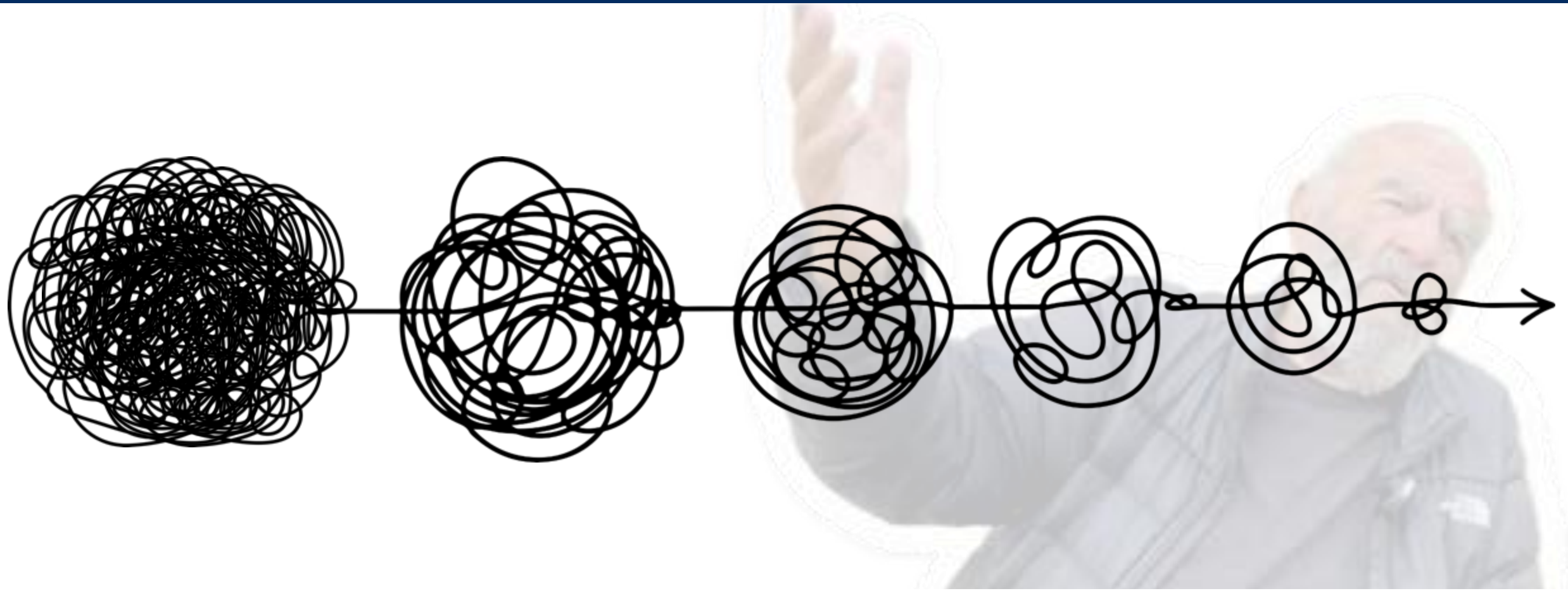
The Co-Laboratory systemic design approach for reducing the Situational Complexity through inclusive, co-constructive stakeholder deliberation



