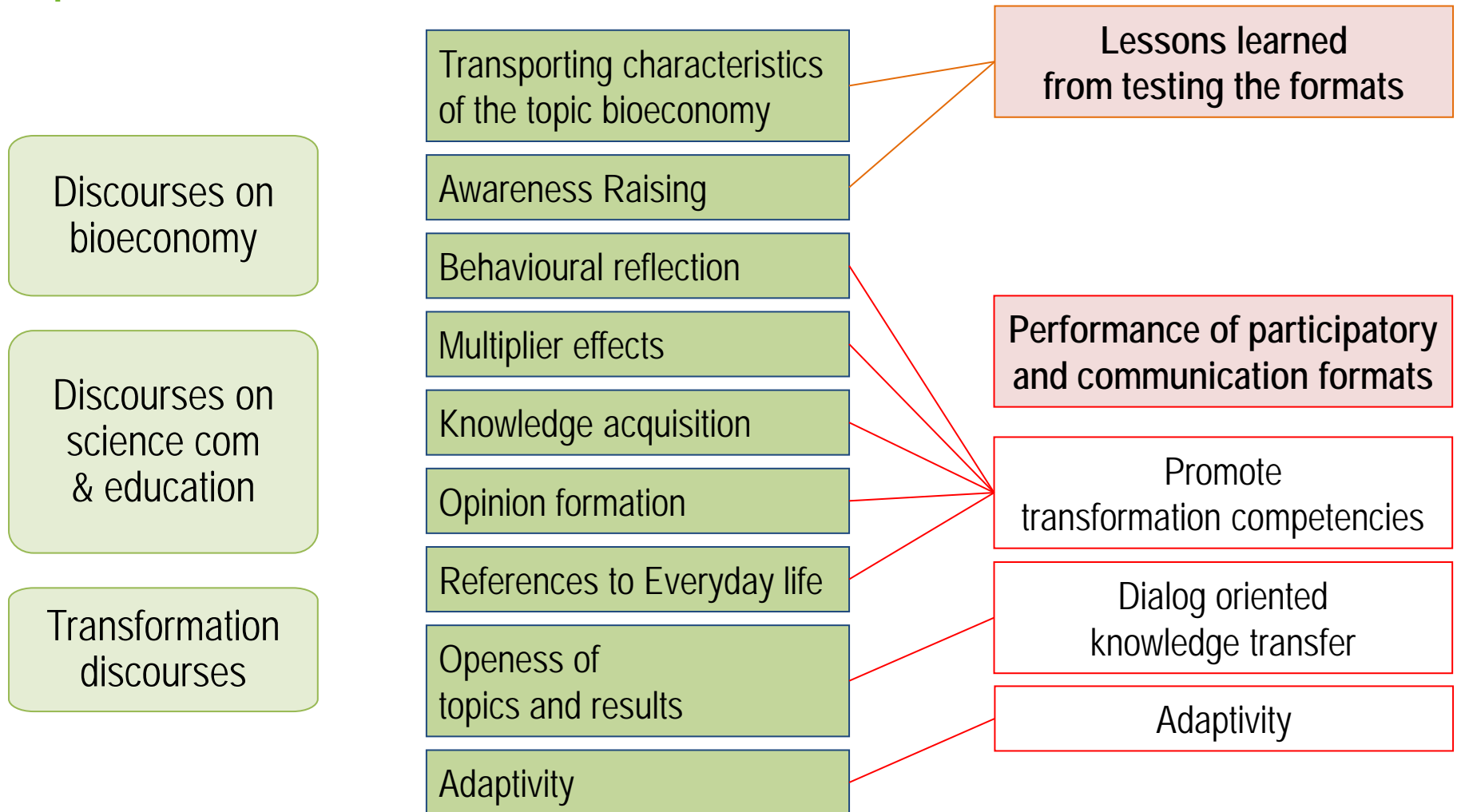


# Example: Summative Evaluation

- Project:  
BioKompass (BMBF, 2017-2020)
- Aim:  
Develop and test participatory and communication formats that are able to support a discourse around the process of societal transformation to a bioeconomy
- Main evaluation question:  
Are the formats able to promote the discourse on bioeconomy across the target groups?



