Don‘t Use This Toolbox

If you don‘t want
your knowledge to leak out

Congratulation!

This Knowledge & Technology Transfer (KTT) Toolbox supports researchers, project managers, program coordinators and knowledge brokers in their efforts to render knowledge sharing more effective.

Just get started!

Get started!

This starter kit contains 30 KTT tools, plus some empty cards to add your own. For easy navigation, each tool is classified according to 6 criteria. To find a tool that best suits your needs, follow these steps:

Step 1: Select 2-3 criteria describing your needs and framework conditions.
See card 1!

Step 2: Use the color code corresponding to different project phases.
See card 2!

Step 3: Rule out the tools you don't want.
See card 3!

Selection Criteria

Information	< 20	< 1 day	< 500 CHF/yr	Little
Consultation	20-50	1-7 days	500-10'000.-/yr	Medium
Dialogue	> 50	> 7 days	> 10'000.-/yr	Advanced

The criteria above help you finding suitable tools for Knowledge & Technology Transfer. There is no need to use all criteria. Just pick 2-3 of your choice.

The **direction of information flow** can be unilateral, when scientists publish results in a newsletter or if stakeholders are consulted for an input. A great potential lies in the interaction with other people through dialogue or collaboration.

Target group size matters! We differ between small, medium and large groups, each with its own dynamics, opportunities and challenges. You still might split a large group into small ones to work with the tool of your choice!

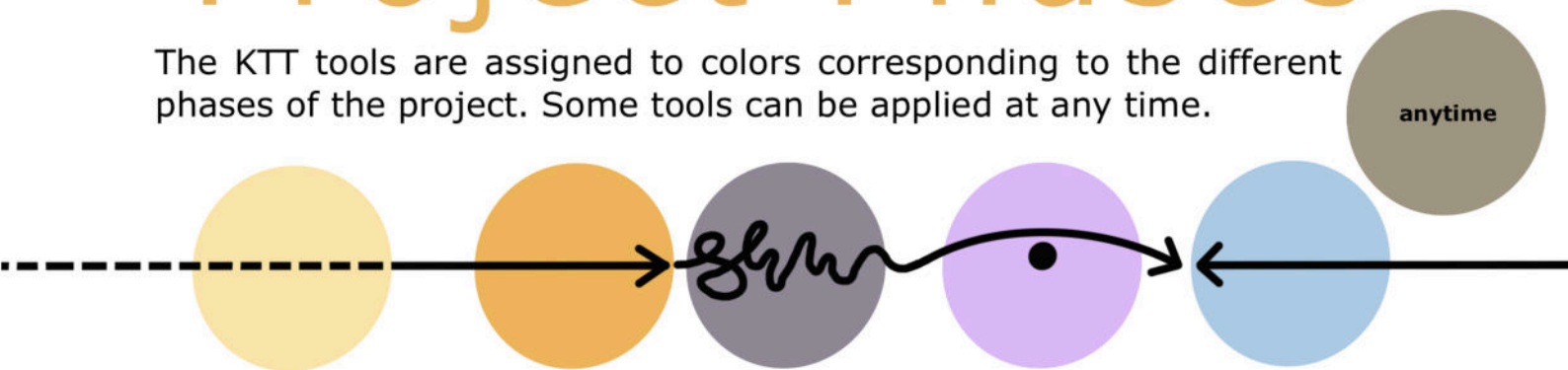
The **attention span** of your clients is crucial! Can they spare just a few hours? Or can you work with them for several days or even a longer period? Most of our proposed tools are suitable for quick exercises yielding immediate results.

The **budget** for your KTT exercise is, of course, linked to target group size, attention span and the necessary infrastructure and gadgets required. Often, the budget is limited, so we picked plenty of tools you can implement with little or no cost.

Qualification needed: Some tools work like simple cooking recipes requiring only little moderation skills. For others, some experience or sound preparation is an asset (medium), while a subset of tools might require some professional support - or great courage!

Project Phases

The KTT tools are assigned to colors corresponding to the different phases of the project. Some tools can be applied at any time.



Concept Development is the marriage between vision and reality. It identifies stakeholders and ideally defines the scope of the project and products in a joint manner. This toolbox helps to agree on processes, outcomes and products.

Planning is key to success! It includes a project plan, a schedule, milestones, deliverables, and requirements. Specifying such will help you managing time, costs, changes and risks. Good planning prevents conflicts and enhances the quality of your project.

Implementation is the longest and most demanding project phase targeting at the production of the promised results. Unexpected occasions and conflicts are often part of it. KTT tools can help clarifying or solving them.

Final Phase
Comparing actual with planned performance allows to detect deficits and to take corrective action.
When your team is still complete, this is the best time to think about communication, dissemination and exploitation.

Post-Evaluation is a great learning opportunity to improve performance next time. Take a fresh look on the project achievements, the team, the KTT tools applied, and opportunities for your next research proposal!

Tool Finder

This process allows you to find a set of suitable KTT tools for your project.

Insert the stick in the hole that fits your interest (e.g. tools for large groups).

Lift the cards, these are the rejected ones. Suitable tools remain in the box.

Put them aside (e.g. in the back part of your card box).

Repeat 2-3 times until you have your finest selection!

Using the stick is one option. You may also browse through the cards manually!

Concept Development

Actor Constellation

A role-play to assess the relevance of various stakeholders

Dialogue, Collaboration

< 20

< 1 day

< 500 CHF/yr

Medium qualification

Actor Constellation

This tool first identifies relevant actors, their disciplines and social roles in relation to your research project. Second, it helps to better define specific needs, interests and expectations for both sides. Thereby, it supports project leaders in managing interactions with multiple stakeholders from different disciplines.

How does it work?
Step 1: Identify the ten most important actors and stakeholders, their disciplines and societal roles.
Step 2: Position these stakeholders in relation to the research question in the physical space (put them close if very important, more distant if loosely related), either with real persons in the room or with paper figures on the table.
Step 3: Specify the types of influence. Adjust the initial positioning if necessary until all agree.

If done in a physical setting with real people, some moderate facilitation skills are useful!

