# i2S News

July/August 2019, #45

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## *WELCOME*

Welcome to the (slightly late) July/August i2S News! This is our bi-monthly notification of new additions and updates to the resources on the i2S website (https://i2S.anu.edu.au/resources). It also provides a list of the latest blog posts on the Integration and Implementation Insights blog (http://i2insights.org).

In this issue of the News we provide several journal updates - if you know that a journal has ceased publication or changed its name or added a focus relevant to research integration and implementation please let us know, as we endeavour to keep our resources up-to-date.

Finally, a reminder about three key conferences happening in the next two months:
- International Transdisciplinarity Conference in Gothenburg, Sweden from 10-13 September
    - http://www.transdisciplinarity.ch/en/td-net/Veranstaltungen/ITD-2019.html
- Global Implementation Conference in Glasgow, UK from 15-17 September
    - https://gic.globalimplementation.org/
- Association for Interdisciplinary Studies conference in Amsterdam, Netherlands from 24-26 October
    - https://wwwp.oakland.edu/ais/conferences/annualconference/

Gabriele Bammer and Peter Deane

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## FEATURED TOOLS

### Assessing evidence: Formulating and testing propositions (updated tool)

**Purpose**: To provide a process for describing and further assessing propositions, which are "proposals on best practice that have a solid evidence base but remain contested."

**Description**: The development of propositions has two phases:
- an initial phase, where "a small group of researchers and practitioners define a set of evidence-based insights and counterview for a particular topic (*ie.*, a proposition)"; and,
- a subsequent phase, where "a broader community of interest regularly reviews and refines the propositions to update the evidence, and include or remove propositions from the data set, keeping it as an open live document."

"The development of propositions is therefore an attempt to improve on conventional passive reporting on information collected from interviews and literature reviews that are generally not used by the target audiences, because of their limited engagement during the discovery process."

Propositions are "intended to inform design and investment decisions and improve implementation but also to structure debate and learning on effective practice."

Each proposition is supported by:
  i. an explanation;
  ii. a summary of the available evidence;
  iii. examples "from sample projects that ground the proposition in context and practice";
  iv. design implications for new interventions;
  v. hypothesised consequences for the problem under consideration;
  vi. a "summary of assumptions underpinning the proposition"; and,
  vii. a "summary of counterviews and counterevidence to the proposition".

- **Reference**:
   o Rodriguez, L., Maru, T., Walker, D., Ison, R., Wanjura, W., Kershaw, I. and Dixon, J. (2014). Learning from agricultural research for development in sub-Saharan Africa: development of evidence-based propositions to improve food security outcomes. In, B. Triomphe, A. Waters-Bayer, L. Klerkx, M. Schut, B. Cullen, G. Kamau and E. Le Borgne (Eds.), *Innovation in smallholder farming in Africa: recent advances and recommendations*, Proceedings of the International Workshop on Agricultural Innovation Systems in Africa (AISA), 29-31 May 2013, CIRAD: Nairobi, Kenya / Montpellier, France: pp. 37-43. (Online): https://hdl.handle.net/10568/35187

### Stakeholder participation: IAP2 public participation spectrum (updated tool)

**Purpose**:
- To describe different ways stakeholder engagement can occur
- To assist in the selection of the appropriate level of stakeholder participation depending on the particular circumstances
- To specifically examine stakeholder engagement in a research context.

**Description**: The *International Association for Public Participation* (IAP2) has developed a spectrum for public participation, specifically for government decision making. The spectrum can be easily adapted for other contexts and a modified version has been produced for a research context.

The original spectrum, illustrated in the figure below, describes five levels of participation: inform, consult, involve, collaborate and empower. The main point is that "differing levels of participation are legitimate and depend on the goals, time frames, resources, and levels of concern in the decision to be made." In addition, the Spectrum sets out the "promise to the public" for each type of participation.