# Evaluation Approach for BioKompass





# Forms of Evaluation for (td) research projects

- Summative Evaluation
  
- Formative Evaluation
  - Conducted by an external while a project is going on
  - Often includes dialog and mutual learning btwn evaluators and team
  - Aims at improving ongoing efforts, supports reflexivity and iteration
  
- Self-Evaluation

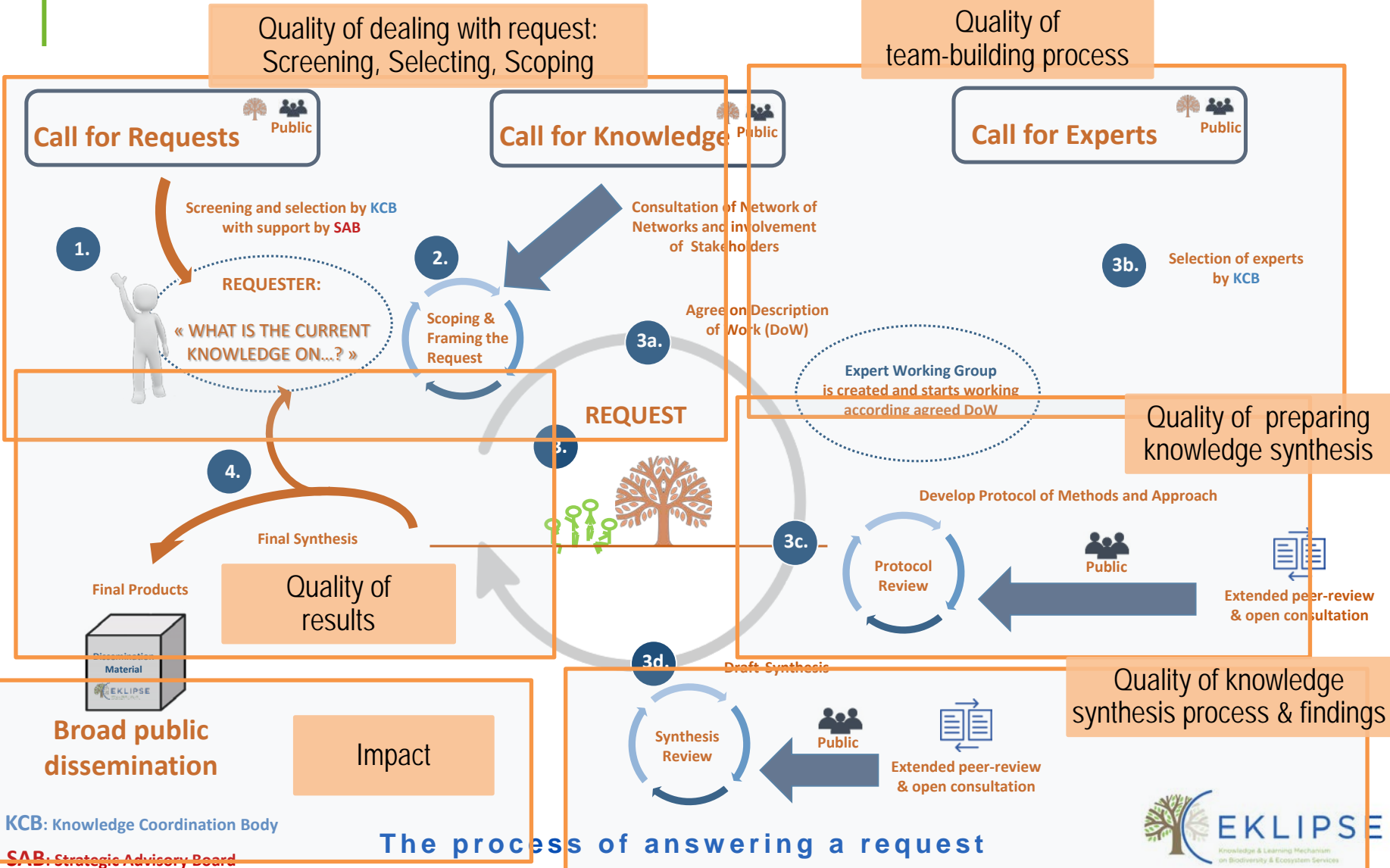


## Example: Formative Evaluation

- Project:  
EKLIPSE - Establishing a **E**uropean **K**nowledge and **L**earning Mechanism to **I**mprove the **P**olicy-**S**cience-**S**ociety Interface for Biodiversity and **E**cosystem Services (H2020, 2016-2020)
- Task of formative evaluation:  
Accompany the development of governance structures and (generic) procedures of the mechanism
- Main evaluation questions:  
Are the structures and processes able to provide adequate knowledge synthesis for answering incoming requests?