Reflections

Concept Development

Morphological Box

Exploring options within system boundaries

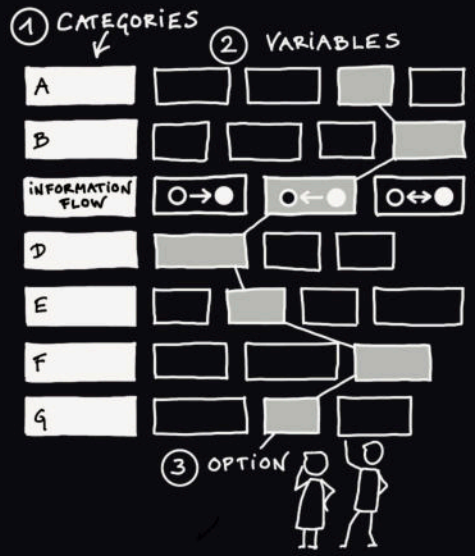
Dialogue, Collaboration

< 20

< 1 day

< 500 CHF/yr

Little qualification



Morphological Box

This is a splendid tool to break down complexity and to jointly decide on system boundaries. The Morphological Box is a multi-dimensional matrix describing possible options in a comprehensive and neutral manner. It can be applied to almost every system. For joint system understanding, you should definitely develop the box with a group!

How does it work?
Step 1: Define most relevant variables describing your system ("Categories") and write them on cards (e.g. "direction of information flow" as one determinant of the KTT system). You may cluster them, add headings, and arrange them vertically on a wall paper.
Step 2: For each "Category", write down all possible options ("Variables") and place them horizontally next to the "Category" (e.g. Information; Consultation; Dialogue). Repeat until the matrix is filled.
Step 3: Use the box to decide on your system boundaries or preferred options to take. Clarify which options or variables to consider and which to discard.

Reflections

Concept Development

Participatory Video

Giving local people a voice to enhance relevance

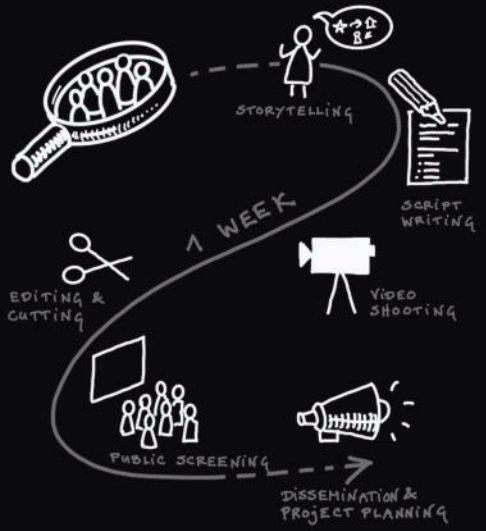
Consultation

<20

1-7 days

>10'000 CHF/yr

Advanced qualification



Participatory Video

Participatory Video is a great tool to empower citizens, enhance research and drive innovation. Precondition is a community or stakeholder group whose experience, knowledge and priorities you like to tap in order to set objectives or to build your project plan. At least one week, 5-9 local experts and sufficient funding is needed to facilitate the production of a Participatory Video.

How does it work?
Step 1: Let the community identify problems, needs & potentials. Let local people tell their stories!
Step 2: Moderate the discussion and decision-making on main issues. Let them write a script!
Step 3: Hand over the video camera and let them shoot videos, fail, try again, fail, and learn.
Step 4: Allocate sufficient time for editing and cutting the footage. The decision as to which material is used lies with the community. Target at a 10-minutes film, not more.
Step 5: Organize a public screening and make sure you capture the reactions of the audience.
Step 6: Disseminate the video to trigger local activities and develop or adjust your project plan!

Reflections

More: www.insightshare.org

Concept Development

Ten Steps

to render research societally relevant

Taking a step back to revise research questions

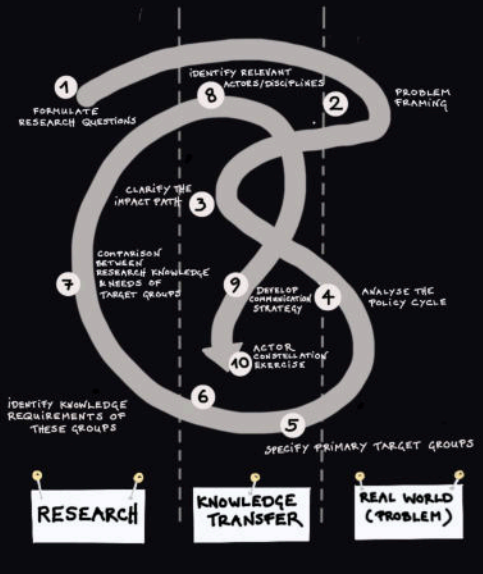
Dialogue, Collaboration

< 20

1-7 days

500-10'000.- CHF/yr

Medium qualification



Ten Steps

At the initial stage of a transdisciplinary research project, this systematic procedure can help to re-adjust your research plan. It will take at least one day. Working in a nice environment and a interdisciplinary team is certainly more stimulating for the mental journey. It is organized in 10 steps:

Step 1: Formulate research questions
Step 2: Problem framing
Step 3: Clarify impact path
Step 4: Analyse policy cycle
Step 5: Specify target group(s)
Step 6: Identify knowledge requirements
Step 7: Compare research knowledge with needs
Step 8: Identify relevant actors
Step 9: Develop communication strategy
Step 10: Actor constellation exercise

During the journey, you will pass the world of research, the world of practice (real) and the space between (knowledge transfer). For further guidance:
Pohl et al. 2017. Ten reflective steps for rendering research societally relevant. GAIA 26(1): 43-51.

Reflections

Concept Development

Roadmap Development

A timeline of how a product or project evolves over time

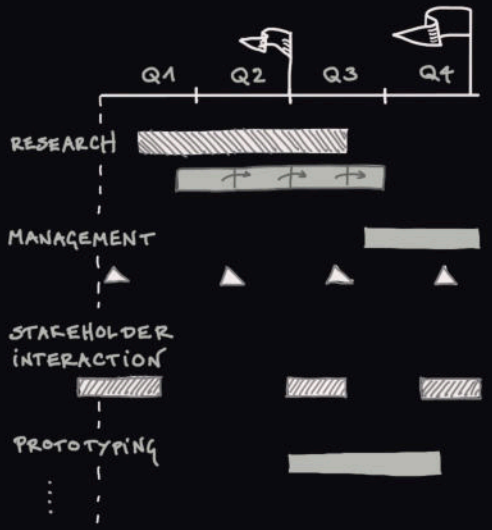
Dialogue, Collaboration

> 50

> 7 days

< 500 CHF/yr

Advanced qualification



Roadmap Development

A roadmap is a strategic plan that defines a goal or desired outcome, and includes the major steps or milestones needed to reach it. Ideally, it should be a product of collaboration and include the input of many stakeholders and cross-functional teams.

