

WELCOME

Welcome to the first i2S News for 2020. This is our bi-monthly notification of additions and updates to the resources on the i2S website (<http://i2s.anu.edu.au>). i2S News also provides a list of the latest blog posts on the Integration and Implementation Insights blog (<https://i2insights.org>).

We wish you success and collegiality in the coming year in your contributions to the major strides required to address the complex and urgent societal and environmental challenges facing humanity.

Gabriele Bammer and Peter Deane

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- There have been 7 new contributions since the last i2S News

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UPDATES AND NEWS

i2S website changes

In 2019 we started updating the tools described on the website. This involves using a new standard format, which also includes links to other relevant tools, i2Insights blog posts and resources on Wikipedia. We anticipate that this updating process will continue throughout 2020.

i2Insights update and blog changes

The i2Insights blog has entered its 5th year. Highlights from 2019 and the most popular blog posts are reported at <https://i2insights.org/2019/12/17/fourth-annual-review/>. At the end of 2019 the blog had published 272 posts by 306 authors from 35 countries and was read in 180 of the 193 countries that are members of the United Nations.

We have started re-indexing blog posts with new 'categories' and revised 'tags'. The aim is to make it easier and more efficient to search for blog posts on particular subjects relevant to research integration and implementation. You can read more about the index at <https://i2insights.org/index/>. We had planned to upgrade the blog home page over the Christmas-New Year break, but that's been delayed through circumstances beyond our control. You can keep up to date with progress on improvements to the i2Insights blog at: <https://i2insights.org/about/improvements/>.

New paper and article collection

A new paper on the essential but often overlooked role of expertise in research integration and implementation for tackling complex societal and environmental problems was published in open-access earlier this month. It also lays out what the website and blog aim to contribute towards.

See:

Bammer, G., O'Rourke, M., O'Connell, D., Neuhauser, L., Midgley, G., Klein, J. T., Grigg, N. J., Gadlin, H., Elsum, I. R., Bursztyn, M., Fulton, E. A., Pohl, C., Smithson, M., Vilsmaier, U., Bergmann, M., Jaeger, J., Merkx, F., Vienni Baptista, B., Burgman, M. A., Walker, D. H., Young, J., Bradbury, H., Crawford, L., Haryanto, B., Pachanee, C., Polk, M., Richardson, G. P. (2020).

Expertise in research integration and implementation for tackling complex problems: when is it needed, where can it be found and how can it be strengthened? *Palgrave Communications*, **6**, 5.

(Online): <https://doi.org/10.1057/s41599-019-0380-0> and

<https://www.nature.com/articles/s41599-019-0380-0>

This is the foundational paper for a new article collection in *Palgrave Communications* on 'Expertise in integration and implementation for transformative research', see

<https://www.nature.com/palcomms/calls-for-papers#Expertise>. Contributions are welcome until at least December 2020.

FEATURED TOOLS

Change planning: Dreamer, realist, critic

Purpose: To work through three key aspects of planning for change—creatively developing new ideas, planning the practicalities of their implementation and assessing risks—to ensure that all three are effectively considered.

Description: This process is also referred to as Walt Disney circle, Disney creative strategy, and Disney brainstorming method.

Planning change involves four phases. The first three phases, in turn, are to 1) create new ideas, 2) plan the practicalities of their implementation and 3) assess the risks. Phase 4 is an iterative phase that reviews further input needed in each of the first three phases.

The process is conceived as involving three roles: dreamer, realist and critic. One person or a group could take all three roles in turn or different people could take different roles. What is important is that all three roles are fully brought into play.

Phase 1: The Dreamer

This role involves creatively developing new ideas, with an “anything is possible” attitude. It specifically avoids considering practicalities or constraints. Useful questions are:

- What do we want to do?
- Why do we want to do it?
- What are the benefits?
- How will we know that we have achieved the benefits?
- When can we expect to get them?
- Where do we want this idea to get us in the future?