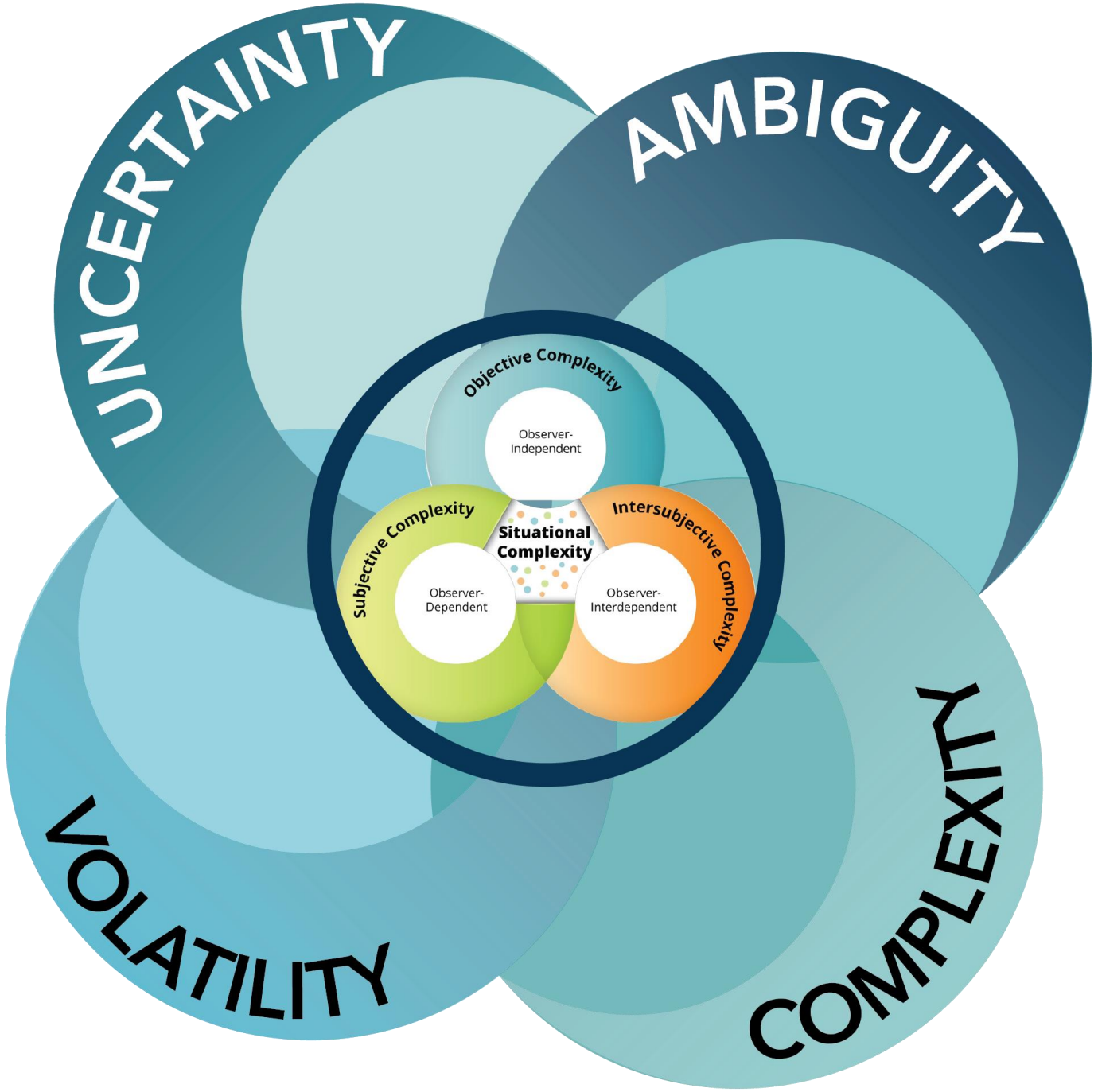
Alexander N. Christakis, *Demosenses Lab, Crete*

The Heraclitus turbulent river of VUCA

You can never step into the same VUCA river twice.

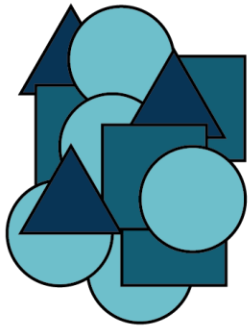
The superposition of the three distinguishable observational complexities creates the emergence of the Situational Complexity phenomenon during stakeholder deliberation to define and resolve a wicked problem.

The escalation of the Situational Complexity Index (SCI) on account of its immersion in the turbulence of the VUCA river:



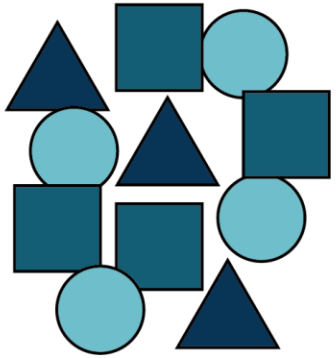
Colab Process

Complex Situation

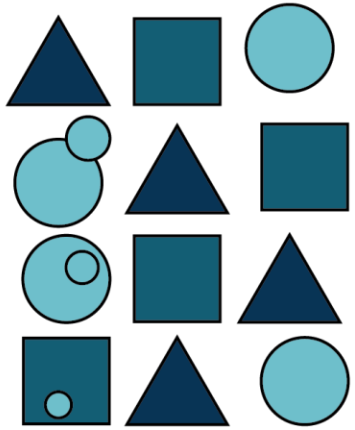


Boundaries and Scope with Focus on a Triggering Question

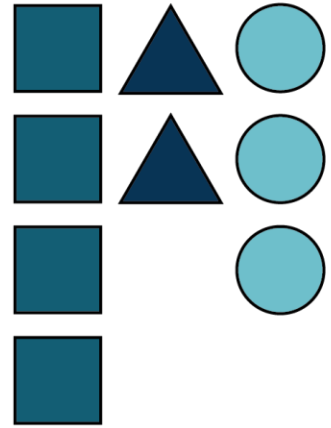
Generation



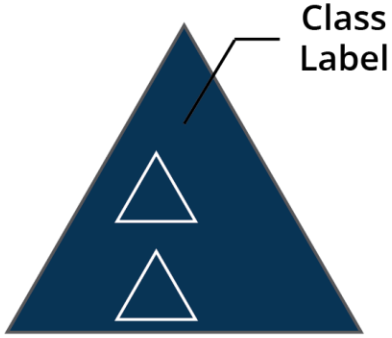
Clarify Meaning



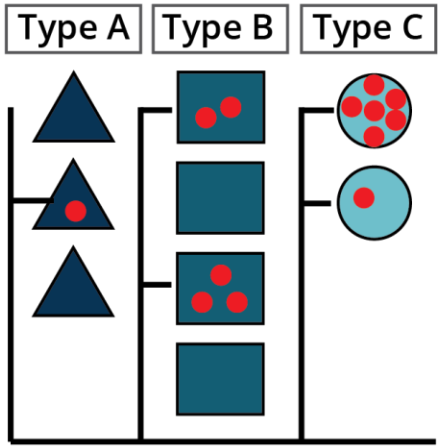
Classify Inductively



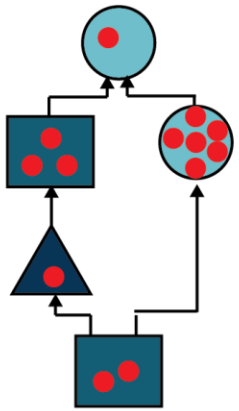
Develop Shared Language



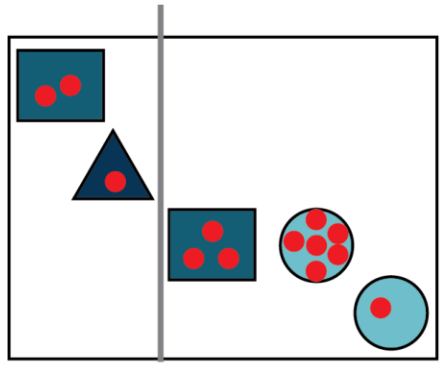
Prioritize



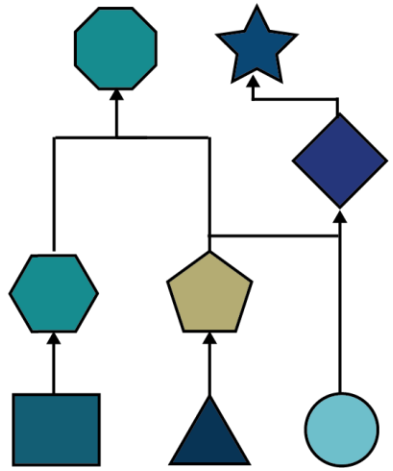
Map Factors Abductively



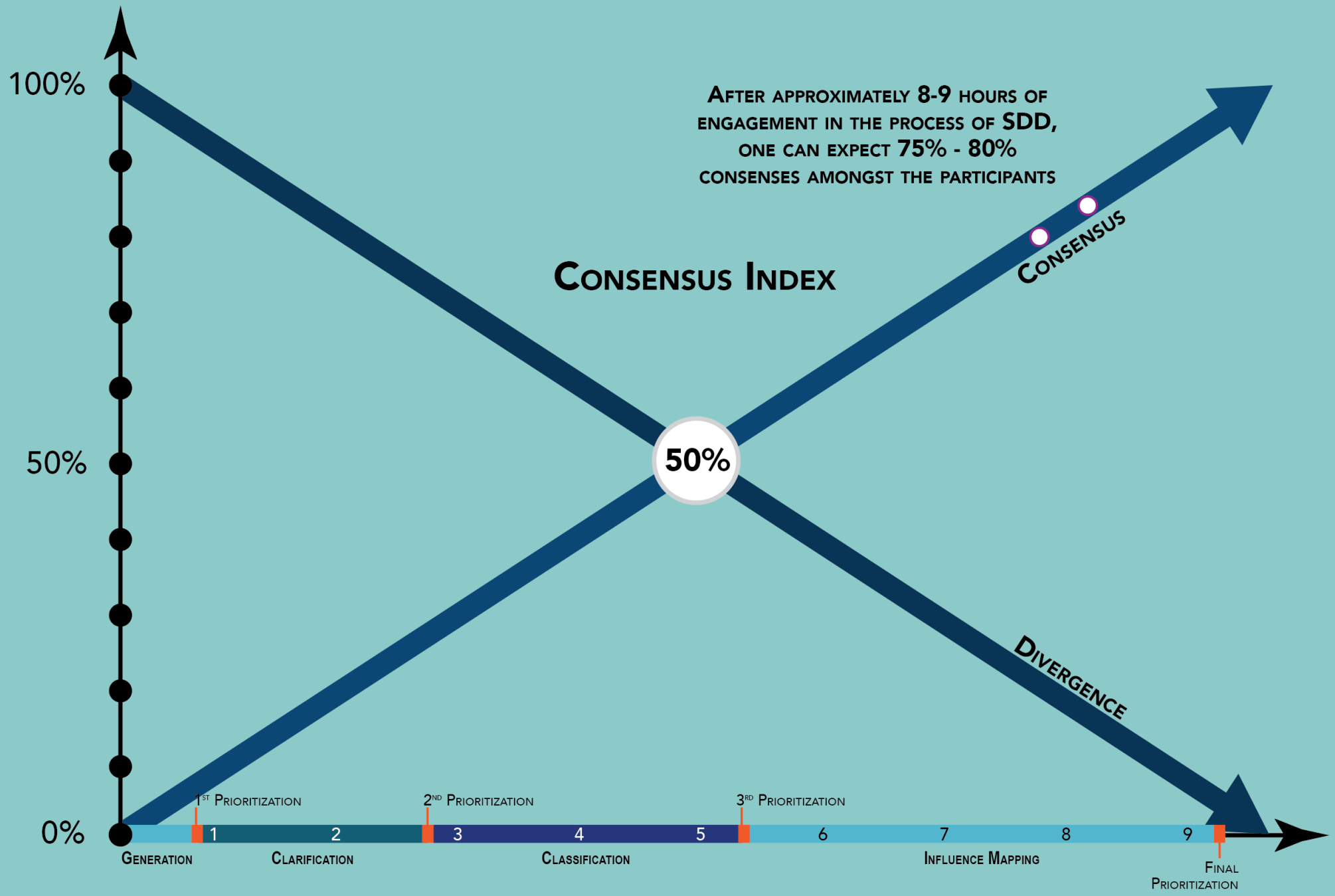
Interpret Learning



Evaluate Cross-Impact



Consensus Index



The SCI is calculated by using the following formula:

$$\mathbf{SCI = (N-7)[(V-5)/(V^{max}-5)][K/(R(R-1)-K)]}$$

Where:

- **N** = # of ideas proposed by participants of the Colab
- **V** = # of ideas receiving one or more votes of relative saliency/priority from the group at various points during the colab;
- **P** = # of participants in the colab;
- **V^{max}** = The maximum # of ideas that could receive a vote (# of participants (P) multiplied by five (5). The value of V^{max} to be entered in the formula should be smaller or equal to the value of N. If V^{max} is larger than N, then the value of N should be entered;
- **R** = # of ideas/observations selected for influence mapping
- **K** = # of distinct connections among the ideas selected for mapping

The SCI is calculated by using the following formula :

The formula for the SCI can be reconfigured and simplified by identifying additional indices of particular interest to the SDD Facilitator to monitor the progress of the team deliberations during the colab. These indices are:

The Divergence (D), which is:

$$D= (V-5)/(V^{max}-5)$$