What are the essential pieces of a roadmap?
Timeline: You don't need to list specific dates. "Q1, Q2, Q3" or "March, April, May" will do it!
Goals: Setting goals or objectives is crucial to organize activities towards achieving them. This could be, for instance, the generation of new scientific findings, the development of a new technology, setting up a pilot & demonstration site, or achieving a fundamental system change.
Features: In science, these are often broadly labelled as Work Packages. You can create a hierarchy down to specific subfeatures (e.g. KTT, which should likely be an element of each Work Package).

Reflections

Planning

Best Practice Contest

A worthwhile investment for finding innovative ideas & partners

Dialogue, Collaboration

21-50

> 7 days

> 10’000 CHF/yr

Advanced qualification

Best Practice Contest

The Best Practice Contest is an inclusive and effective tool to identify potential project partners in an unknown environment. Although it requires quite some resources in terms of time, know-how and funding, it helps building a community with people of similar interest and disseminating innovative ideas.

How does it work?
Step 1: Design the contest (e.g. the search for best green energy practices in rural communities) and publish the call (e.g. TV, radio, Social media). Organise attractive prizes for the winners (e.g. seed-funding, training, hardware).
Step 2: Define evaluation criteria and put together a competent committee to assess the submissions.
Step 3: Invite winners AND their competitors for an award ceremony. Make it a pleasant knowledge exchange and networking occasion. Decide, together with the winners, on the kind of prize that is most useful.
Step 4: Start your collaboration with your new partners, e.g. a follow-up project or an agreement between your research institute and the enterprise, community or school.

Reflections

Planning

Functional-dynamic Stakeholder Involvement

Whom to involve why, when, and how?

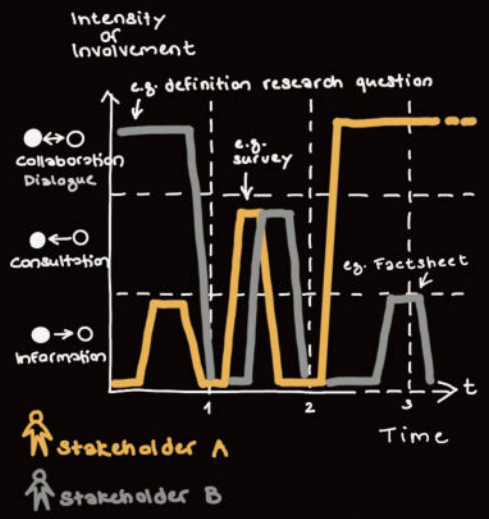
Dialogue, Collaboration

< 20

1-7 days

< 500 CHF/yr

Medium qualification



Functional-dynamic Stakeholder Involvement

This tool helps research teams to get organized. Not all stakeholders need to be involved at the same level of intensity throughout the project. This planning tool helps to specify the *functional* involvement related to the goal of the project step, and the *dynamic* involvement related to the required involvement intensity (information, consultation, dialogue/collaboration). In other words: Who needs to be involved for what purpose, when, why, how and regarding what aspects.

The result is a diagram, similar to a fever curve, showing the involvement of different stakeholders along a time line. Different stakeholders may be involved in parallel at a certain point in time. Furthermore, there is a documentation of why (substantive, instrumental, normative, rationale), and for what aspects of the project, the respective stakeholders will be involved.

More: www.naturwissenschaften.ch > td-net Toolbox

Reflections

Planning

Give-and-Take-Matrix

Rendering information needs and flows visible in interdisciplinary teams

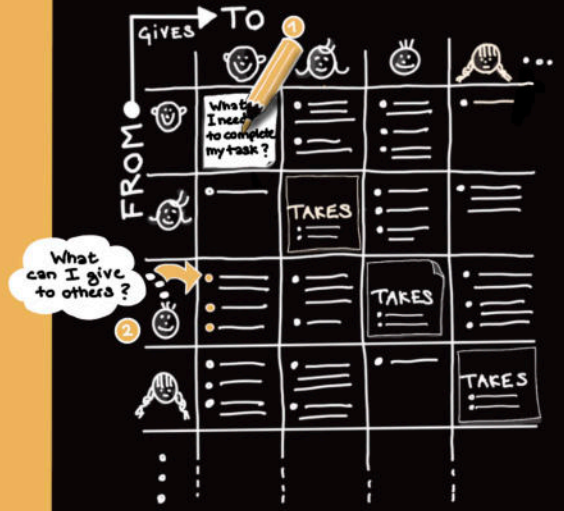
Dialogue, Collaboration

< 20

< 1 day

< 500 CHF/yr

Little qualification



Give-and-Take-Matrix

The Give-and-Take-Matrix is a structured and simple process allowing diverse research teams to establish links between individual research parts or subprojects. It is ideally conducted in the project design or planning phase, and can be checked on a regular basis. This exercise can be done during a 2-3 hours workshop.

How does it work?
Step 1: Everybody writes down needs (the "take") into the diagonal fields of the matrix. This might be information, data, formats, contacts or products.
Step 2: Everybody checks these needs and adds possible support (the "give") in the other fields of the matrix. This is specific for each partner and can relate to any input or contribution.
Step 3: Jointly discuss needs and offers (the "takes" and "gives"). Agree on next steps, a time schedule, and possibly on certain rules.

Reflections

Planning

Outcome Spaces Framework

Getting explicit about what you want

Dialogue, Collaboration

< 20

< 1 day

< 500 CHF/yr

Medium qualification

Outcome Spaces Framework

This framework allows to reveal, categorise, articulate and evaluate the anticipated impact of a (research) project. It is perfect to make unspoken - even unconscious - expectations in a project team visible and to agree on what is feasible within the project implementation and what not. It takes min. 1-2 hours.

How does it work?
Step 1: Draw 3 large overlapping circles on a wall paper distinguishing between (i) improving the *situation* or field of inquiry, (ii) generating relevant stocks or flows of *knowledge,* and (iii) mutual and transformative *learning* by researchers and partners (or other appropriate categories).
Step 2: Participants write their expectations on cards and stick them on the map.
Step 3: The moderator goes through each space inviting further explanations if necessary.
Step 4: The group discusses and decides for each expectation whether it falls inside or outside the project boundaries (additional circle in the center), and how in the next step these preferred outcomes might be incorporated into planning.