# EKLIPSE Mechanism procedure



KCB: Knowledge Coordination Body

SAB: Strategic Advisory Board





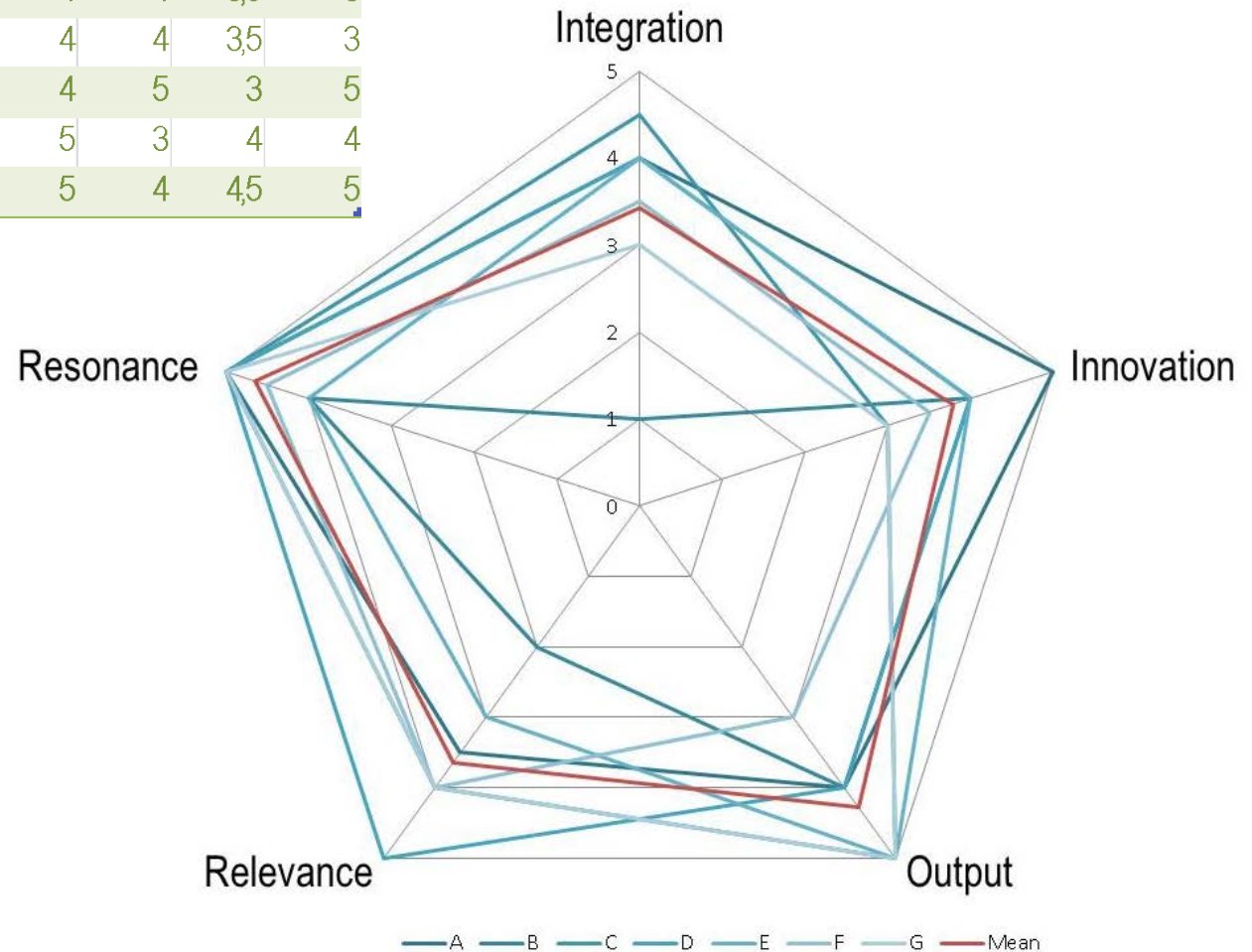
# Forms of Evaluation for (td) research projects

- Summative Evaluation
  
- Formative Evaluation
  
- Self-Evaluation
  - Conducted by the project team members itself, regularly during the project duration
  - Pre-definition of aspects which are important for the project team and regular discussion about their relevance
  - Aims at a dynamic mutual understanding about goals and ways of achieving