INCREASING IMPACT ON THE DECISION

| | INFORM | CONSULT | INVOLVE | COLLABORATE | EMPOWER |
|---|---|---|---|---|---|
| **PUBLIC PARTICIPATION GOAL** | To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions. | To obtain public feedback on analysis, alternatives and/or decisions. | To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered. | To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution. | To place final decision making in the hands of the public. |
| **PROMISE TO THE PUBLIC** | We will keep you informed. | We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision. | We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision. | We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible. | We will implement what you decide. |

*(Copyright: IAP2 International Federation, 2014 - written permission obtained from IAP2)*

The research-relevant modified IAP2 spectrum (Bammer, 2019), illustrated in the figure below, maintains the key aspects of the original notably:
- the five types of engagement: inform, consult, involve, collaborate, empower
- the idea that 'differing levels of participation are legitimate and depend on the goals, time frames, resources, and levels of concern' in the research to be undertaken
- the 'promise' to the stakeholder group for each type of participation.

| INCREASING STAKEHOLDER INFLUENCE ON THE RESEARCH | | | | |
| --- | --- | --- | --- | --- |
| **INFORM** | **CONSULT** | **INVOLVE** | **COLLABORATE** | **EMPOWER** |
| **STAKEHOLDER PARTICIPATION GOAL** | | | | |
| Researchers provide stakeholders with balanced and objective information to assist them in understanding the research process. | Researchers obtain stakeholder feedback on the research process. | Researchers work directly with stakeholders to ensure that stakeholder concerns and aspirations are consistently understood and considered in the research process. | Researchers partner with stakeholders for salient aspects of the research process. | Researchers assist stakeholders in conducting their own research. |
| **PROMISE MADE TO STAKEHOLDERS BY RESEARCHERS** | | | | |
| We will keep you informed. | We will keep you informed, listen to and acknowledge your concerns and aspirations and provide feedback on how your input influenced the research process. | We will work with you to ensure your concerns and aspirations are directly reflected in the research process and we will provide feedback on how your input influenced the research. | We will look to you for advice and innovation in designing and conducting the research process and incorporate your advice and recommendations to the maximum extent possible. | We will provide advice and assistance as requested in line with your decisions for designing and conducting your research, as well as for implementing the findings. |

*Research-relevant modified IAP2 spectrum (Bammer, 2019). This spectrum for stakeholder participation in research is adapted from the International Association for Public Participation (IAP2) spectrum of public participation in decision-making*

Apart from changing the wording to be specifically relevant for research, one modification has been made so that the spectrum works for research on complex problems. In the stakeholder participation goal for "collaboration", "each" is replaced with "salient" as in "Researchers partner with stakeholders for salient aspects of the research process". While full collaboration may be possible on a straightforward research question (with, for example, few stakeholder groups and one simple form of data collection), it is unlikely that any stakeholder groups will be able (or even want) to contribute meaningfully to each aspect of the research on a complex problem.

- **References**:
    - o Information about the Spectrum: https://www.iap2.org/?page=pillars
    - o Link to full size version of the Spectrum (first figure above): https://www.iap2.org/resource/resmgr/foundations_course/IAP2_P2_Spectrum_FINAL.pdf (PDF 151KB)
    - o Results of a review of the Spectrum: https://i2s.anu.edu.au/wp-content/uploads/2017/08/IAP220Spectrum20Review.pdf (PDF 433KB)
    - o IAP2 Australasia: https://www.iap2.org.au/Home; and, IAP2 Canada: https://iap2canada.ca/
    - o Bammer, G. (2019). 'Key issues in co-creation with stakeholders when research problems are complex' *Evidence and Policy*, Available in fast track on 22/7/19. Online (DOI): https://doi.org/10.1332/174426419X15532579188099. (In the paper the figure above is in black-and-white.)

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

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## FEATURED VIDEO

**Decision making and change: The role of games**

**Purpose**:
To demonstrate how games based on models can assist decision making and change on complex problems.

**Description**:
This video demonstrates how well-designed games, with skilled facilitation, empower players to make better decisions. When those with power to make change are the players, games can assist in finding innovative ways to make progress on difficult issues.

The basic premise for using games stems from the inability of models to incorporate decision making, even though models are effective at describing how things work.

Transforming models into games and inviting stakeholders to play allows the players to become part of the model. They bring with them their emotions, knowledge and beliefs, values and capacity to understand. The last of these is particularly important "– that rush that happens when you realise something, when things suddenly make sense – and all the new ideas that will stem from that – new ways of looking at things, new ways of doing things."

Typically building an effective model requires intensive immersion in the community experiencing the problem. The game then allows the players to enact a particular scenario. Usually, everyone joins in and becomes fully immersed in responding to the problem - "the players to live through the experience completely."

The important learning experience occurs after the game, when what happened is discussed with the players. Players are asked to reflect on successes and failures, strategies used and which of these worked. In the process the modellers also learn how adequately the game captured the stakeholders' reality.

This is also known as a companion modelling approach (https://www.commod.org/en).