The Priority Effectiveness Index (PEI), which is:

$$PEI= K/[R/R-1) – K]$$

With the use of Equations, the SCI reads:

$$SCI=(N-7)D(PEI)$$

The SCI is calculated by using the following formula :

From the equation, we can derive two other formulas that are very useful for measuring and comparing SCI at the various steps of the process:

The formula for measuring SCI following the completion of the generation of ideas in response to the Triggering Question when the divergence (D) = 1, which is:

SCI = (N-7)(N-1) (6)

The formula for measuring the maximum value of SCI before the mapping stem, which is:

SCI = (N-7)D(R-1)

Table 1: Measurement from the Educational Arena of Practice

	P (# of participants)	N (# of Ideas)	D (divergence)	R (# of ideas mapped)	K (# of distinct interconnections in the map)	PEI (Priority Effectiveness Index)	ISCI (Initial Situational Complexity Index)	PMSCI (Pre-Mapping Situational Complexity Index)	FSCI (Final Situational Complexity Index – post Colab)	PMSCI Reduction (Pre-Mapping Situational Complexity Index)	ISCI Reduction (Initial Situational Complexity Index)
NCRESA Vision	29	86	.42	13	76	.95	6,715	365.42	31.5	91.38%	99.53%
NCRESA Barriers	25	59	.3	13	71	.84	3,016	171.6	12.87	92.5%	99.57%
CCISD Vision	35	57	.62	14	76	.72	2,800	372	22.06	94.07%	99.21%
CCISD Barriers	35	72	.55	13	55	.54	4,615	393.25	19.55	95%	99.58%

7 Letters

Confronting Complex Challenges Together

Reduction in Situational Complexity

Alexander (Alecos) Christakis, Ph.D.

October 2023

Discuss the reduction in Situational Complexity during the process of Structured Democratic Dialogue.

Can we influence leaders to design social systems by identifying systemic, ephemeral, and effective priorities through group work?