Reflections

Planning

Problem Reversal Technique

Change of perspective for serious matter

Dialogue, Collaboration

< 20

< 1 day

< 500 CHF/yr

Little qualification

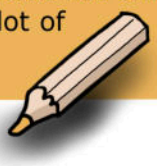
Problem Reversal Technique

Most projects face minor hiccups or major conflicts during implementation, although scientists ought to act with reason and prudence. The source of conflicts often lies in differing expectations, work styles and organisational settings. The problem reversal technique (in German "Kopfstandanalyse") is an enjoyable, team-building tool to address serious matters.

How does it work?
Step 1: Pose a question that matters for the project, e.g. "How to successfully complete the research task in four years?". All of us have been trained to be notoriously positive.
Step 2: Reverse the question, turning it negative: "How to ensure the research task to fail?".
Step 3: Brainstorm in the team on factors conducive to "make it fail". Dig deep in your experience and list the factors on a flip chart.

You will see, this exercise not only yields insights for future project implementation (mistakes to avoid), but also generates a lot of fun, thereby enabling you to talk about unpopular problem fields!

Reflections



Planning

Research Marketplace

Stimulating exchange between project teams & stakeholders

Dialogue, Collaboration

< 20

< 1 day

< 500 CHF/yr

Little qualification

Research Marketplace

The Research Marketplace resembles a 2-3 hours poster session presenting (sub)projects with a potential to be linked. In contrast to classical poster presentation, it focuses on collecting feedback, e.g. by providing blank space on the poster for individual messages.

How does it work?
Step 1: Individual project poster preparation. Setting up the posters in the room.
Step 2: Everybody visits the poster leaving helpful notes and ideas on the poster. No need to talk.
Step 3: Individual review of the collected notes by the owner of the poster.
Step 4: Short discussion on each poster bilaterally or in the plenary, eventually adding more notes, conclusions or tasks.

Step 1 can be done beforehand to save time. If done thoroughly and if the post-processing of ideas is included, this exercise might require an attention span of more than one day.

Reflections

Implementation

Design Thinking

Finding solutions with the involvement of everyone

Dialogue, Collaboration

< 20

1-7 days

500-10’000 CHF/yr

Medium qualification

Design Thinking

This iterative process tackles pressing questions with the active engagement of everyone, not just scientists or so-called experts. In five steps, it seeks to understand the user, challenges assumptions, and redefines problems in an attempt to identify alternative strategies and solutions. Agreeing on such a system view, developing prototypes, and testing them will take at least one day.

How does it work?
Step 1: *Empathize* - Observe and gather information on the problem situation.
Step 2: *Define* - Question the problem, assumptions and implications. Agree on most important insights. Create a point-of-view problem statement: *„X needs/is lacking Y because of/due to/although Z"*.
Step 3: *Ideate* - Brainstorm on potential solutions in several rounds. Each idea counts.
Step 4: *Prototype* - Transform the chosen ideas into physically concrete objects or conceptual papers. You may use Lego pieces, cardboard, clay, paper, etc. to make ideas as concrete as possible.
Step 5: *Test* - Present prototypes to other stakeholders to incorporate their feedback early.

Reflections

Implementation

Emancipatory Boundary Critique

Asking inconvenient questions to „experts"

Dialogue, Collaboration

< 20

< 1 day

< 500 CHF/yr

Advanced qualification

Emancipatory Boundary Critique

The key to emancipatory boundary critique is a checklist of 12 boundary questions that „non-experts" pose to the „experts". The questions are organized along four themes: Motivation, Power, Knowledge and Legitimation. They challenge the experts' suggested solutions to a problem and the solution's social, economic and ecological implications. Hence, the method can be applied, for instance, if researchers have developed solutions they like to propose to practitioners. The outcome is a broader understanding at both sides. Such dialogue meetings require at least 1-2 hours to yield some trust and insights. Exemplary questions are, for instance,

Who is the client or beneficiary?
What is the measure of success?
Who is the decision-maker in this system?
Who is considered a professional or expert?

More: www.naturwissenschaften.ch > td-net Toolbox

Reflections

Implementation

Knowledge Platform

A web-based pool of open access information

Information

> 50

< 1day

500-10’000 CHF/yr

Medium qualification

Knowledge Platform

Knowledge platforms are web-based information platforms addressing specific target groups. They provide tailored news, databases, tools and methods, trainings or webinars, or even communication platforms to share publications or lessons learnt. As such, they can stimulate the building of knowledge communities and foster access to and transfer of information during project implementation. After completing the project, knowledge platforms serve as an information repository - provided that the website is actively maintained in the long term.

Examples:
Climate Policies and Actions https://transparency-partnership.net/network/knowledge-platforms
Environmental Research Data Switzerland ENVIDAT www.envidat.ch
European Platform for corporate renewable energy sourcing https://resource-platform.eu
Joint Activity Scenarios and Modelling Data Platform https://data.sccer-jasm.ch
SWEET PATHFNDR Model Toolbox https://sweet-pathfndr.ch/toolbox

Reflections

Implementation

Most Significant Change

Monitoring change without indicators

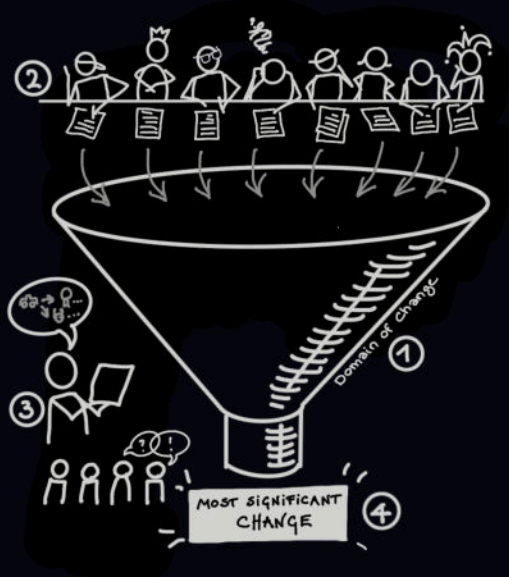
Dialogue, Collaboration

< 20

< 1 day

500-10’000 CHF/yr

Medium qualification



Most Significant Change

This technique is applied to complex interventions and other social change programs, either during or at the end of a project. It uses individual stories on important outcomes that are then systematically discussed to identify significant changes and to derive learnings.

How does it work?
Step 1: With the help of a moderator, the group agrees on 3-5 relevant domains of change (e.g. collaborative structures, household electricity consumption) and defines the time period to look at.
Step 2: Individuals representing different actor groups describe the most significant changes from their perspectives on 1-2 pages. The stories are allocated to the domains of change defined in Step 1.
Step 3: The stories are read aloud. Following a discussion, the group selects the most significant change for each domain. This can require several rounds of filtering.
Step 4: The final results are discussed with respect to expectations and lessons learnt.