# Example: Self-Evaluation

	A	B	C	D	E	F	G
Integration	4	1	4,5	4	4	3,5	3
Innovation	5	4	3	4	4	3,5	3
Output	4	4	5	4	5	3	5
Relevance	3,5	2	4	5	3	4	4
Resonance	5	4	5	5	4	4,5	5





# Forms of Evaluation for (td) research projects

- Summative Evaluation
  - Assessing adequacy of processes or final results/products for a target-actual-comparison with regard to their goals or their (expected) impacts
- Formative Evaluation
  - Aims at improving ongoing efforts, supports reflexivity and iteration
- Self-Evaluation
  - Aims at a dynamic mutual understanding about goals and ways of achieving





# Any questions?

## Evaluation

- **Something is assessed by someone according to certain criteria in some way.**
- **Differ between procedural and summarizing approaches**
- **Evaluators can be external or internal**



# Quality Assurance (QA) Research

## – what are we talking about?

- QA implies a process of tests or filters to ensure that products or services pass a quality threshold (*RIN 2010:7*)
  - seek to ensure that research is properly conducted, and its results are reported accurately, on the basis of the best currently available techniques, knowledge and understanding.
- Disciplinary mechanisms for QA in research, e.g.
  - Good scientific practice , e.g. procedures selection and application of methods
  - Peer-review of publications, project proposals etc.
  - Academic qualification regulations, bibliometrics
- Transdisciplinary mechanisms ?
  - Not standardized (yet)!
  - Main question: What means quality?



## Example: Quality of td research

- Project:  
Quality Guidelines for Policy Relevant Sustainability Research  
(UBA, 2011-2013)
- Starting point:  
Policy relevant sustainability research (PRSR) is defined “to be transdisciplinary research that aims at bringing specific knowledge to bear on policy issues relating to sustainable development”  
*(Jahn/Keil 2015:197)*
- Approach:
  - generic quality dimensions
  - Specific requirement profiles for different actors

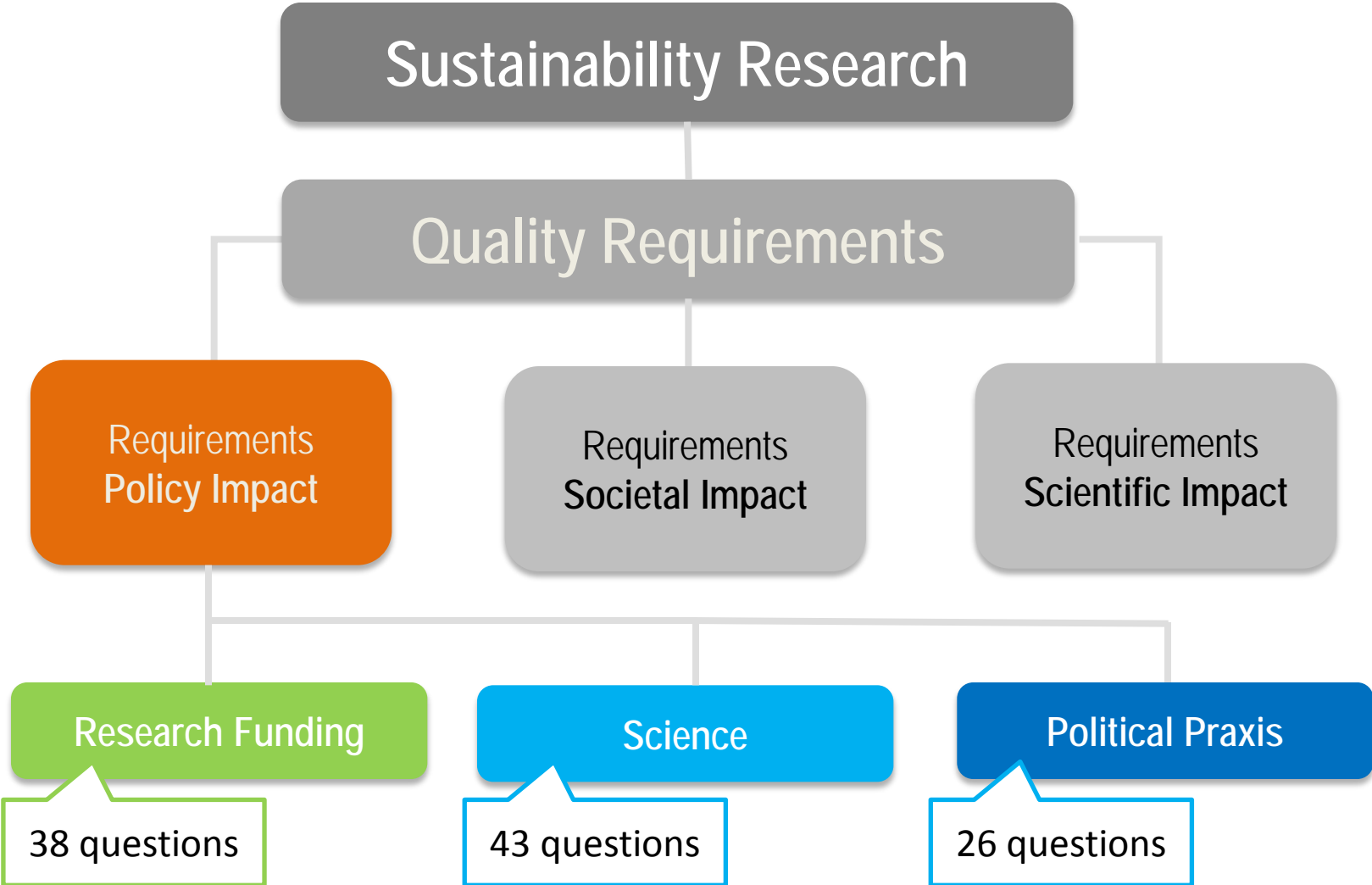
# Quality Dimensions in Sustainability Research