- **References**:
    - o "Wicked games: Using games to resolve environmental conflicts" by Claude Garcia was a talk at 'TEDx', Zurich, Switzerland in 2018. Video (14 minutes) online at: https://www.youtube.com/watch?v=v362bMWL0Yw
    - o Transcript of Garcia, C. (2018). *My TedX Talk: Wicked Games and Environmental Issues*. 16 November, SRF Studios, Zurich, Switzerland. (Online): https://www.linkedin.com/pulse/my-tedx-talk-wicked-games-environmental-issues-claude-garcia/

## LATEST i2INSIGHTS BLOG POSTS

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

**Accountability and adapting to surprises**
by Patricia Hirl Longstaff
https://i2insights.org/2019/08/27/accountability-and-surprises/

**Why model?**
by Steven Lade
https://i2insights.org/2019/08/20/why-model/

**Fourteen knowledge translation competencies and how to improve yours**
by Genevieve Creighton and Gayle Scarrow
https://i2insights.org/2019/08/13/improving-knowledge-translation-competencies/

**Learning from interdisciplinary and transdisciplinary research 'failures'**
by Dena Fam and Michael O'Rourke
https://i2insights.org/2019/08/06/learning-from-failures/

**Four patterns of thought for effective group decisions**
by George Richardson and David Andersen
https://i2insights.org/2019/07/30/thought-patterns-for-group-decisions/

**Five lessons for early career researchers in interacting with policymakers**
by Aparna Lal
https://i2insights.org/2019/07/23/early-career-researchers-and-policymakers/

**Five principles of co-innovation**
by Helen Percy, James Turner and Wendy Boyce
https://i2insights.org/2019/07/16/five-principles-of-co-innovation/

**How to support research consortia**
by Bruce Currie-Alder and Georgina Cundill Kemp
https://i2insights.org/2019/07/09/supporting-research-consortia/

**Designing scenarios to guide robust decisions**
by Bonnie McBain
https://i2insights.org/2019/07/02/designing-scenarios-for-decisions/

## FEATURED JOURNAL AND JOURNAL UPDATES

**International Journal of Knowledge and Systems Sciences (IJKSS)**

The *International Journal of Knowledge and Systems Science* (IJKSS) promotes "the development of knowledge science and systems science as well as the collaboration between the two sciences among academics and professionals from various disciplines around the world."

"Targeting academicians, professors, students, practitioners, and field specialists, this journal covers the development of new paradigms in the understanding and modeling of human knowledge process from mathematical, technical, social, psychological, and philosophical frameworks."

Topics covered include: Adaptive complex systems, Causal interactions and dynamic interweaving, Context management, Modeling of dynamic complexity, Risk and catastrophe management, Sense-making, Soft Systems Methodology, Systems dynamics, Systems Theory and Use of narratives.

The *International Journal of Knowledge and Systems Science* was originally launched by the *International Society of Knowledge and Systems Science*, which was initiated in 2000 in Japan.

This is a journal of the *Information Resources Management Association*.

- **Website**:
  - https://www.igi-global.com/journal/international-journal-knowledge-systems-science/1169

## Journal updates

The *Journal of Research Practice* suspended publication in March 2019 following the retirement of both editors. Previous issues of the journal remain available on an archived site that can be reached via the i2S website. See:
  - https://i2s.anu.edu.au/resources/journal-research-practice

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*New Water Policy and Practice Journal* (NWPP) is now called *World Water Policy* (WWP). See:
  - https://i2s.anu.edu.au/resources/world-water-policy

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Our i2S webpage on *Palgrave Communications* has been substantially updated. See:
  - https://i2s.anu.edu.au/resources/palgrave-communications

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New journal announcement: *Implementation Science Communications* is now accepting submissions. It is closely aligned with the journal *Implementation Science* and accommodates a wider range of types of study reports, and a somewhat broader scope, including research that is more descriptive than hypothesis-driven.

- **Website**
  - https://implementationsciencecomms.biomedcentral.com

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

## FEATURED PROFESSIONAL ASSOCIATION

**International Council on Systems Engineering (INCOSE)**

The *International Council on Systems Engineering* (INCOSE) is "a not-for-profit membership organization founded to develop and disseminate the interdisciplinary principles and practices that enable the realization of successful systems."

INCOSE is designed to connect systems engineering professionals "with educational, networking, and career-advancement opportunities in the interest of developing the global community of systems engineers and systems approaches to problems."

INCOSE has more than 70 local chapters in over 35 countries. It was founded in 1990.

- **Website**:
  - https://www.incose.org/

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


## 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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