Reflections

Implementation

Toolbox Dialogue Approach

Preventing misunderstandings

Dialogue, Collaboration

<20

< 1 day

< 500 CHF/yr

Medium qualification

Toolbox Dialogue Approach

This tool consists of a set of questions or statements to trigger dialogue between researchers of various backgrounds. It is best used early in a joint process of knowledge production, ideally in a relaxed and moderated 1-day workshop setting. Achieving more clarity about different thought styles, underlying assumptions and world views is a useful investment in effective collaboration.

How does it work?
Step 1: The facilitator prepares a set of questions/statements (www.naturwissenschaften.ch > td-net Toolbox)
Step 2: Participants are asked to respond to these questions individually (open discussion or scoring)
Step 3: The individual answers are discussed in the whole group or sub-groups, facilitated or self-organized.
Step 4: Participants can be asked to respond to the questions/statements a second time.
Step 5: Discussion in the plenary.

Reflections

Final Phase

Evidence Brief for Policy

Science wraps to go!

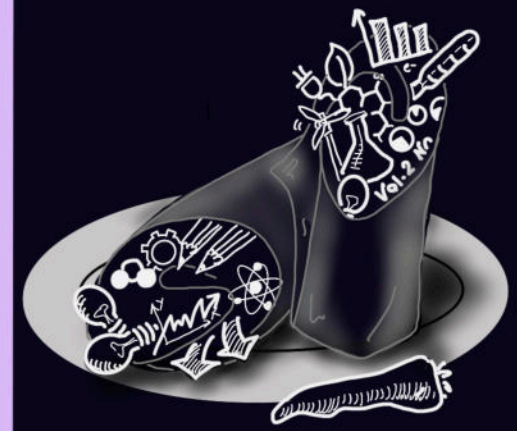
Information

> 50

< 1 day

500-10’000 CHF/yr

Medium qualification



Evidence Brief for Policy

Evidence briefs for policy are well portioned and digestible factsheets or short reports. They address high priority and policy relevant issues that describe the problem, alternative policy options, and policy implementation considerations. Evidence briefs can be chapters embedded in a longer report or published as stand-alone documents. They should be short, clear, understandable, and visually appealing.

Examples:

- IPCC Report 2021. Summary for Policy Makers
  www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM_final.pdf
- Swiss Academies Factsheets
  https://scant.ch/en > Publications > Factsheets
- Vorbild Energie und Klima, Faktenblatt
  www.news.admin.ch/newsd/message/attachments/65466.pdf

Reflections

Final Phase

User-friendly Evidence Summary

Knowledge for practitioners

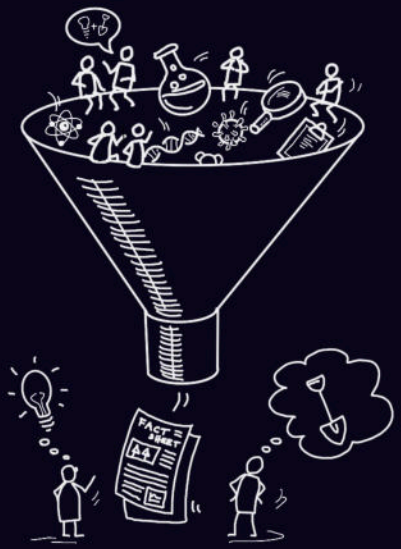
Information

> 50

< 1 day

500-10’000 CHF/yr

Medium qualification



User-friendly Evidence Summary

Evidence summaries are concise, science-based, plain-language factsheets of a few pages. They describe the current state of knowledge related to a pressing problem, present different options and conclude with concrete recommendations for practitioners. As such, they are narrow in scope and address a specific audience to support them in their decisions and actions.

Examples:

- EAWAG Factsheets
  www.eawag.ch/en/consulting/knowledge-and-technology-transfer/publications-for-practitioners
- WSL Merkblatt für die Praxis
  www.wsl.ch > Merkblatt für die Praxis
- Merkblätter der Umweltfachstellen
  www.umwelt-zentralschweiz.ch

Reflections

Final Phase

TEDx Powerhouse

Spreading a great idea in a 12 minutes talk

Information

> 50

< 1 day

> 10’000 CHF/yr

Advanced qualification

TEDxPowerhouse

A TEDx Talk is a showcase for speakers presenting great ideas (research findings!) in a well-prepared 12-min pitch on occasion of a large public event. All presentations are recorded and available online. In Switzerland, TEDx talks are organised annually at the SRF Studios Zurich with a mixed audience. Both speakers and participants in the audience need to apply and are selected on a competitive basis in order to foster a creative, engaged and diverse community. The one-day event hosts several talks and a market place for start-ups. It is enriched with several performances to make it glamorous. A smaller alternative is the organization of a licences TEDxSaloon.

Organizing a TEDx event, even a small one, entails a lot of work and costs. A reasonable option is the proposition of your most talented team members as TEDx speakers. This will require a lot of preparation and rehearsal time as well, yet will grant a lot of visibility and eternal fame!

More: www.ted.com

Reflections

Evaluation

Educational Outreach

Set off the spark!

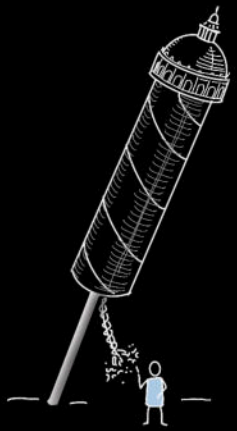
Information

> 50

< 1 day

> 10’000 CHF/yr

Medium qualification



Educational Outreach

Educational Outreach aims at the broader public and includes a variety of activities, such as open days, exhibitions, guided tours, real laboratories, experiments, demonstration sites, lab visits, panel discussions and more. If possible, these activities take place at the field site, the research institute or at the pilot & demonstration site. Despite their informative character they equally offer opportunities to foster public dialogue and exchange. Attracting young people into science and technology can be an additional outcome.