Quality of the Research Problem		
systemic	scale spanning	prospective
Understanding of social-ecological systems, including feedback effects and temporal inertia	Consideration of different spatial, temporal and social scales and of transition effects	Consideration of alternative development paths, critical thresholds and surprises
Quality of the Research Process		
context specific	integrative	method-based
Relation to concrete problems and their respective action and behavioral contexts	Integration at epistemic, social-organizational, and communicative levels	Accountable, transparent production and evaluation of knowledge
Quality of the Research Results		
critical-reflexive	normative	impact-oriented
Uncertainty, ignorance, cognitive boundaries, impact assessment, role understanding	Maintaining the viability of societies, attention to current and future issues of justice	Usability of results, increased capabilities for action, safeguarding knowledge



# Actor specific Requirements



Translated from: Jahn et al. (2013): Politikrelevante Nachhaltigkeitsforschung. Dessau



**Program Manager/Research Funding:**

Do you consider *support* for integration efforts and do you ask the applicants to submit an *integration concept*?

**Policy Maker:**  
Do you *actively participate* in the research process or do you *appreciate offers* by the researchers to participate??

**Researcher:**

Does your project provide for a *continuous transfer of knowledge* among the participating disciplines and between the project team and the participating policymakers?

Quality of the Research Process		
context specific	integrative	method-based
Relation to concrete problems and their respective actions, behavioral consequences	Integration at epistemic, social-organizational, and communicative levels	Accountable, transparent production and evaluation of knowledge
		impact-oriented
Usability of results, increased capabilities for action, safeguarding knowledge		