Phase 2: The Realist

This role involves planning for the implementation of any new idea by considering the practicalities. It avoids specifically considering constraints and takes an “how do we make this work” attitude. Useful questions are:

- When will the overall goal be completed?
- Who will be involved and what responsibilities will they have?
- How – specifically and step by step – will the idea be implemented?
- What will provide on-going feedback to show whether we are moving toward or away from the goal?
- How will we know that the goal is achieved?

Phase 3: The Critic

This role involves identifying and assessing risks associated with any new idea, as well as looking for ways to manage potential problems. It takes a “what could go wrong and how can we avoid that” attitude. Useful questions are:

- Who will this new idea affect and who will make or break the effectiveness of the idea?
- What are their needs?
- Why might someone object to this plan or idea?

- What positive gains are there in the present way(s) of doing things?
- How can you keep those things when you implement the new idea?
- When and where would you NOT want to implement the new idea?
- What is currently needed or missing from the plan?

Phase 4: Iteration to fill critical gaps

Any change proposal is likely to be incomplete and to be missing some important information. In seeking to fill those gaps or seek that information, it is useful to employ the dreamer, realist and critic roles again. For example, if a significant piece of information is missing:

- Dreamer role would involve looking creatively for ways to get that information
- Realist role would involve the practicalities of those ideas
- Critic role would involve examining the adequacy of the information found or likely to be found.

Developing a realistic plan for action can involve going through the whole process several times to refine an idea into realisable steps.

- **Source:** This process is adapted from “The Walt Disney circle – refining personal and corporate goals” which is in *The Change Management Toolkit* (Nauheimer 1997). Nauheimer in turn adapted the process he described from Dilts (1994).
- **References:**
 - Dilts, R. B. (1994). *Strategies of genius – Part I*. Meta Publications, Capitola, California USA [NB, Neurolinguistic programming, which is the basis of this book has been discredited as a pseudoscience.]
 - Nauheimer, H. (1997). *The change management toolkit. A collection of tools, methods and strategies*. Open access online at: <https://www.change-management-toolbook.com/> and at: <https://www.change-management-toolbook.com/downloads>

Location of this resource on the i2S website: <https://i2s.anu.edu.au/resources/change-planning-dreamer-realist-critic>

Change management toolkit (updated tool)

Purpose: To provide more than 120 tools and techniques for managing “the people side of change processes” in personal, team and larger systems change.

Description: There are three major sections covering:

- personal change
- change in teams, especially in ways of working together
- larger systems change, mostly focused on organisations.

Some tools are able to be used for more than one type of change.

Personal change tools address “the skills, behaviours and belief systems the members of a system will need to be part of the change effort.” There are two types of tools – those that help individuals think outside the box and those useful for personal growth, including thinking about personal vision and goals, as well as how to remove barriers to achieving them.

Team change tools aim to help teams perform at their peak. There are two types of tools – those that “deal with different perceptions of reality within social relationships” and those that create a spirit in which teams can learn together.

Larger systems tools are directed towards an organisation, community, region or entire society and provide tools to: 1) understand the core principles and resources of the larger system, 2) identify vision, values and goals, 3) plan in a non-linear reality, 4) understand stakeholders, 5) address the complexity of a system and find leverage for change within a system and 6) work with systems that consist of a large number of actors.

The toolkit contains more than 120 tools, methods and strategies and they are not listed here. Tools included in the toolkit that are provided on this website as i2S resources are:

- [Change planning: dreamer, realist, critic](#)
- [Dialogue: Appreciative Inquiry](#)
- [Scoping: seven phase framework](#)
- [Stakeholder analysis: power, legitimacy and urgency.](#)
- **Reference:**
 - Nauheimer, H. (1997). *The change management toolbox. A collection of tools, methods and strategies.* Open access online at: <https://www.change-management-toolbook.com/downloads> and at: <https://www.change-management-toolbook.com/>

Location of this resource on the i2S website: <https://i2s.anu.edu.au/resources/change-management-toolbook>

Additional tools can be found at: <http://i2s.anu.edu.au/resources/tools>

FEATURED VIDEO

Risk analysis and expert judgment (updated video)

Purpose: To provide an overview of problems with judging risk and how these can be overcome by groups using integrated elicitation processes.