Examples:
- Cybathlon https://cybathlon.ethz.ch
- Girls on Ice www.inspiringgirls.org/schweiz
- Scientifica https://scientifica.ch

Reflections

Evaluation

Story Wall

Learnings from a joint retrospective

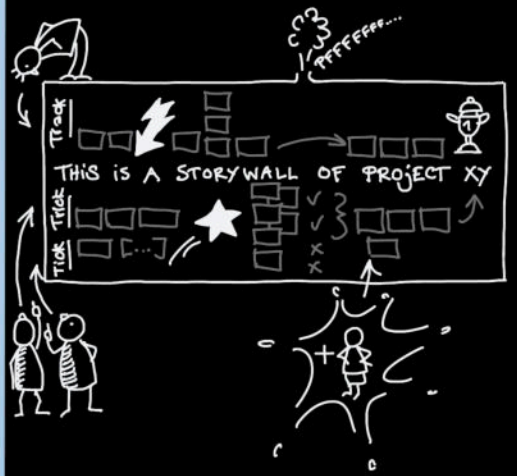
Dialogue, Collaboration

<20

< 1 day

< 500 CHF/yr

Little qualification



Story Wall

The success of a project does not depend on sound planning alone. Unexpected encounters, new partnerships or shifts in the political landscape can stimulate or hamper progress. A joint creation of a retrospective story wall involving different actors can yield important insights and learnings. All you need is a large wall paper, some analytical and open minds, and 1-2 hours time.

How does it work?
Step 1: Draw a simple timeline (horizontal axis) on a large empty poster.
Step 2: The group agrees on and marks major project phases or crucial events of their joint story.
Step 3: Through storytelling individual perspectives of various project partners are collected and visualised on the poster, thereby creating a joint understanding of the past.
Step 4: Discuss what has been important, why and for whom. What are lessons learnt?

Reflections

Evaluation

Translating Knowledge to Practice

An extra job. Team up with experts!

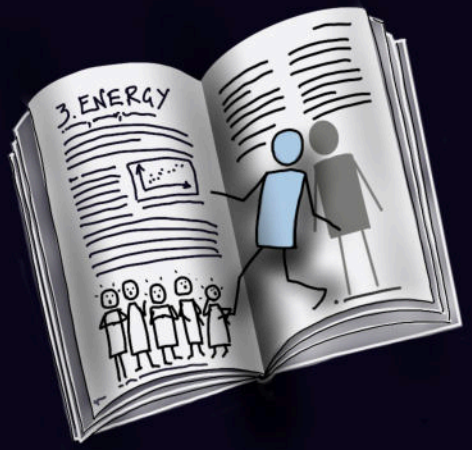
Information

> 50

< 1 day

> 10’000 CHF/yr

Advanced qualification



Translating Knowledge to Practice

Most research projects produce results, methods or tools worth sharing. Yet, at the end of the project implementation, most research projects have neither time nor money for dissemination. Even worse: the team has dissolved and turned the attention elsewhere.
Some funding schemes target at this gap. While some provide funding for creative communication and dissemination products and activities (e.g. www.snsf.ch > Agora), others provide funding for systematic screening of completed projects for useful information worth to share (e.g. done by the European FP7 in the past). To make information available on a database, a repository (WIKI), website or through a visualisation, film, or an interactive activity, requires a larger team of specialists, much more time, and much more money.

The best way is still to allocate sufficient funding for "translators" and "translating activities" in your own project, from the beginning!

Reflections

Anytime

Dialogue Pictures

Mastering complexity without words

Dialogue, Collaboration

21-50

> 7 days

> 10‘000 CHF/yr

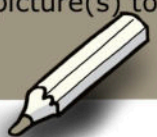
Medium qualification

Dialogue Picture

Developing and fine-tuning Dialogue Pictures is often a multi-year process integrating different types of knowledge and stakeholder groups. Evolving in an iterative process, the picture is a central piece around which new views and strategies can be developed. Since visualised information is detached from disciplines, persons and hierarchies, it provides neutral ground for dialogue.

How does it work?
Step 1: Collect system views and questions from the staff or stakeholders concerned with the system transformation, e.g. a community or company.
Step 2: A small team answers the questions by developing a picture presenting the system, including interdependencies (e.g. between "science and practice" or "impacts and responses").
Step3: Present the picture to sectoral or disciplinary focus groups. Let them evaluate, propose amendements or ask more questions.
Step 4: Repeat step 2 and 3. Invite additional interest groups to critically check the picture(s).
Step 5: Use the final picture(s) to address specific questions or to develop a change strategy.

Reflections



Anytime

Hackathon/ Hackdays

Coding solutions in light speed

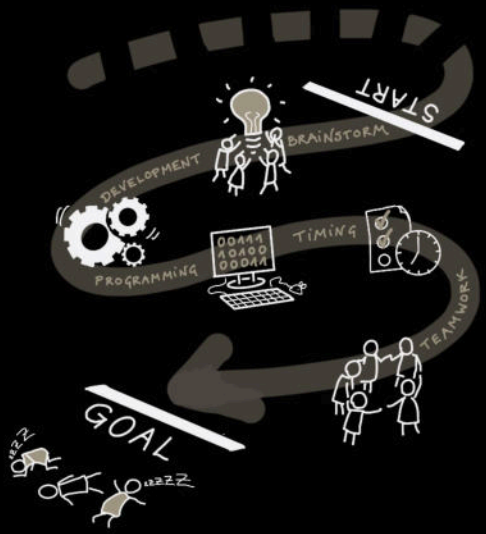
Consultation

21-50

1-7 days

> 10'000 CHF/yr

Advanced

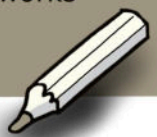


Hackathon / Hackdays

A hackathon is a 24-72 hours hyper-stimulating event often organized at weekends. Teams of software programmers, graphic designers, interface designers, project managers, domain experts, and others get literally locked in a room, equipped with a tight deadline and plenty of snacks, to compete with other teams in developing solutions, e.g. a functioning software application or a prototype, in a very short time frame and with little (or no) sleep. Costs are relatively high and incure by the prize money and the event itself. The financial gain isn't what usually attracts people; rather the fun and competitive spirit. To get the most of a Hackathon event, teams can form up in advance, although this is not a precondition.