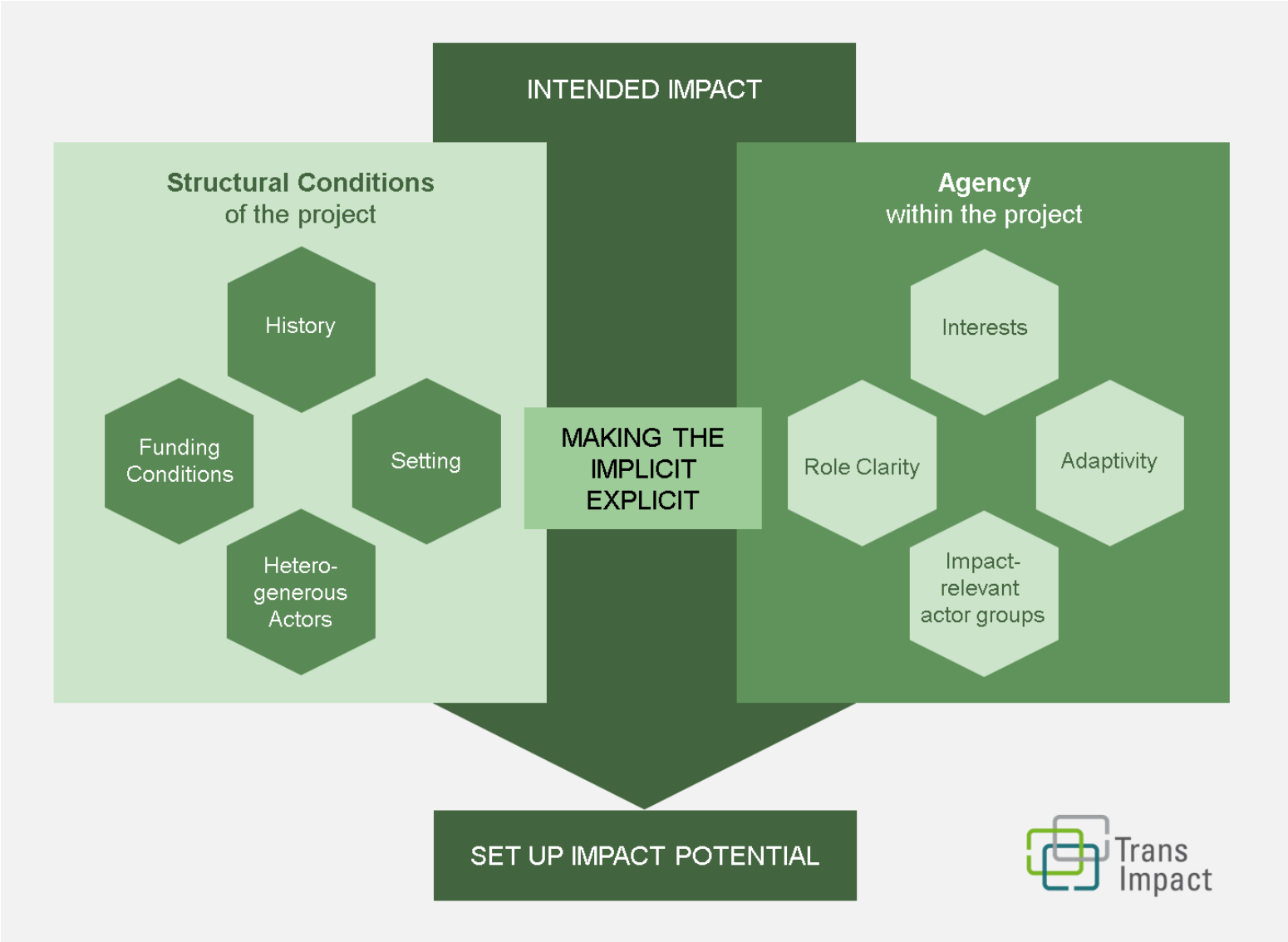


# Requirements for impactful td research

- Project: TransImpact
- Quality related research question:  
How to facilitate td research processes that support creating potential impacts?
- Approach
  - Assessment of finished td projects regarding their impacts and draw conclusions on what was important to reach these effects
  - Taking into account:
    - => framework conditions
    - => projects' governance
    - => methods and procedures applied
    - => successful and failed examples



# Understanding impacts of td research





# Recommendations for impactful td research



## Problem constitution: Making the implicit explicit

- Clarify interests of participants (society and science!)
- Identification of relevant actor groups
- Clarify roles and functions within the project
- Be prepared for the need of adaptation

## Participation: Be reflexive and adaptive

- Being aware of changes in interests
- Review the selection of actors involved
- Review how roles are accomplished

## Knowledge integration: from basic concept to specified processes

- Create rooms for integration
- Clarify responsibilities for integration
- Choose relevant knowledge and give reasons for the selection
- Support cognitive integration by organizational and communicative means
- Profound understanding of rationales in the field of action
- Support culture of collaboration



# Some methods for quality assurance in td research

- Tandem principle for leadership functions
- Co-Writing (proposals, publications, documentations etc.)
- cross-disciplinary and cross-sectoral proof-reading of publications
- Systematic feedback on content and social dynamics
  - Milestone workshops
  - Self-evaluation
- joint risk analysis
  - matrix how to handle potential risks
  - swot-analysis
- ...



# Any questions?

## Quality assurance

- It has to be clarified what kind of quality is required
- Criteria-based quality assurance is close to evaluation efforts
- Recommendations for research practice may help to facilitate self-reflection on quality in td projects



# Workshops

## Formative Evaluation

Task:

Develop an evaluation concept for a project

Example:

EKLIPSE or choose your own

Directed by Alexandra Lux

## Quality Assurance

Task:

Practice how quality assurance can be implemented in a project

Example:

Choose your own

Directed by Diana Hummel