Description: A brief overview is provided about distortions in risk perception stemming from factors such as overconfidence, degree of personal experience and dreadfulness of the outcome. These lead to a range of ‘pathologies’ such as insensitivity to sample size, anchoring and hindsight bias.

Although peer assessments of people's ability to make accurate judgments show a high correlation with self-assessments, there is no correlation between peer assessments and actual performance.

An integrated elicitation process that can help groups make better judgments is briefly described. It uses a structured process to elicit information from groups that is relatively accurate and well-calibrated (*ie.*, groups have a good assessment of their own level of uncertainty). The focus is on information that can be independently verified (*ie.*, facts that are already known – but not by the group – and predictions).

Better judgments are achieved:

when individuals...

- consider counter-arguments
- answer the same question in different ways (estimate the lowest probability, estimate the highest probability, use these to make a best estimate)
- indicate their confidence
- examine estimates made by other people (feedback)
- revise original estimates after feedback
- anticipate issues with conditional probabilities, base rates
- work in groups

and when groups...

- discuss questions to eliminate linguistic uncertainty
- are diverse—age, gender, background and cognitive style
- discuss and revise question meaning
- are composed of psychologically, culturally and contextually diverse, independent people
- avoid group think, for example by using Delphi technique, independent data or anonymity in judgments.

This video "Expert Judgment in Risk Analysis" presented by Mark Burgman was a plenary talk at the First Global Conference on Research Integration and Implementation held in Canberra in Australia, online and at three co-conferences (Lueneburg in Germany, The Hague in the Netherlands and Montevideo in Uruguay), 8-11 September 2013. Watch on YouTube at:

<https://youtu.be/RpcsYWIxbQU>

Location of this resource on the i2S website: <https://i2s.anu.edu.au/resources/risk-analysis-and-expert-judgment>

LATEST i2INSIGHTS BLOG POSTS

The i2Insights blog (<http://i2insights.org>) has recently published the following posts:

Decentering academia through critical unlearning in transdisciplinary knowledge production

By Gabriela Alonso-Yanez, Lily House-Peters and Martin Garcia Cartagena

<https://i2insights.org/2020/02/04/decentering-and-unlearning/>

How can resilience benefit from planning?

by Pedro Ferreira

<https://i2insights.org/2020/01/28/planning-for-resilience/>

Facilitating serendipity for interdisciplinary research

by Catherine Lyall

<https://i2insights.org/2020/01/21/serendipity-for-interdisciplinarity/>

Detecting non-linear change 'inside-the-system' and 'out-of-the-blue'

by Susan van 't Klooster and Marjolijn Haasnoot

<https://i2insights.org/2020/01/14/detecting-non-linear-change/>

Stakeholder engagement in research: The research-modified IAP2 spectrum

by Gabriele Bammer

<https://i2insights.org/2020/01/07/research-modified-iap2-spectrum/>

Research integration and implementation: Building resources and community

by Gabriele Bammer

<https://i2insights.org/2019/12/17/fourth-annual-review/>

Good practice in community-based participatory processes in Aboriginal and Torres Strait Islander researcher

by Jan Chapman, Alyson Wright, Nadine Hunt and Bobby Maher

<https://i2insights.org/2019/12/10/first-nations-community-participation/>

FEATURED JOURNAL AND JOURNAL NEWS

International Journal of General Systems

The *International Journal of General Systems* publishes "original research contributions to system science, basic as well as applied," as well as relevant survey articles and bibliographies.

The journal aims "to promote original systems ideas (concepts, principles, methods, theoretical or experimental results, *etc.*) that are broadly applicable to various kinds of systems. The term 'general system' in the name of the journal is intended to indicate this aim – the orientation to systems ideas that have a general applicability."

“Typical subject areas covered by the journal include:

- uncertainty and randomness;
- fuzziness and imprecision;
- information;
- complexity;
- inductive and deductive reasoning about systems;
- learning;
- systems analysis and design; and
- theoretical as well as experimental knowledge regarding various categories of systems”.