Examples of Hackathon tasks:
- CO_2 reduction of data centers
- Regenerative finance for smart energy communities
- Heat monitoring networks

Reflections



Anytime

Maverick Event

Fishing feedback outside the pond

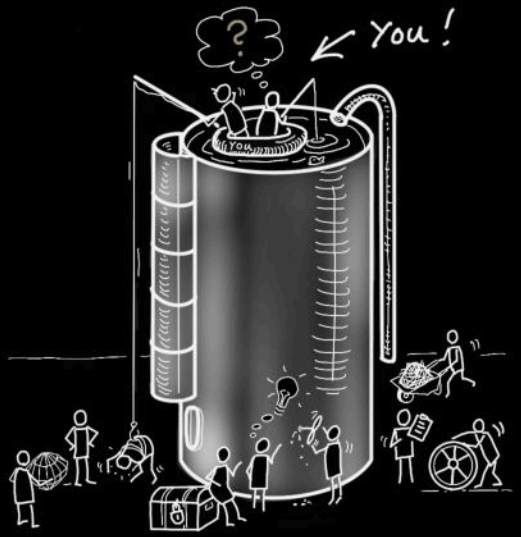
Consultation

< 20

< 1 day

500-10'000 CHF/yr

Little qualification



Maverick Event ("Querdenker-Anlass")

A critical check of your project or business idea requires a counterpart with at least 4 qualities: not competing with you, familiar with the local context, completely unbiased, and willing to plunge into "your pond" for at least a few hours.
A Maverick Event offers a group of such experts. It is a service to entrepreneurs and executives who seek input and critical thinking from experts outside their traditional business. Some Maverick Events are offered on established platforms (e.g. www.querdenkerpool.ch) with a pool of experts working for free if you gather them in a place with nice treatment. Guided by a professional facilitator, methods like Design Thinking are applied to support the strategic alignement of your company, the development of new products or services or to discover new markets or project ideas.

Of course, you can also establish your own pool of experts! Key is to always fish fresh minds outside your pond!

Reflections

Anytime

Practice-Oriented Meetings

A platform for regular knowledge transfer

Information

21-50

< 1 day

500-10‘000 CHF/yr

Medium qualification

Practice-Oriented Meetings

Practice-Oriented Meetings respond to the growing need of industry, economics and society for up-to-date research, e.g. on new technologies, tools, information platforms, or social innovations. Therefore, research institutions offer regular knowledge transfer platforms. While some target at a very specific audience, others are open for the general public. If conducted in the course of the project, such platforms offer the opportunity to obtain feedback from practitioners, which in turn could be useful for optimising your products or outcomes.

Examples:
Empa-Akademie - Center for Knowledge Transfer, Dübendorf/St. Gallen
Praxis-orientierte EAWAG-Kurse, PEAK, Dübendorf/Kastanienbaum
WSL Forum für Wissen, Birmensdorf/Lausanne
SCS Tech-Event, Supercomputing Systems, Zurich

Reflections

Anytime

Simple Factor Analysis

Find factors that really matter for reaching your goals

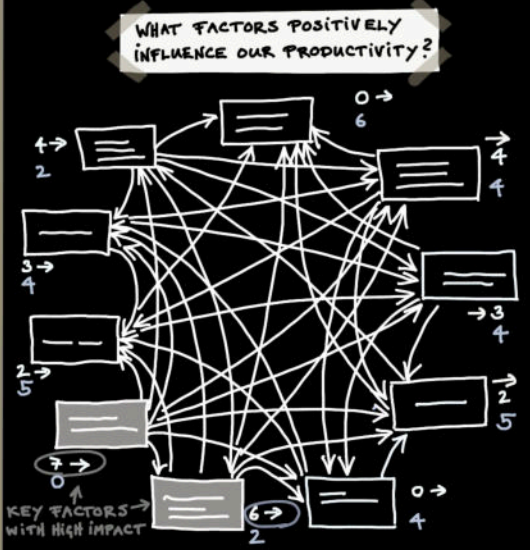
Dialogue, Collaboration

< 20

< 1 day

< 500 CHF/yr

Little qualification



Simple Factor Analysis

This simple, yet very involving procedure helps identifying most powerful factors (social, technical, structural) leading your project team to success. It enables your team to be explicit about needs. It requires min. 3 hours - they are well invested! Suitable for groups of max. 7 people.

How does it work?
Step 1: Agree on a positive question to be addressed (e.g. which factors stimulate cooperation?).
Step 2: Identify factors that influence the positive output (e.g. regular meetings, inclusive teamwork). Write them down on a large paper.
Step 3: Vote on the most important factors (e.g. 5 votes/person), then transfer the 10-12 most important ones to a large wall paper placing them in a circle.
Step 4: Put all factors in relation to each other drawing arrows (e.g. A influences B). Note: Arrows can only point in one direction, not in two! If there is no relation between A and B, don't draw a line.
Step 5: Count outgoing and incoming arrows to identify factors that are key (e.g. good cooperation). Pay attention to them if you want your project to succeed!

Reflections

Anytime

Solution-oriented
Group Coaching

Solution finder & teambuilder in one

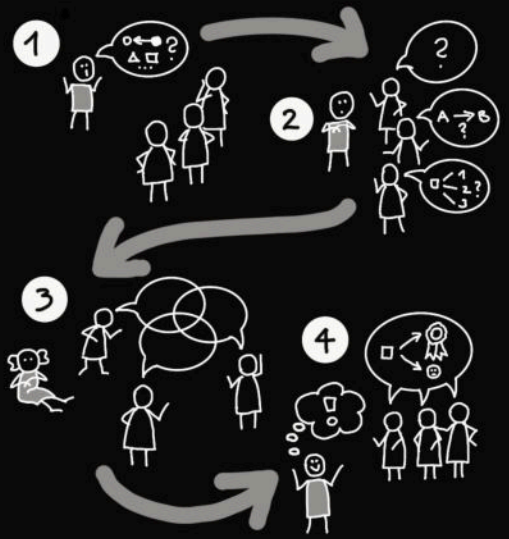
Dialogue, Collaboration

< 20

< 1 day

< 500 CHF/yr

Little qualification



Solution-oriented Group Coaching

This is a 15-30 minutes do-it-yourself coaching tool for small groups of 4-5 people. It can be applied anytime to remove obstacles, solve conflicts, or to identify options. The tool works for both, established teams or new groups. It will yield solutions, and if not, at least a mutually supportive spirit in the team!

How does it work?
Step 1: One person reports for 2-3 minutes on a specific challenge, e.g. a conflict or decision to be made. Others listen carefully without intervention.
Step 2: Listeners ask back for clarification or further details to fully grasp the situation.
Step 3: The reporting person withdraws taking the position of a passive listener, e.g. by sitting in the background (or switching off the camera). With a positive mindset, the former listeners discuss their impressions of the situation bringing in own experience in order to develop possible pathways for action. This is done in an undisturbed atmosphere without intervention or explanation from the person in the background.
Step 4: One person summarises the thoughts and advice from the group.