Journal impact factor (2018): 2.26

- **Website:**
 - <https://www.tandfonline.com/loi/ggen20>

Location of this resource on the i2S website:

<https://i2s.anu.edu.au/resources/international-journal-general-systems>

Additional journals can be found at: <http://i2s.anu.edu.au/resources/journals>

GAIA column on ‘Frameworks for Transdisciplinary Research’ #8

Bammer, G. (2019). What makes a researcher transdisciplinary? A framework to identify expertise. ‘Frameworks for Transdisciplinary Research’ #8. *GAIA*, **28**, 3: 253. Online (DOI): <https://doi.org/10.14512/gaia.28.3.2>

GAIA column on ‘Frameworks for Transdisciplinary Research’ #9

Bruhn, T., Herberg, J., Molinengo, G., Oppold, D., Stasiak D. and Nanz, P. (2019). Grounded action design – Transdisciplinary co-creation for better transformative processes. ‘Frameworks for Transdisciplinary Research’ #9. *GAIA*, **28**, 4: 336. Online (DOI): <https://doi.org/10.14512/gaia.28.4.3>

FEATURED PROFESSIONAL ASSOCIATION

Institute of Electrical and Electronics Engineers (IEEE) Systems, Man, and Cybernetics (SMC) Society

The *IEEE Systems, Man, and Cybernetics (SMC) Society* aims to promote "the theory, practice, and interdisciplinary aspects of systems science and engineering, human-machine systems, and cybernetics."

In particular, there is a focus on:

- "Development of systems engineering technology including problem definition methods, modeling, and simulation, methods of system experimentation, human factors engineering, data and methods, systems design techniques and test and evaluation methods.
- Integration of the theories of communication, control, cybernetics, stochastics, optimization, and system structure towards the formulation of a general theory of systems.
- Application at hardware and software levels to the analysis and design of biological, ecological, socio-economic, social service, computer information, and operational man-machine systems."

IEEE SMC is a membership based society, with an extensive network of chapters in the Americas, Europe, Africa, Asia and Australia. It runs an annual conference, produces several magazines, a newsletter and a set of journals.

The society was constituted in 1972, but there is a longer history stretching back to 1958 (starting with the *Institute of Radio Engineers Professional Group on Human Factors in Electronics* and an eventual merger with the *IEEE Systems Science and Cybernetics Group*).

- **Website:**
 - <http://ieeesmc.org/>

Location of this resource on the i2S website: <https://i2s.anu.edu.au/resources/IEEE-systems-man-and-cybernetics-society>

Additional professional associations and networks can be found at:
http://i2s.anu.edu.au/resources/associations_networks

FEATURED CONFERENCES

Evidence and Implementation Summit 2020 - Bringing together evidence, implementation, policy, and politics: Towards a better future for all

The main thematic focus of EIS 2020 is on "the intersection of research, policy and practice... in the fields of evaluation, evidence synthesis and translation and implementation science." More particularly, EIS 2020 takes the view that... "Improving outcomes across communities is best achieved through the use of high-quality evidence that is implemented well. In order to achieve this, systems, policy and political environments need to be hospitable to evidence informed approaches and what it takes to achieve effective and sustainable implementation in the real world."

Beyond the main theme of the conference, sub-themes will focus on:

- "Fast, good, cheap - choose two! Generating and implementing rigorous policy and practice-ready evidence
- Context counts: translation, adaptation and transportability of evidence across people, place, culture and systems

- Core competencies for evidence synthesis, translation and implementation practice and science
- Innovation in implementation science, evaluation design, evidence synthesis, scaling up
- Building a better future: Systems change for complex problems such as poverty, inequality, climate change, mass migration."

EIS 2020s organisers anticipate that "more than 500 local and global policy makers, practitioners, organisational leaders, researchers, implementation scientists, intermediaries and funders will attend"... towards building "upon the success of previous conferences in advancing the evidence and implementation movement."

"EIS 2020 will mark 10 years since the creation of the event series" ... and "the Evidence and Implementation Summit 2020 is an evolution of the Australasian Implementation Conference and the Global Evidence and Implementation Summit that was held in 2018."

The conference will be held in Sydney, Australia, on 21-22 October 2020.