Reflections

Anytime

Theory of Change

Aiming at impacts within & beyond the project boundary

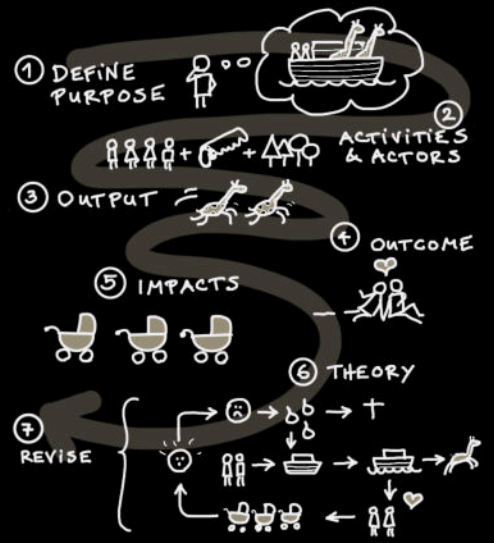
Dialogue, Collaboration

21-50

1-7 days

500-10'000 CHF/yr

Advanced qualification



Theory of Change

If your (research) project aims at triggering change, this is the right tool for planning, monitoring, evaluating, or analysing the system you want to influence! The Theory of Change (ToC) is a model of a change process describing, for instance, how your project is expected to contribute to a process of change. The ToC is typically developed in a workshop setting with a facilitator, the program management, collaborators, and ideally stakeholders. The output is a narrative, table, or diagram.

How does it work?
Step 1: Define the overall purpose of your project, e.g. the transition to Net Zero.
Step 2: Identify main activities, actors involved, and engagement processes planned.
Step 3: Identify the outputs (e.g. knowledge, technology, relationships).
Step 4: Identify outcomes (e.g. effects on actors, such as changes in attitudes or behaviour).
Step 5: Identify impacts (e.g. tangible social, economic, environmental) influenced by the outcomes.
Step 6: Document/analyse underlying theories and assumptions about the main causal relationships.
Step 7: Revise and refine the model.

Reflections

Anytime

Workplace Exchange

Shifting brains & networks!

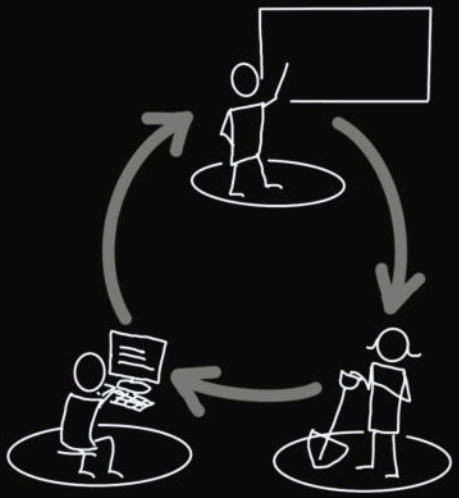
Dialogue, Collaboration

< 20

1-7 days

< 500 CHF/yr

Little qualification



Workplace Exchange

Mobilizing people is a highly effective knowledge sharing mechanism. It transfers codified as well as silent/tactic knowledge, but equally skills and access to networks. Workplace exchange is low-cost, often bilateral, and time-limited. Experts can be exchanged between (sub-)projects, project partners, or institutions. Valuable is the swap between science and practice partners. Of course, each workplace exchange has it own character due to the respective individual task and the overarching work environment in research, business or the public sector.

It might be advisable to involve Human Resources colleagues in the organization of the Workplace Exchange!

Reflections

Go Beyond

Feel free
to add new
KTT tools or
invent your own

Concept Development

Concept Development

Planning

Planning

Implementation

Implementation

Final Phase

Final Phase

Evaluation

Evaluation

Anytime

Anytime

Dig Deeper

If you want to learn more about theories and tools

This KTT-Toolbox is meant as an entry point

A lot remains to be explored, absorbed and tested. At the backside of this card, you find a small selection of our favourite literature, hints to find more tools, and links to best practices.

Happy browsing!

Background literature

Defila R, Di Giulio A Eds (2019). Transdisziplinär und transformativ forschen. Band 2. Eine Methoden-sammlung. Wiesbaden, Springer VS.
European Commission (2015). The plan for the exploitation and dissemination of results in Horizon 2020.
Maag S et al. (2018). Indicators for measuring contributions of individual knowledge brokers. Env. Sc. & Policy 89:1-9.
Vollmar G (2007). Knowledge Gardening: Wissensarbeit in intelligenten Organisationen, Bielefeld.

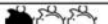
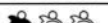
Tools & more

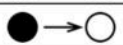
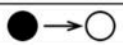
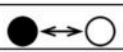
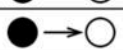
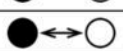
Pohl C, Krütli P, Stauffacher M (2017). Ten reflective steps for rendering research societally relevant. GAIA 26(1):43-51.
Bammer G (2015-2017). Toolkits for transdisciplinarity. GAIA 24(3)-26(2).
Kroegerus M, Tschäppeler R (2017). 50 Erfolgsmodelle. Kein & Aber AG, Zürich, Berlin.
Hinnen A, Hinnen G (2017). Reframe it! 42 Werkzeuge und ein Modell, mit denen Sie Komplexität meistern. Murmann, Hamburg.
td-net Toolbox
www.naturwissenschaften.ch
TEDx
www.ted.com

Best practices

e.g.
Cybathlon
https://cybathlon.ethz.ch
Girls on Ice
www.inspiring.girls.org/schweiz
Scientifica
https://scientifica.ch
Swiss Academies Factsheets
www.scnat.ch
Participatory Videos
www.insightshare.org

More discoveries

Project Phase	Tool	Information Flow	Group Size	Attention Span	Budget	Qualification
Concept Development	Actor Constellation					
	Morphological Box					
	Ten Steps					
	Roadmap Development					
	Participatory Video					
Planning	Research Marketplace					
	Give-and-Take-Matrix					
	Problem Reversal Technique					
	Outcome Spaces Framework					
	Funct.-dynamic Stakeholder Involvement					
	Best Practice Contest					
Implementation	Emancipatory Boundary Critique					
	Toolbox Dialogue Approach					
	Most Significant Change					
	Design Thinking					
	Participatory Video					
	Knowledge Platform					

Project Phase	Tool	Information Flow	Group Size	Attention Span	Budget	Qualification
Final Phase	Evidence Brief for Policy					
	User-friendly Evidence Summaries					
	TEDx Powerhouse					
Evaluation	Story Wall					
	Educational Outreach					
	Translating Knowledge to Practice					
Anytime	Simple Factor Analysis					
	Workplace Exchange					
	Solution-oriented Group Coaching					
	Theory of Change					
	Dialogue Pictures					
	Maverick Event					
	Hackathon / Hackdays					
	Practice Oriented Meetings