- For further details see:
 - <https://www.eisummit.org>
 - Abstract closing date: 26 April 2020

Interdisciplinary Network for Group Research (INGRoup) 15th Annual Conference

"Societies are dependent on the formation and utilization of groups and teams, making them relevant to countless aspects of life. Accordingly, scholars who study groups can be found across a wide array of disciplines (e.g., anthropology, communication, education, engineering, history, information systems, medicine, nursing, organizational behavior, philosophy, psychology, political science, public health, sociology, economics)... The 15th Annual INGRoup Conference will be held so scholars across disciplines can come together, share information, and learn from one another. The conference program will include paper, poster, symposia, and panel sessions, a keynote address by last year's McGrath Award winner, Dr. John Hollenbeck, and a business meeting open to all members so the future of INGRoup can be collectively planned and shaped."

Also held within the conference will be the "Third Annual HACKmanATHON... an opportunity for INGRoupers to be more interactive and interdisciplinary during the annual conference. The theme this year is *Increasing Connectedness while Managing Interruptions in Social Engagement Platforms for Virtual Teams*" focusing on "both the facilitating function of collaboration platforms AND the frustration that can arise from the interruptions" with the aim that the "Hackmanathon teams will develop creative solutions to maximize the benefits of collaboration platforms while minimizing the negative effects of interruptions."

The conference will be held in Bellevue, Washington, United States of America, on 30 July – 1 August 2020.

- For further details see:
 - <http://www.ingroup.net/conference.html>
 - Submissions closing date: 1 February 2020

38th International Conference of the System Dynamics Society: Hindsight in 2020: Learning from the Past to Inspire the Future

“The conference theme is “Hindsight in 2020: learning from the past to inspire the future.” The saying that “hindsight is 20/20” implies that it’s easy in retrospect to “see” why events unfolded as they did, but it’s much harder to accurately anticipate the outcome in advance. In the scientific practice of system dynamics, concern about such “hindsight bias” compels us to formalize behavioral expectations *a priori*, before testing dynamic hypotheses of feedback mechanisms, so that the value of a model for producing new insights can be established relative to these expectations. But after building models, subjecting them to rigorous analysis, and discovering robust model-based policies, a different and deeper kind of hindsight can develop over time. It is this kind of hindsight that we wish to hone in 2020, by asking how what we know now could inform the practice of system dynamics and inspire alternative models that address the challenges our society must face today and tomorrow.”

Just prior to and during the conference will also be a:

- pre-conference Summer School
- System Dynamics Colloquium
- Modeling Assistance Workshop
- Publishing Assistance Workshop
- Model Expo

The conference will be held in Bergen, Norway, on 19-23 July 2020.

- For further details see:
 - <https://www.systemdynamics.org/conference>
 - Submissions closing date: 2 March 2020

Additional conference information can be found at:
<http://i2s.anu.edu.au/resources/conferences>

ABOUT i2S NEWS

The aim of this newsletter is to provide regular (bi-monthly) updates about new resources added to the Integration and Implementation Sciences website (<http://i2s.anu.edu.au/resources>). These resources are useful for researchers interested in Integration and Implementation Sciences (i2S), which underpins the investigation and tackling of complex real world problems, by:

- Synthesizing knowledge from different disciplines and stakeholders,
- Understanding and managing diverse unknowns, and
- Providing integrated research support for policy and practice change.

In general, each issue features tools (concepts and methods), case studies and/or approaches relevant to i2S - either a useful compilation or one or more examples of note. We also provide information about journals, professional associations & networks and conferences where researchers can learn from others, report their findings and interact with like-minded peers. The newsletter also reports on discussions in the LinkedIn group “Global Network for Research Integration and Implementation”:

<https://www.linkedin.com/groups/4888295/> (when these occur) and new entries on the Integration and Implementation Insights blog: <http://i2Insights.org>.

i2S News is archived at: <http://i2s.anu.edu.au/what-i2s/i2s-publications/i2s-news>.

Useful links:

- i2S website: <http://i2s.anu.edu.au>
- i2S on YouTube: <https://www.youtube.com/user/i2sTalks>
- LinkedIn group "Global Network for Research Integration and Implementation":
<https://www.linkedin.com/groups/4888295/>
- i2Insights blog: <http://i2Insights.org>

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