

Designing Conversations for Socially-Conscious Design

Systemic Design for Social Complexity—RSD5—Toronto 2016

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“Design and cybernetics are really the same thing.”

— Ranulph Glanville, 2014

— RDS3 Conference, Oslo

Challenges of design

Energy

Global warming

Water

Food

Population

Health

Equality

Social justice

Challenges to design

Energy

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Simple problems

Complex problems / systems of systems

“Wicked problems”*

* In the strict sense of Rittel & Webber

Design = Social

Designing with myself

Designing with others

Design = Conversations for Action

Designing with myself

Designing with others

Designing Conversations is the heart of 21st-century design practice

Designing for Conversations by Everyone
Designing for Conversations for Design

We believe cybernetics offers a foundation for 21st-century design practice, with this rationale:

— Dubberly & Pangaro, “Cybernetics and Design: Conversations for Action”, 2015

If design, then systems:

- The prominence of digital technology in daily life cannot be denied (or reversed).
Digital technology comprises systems of systems (Internet of Things).
- Design has expanded from **giving-form** to **creating systems** that support interactions.
Human interactions span thinking and acting, whether mundane or metaphysical.

We must model and tame this complex mesh of mechanisms.

Therefore: systems literacy is a necessary foundation for design.

If design, then systems.

If systems, then cybernetics:

- Digital interactions comprise reliable connections, communication, and feedback.
Human interactions comprise purpose, feedback, and learning.
- The science of communication and feedback, interaction and purpose, is cybernetics.

We must model communication and intention in a common frame.

Therefore: cybernetics is a necessary foundation for design.

If design, then systems.

If systems, then cybernetics.

If cybernetics, then second-order cybernetics:

- Framing “wicked challenges” requires articulating human values and viewpoints. Values and viewpoints are subjective.
- Designers must offer a persuasive rationale for our subjective viewpoints.
- Modeling subjectivity is the province of second-order cybernetics.

We must embrace values and subjectivity at the heart of designing.

Therefore: second-order cybernetics is a necessary foundation for design.

If design, then systems.

If systems, then cybernetics.

If cybernetics, then second-order cybernetics.

If second-order cybernetics, then conversation:

- Taming “wicked challenges” must be grounded in argumentation.
- Argumentation requires conversation so that participants may understand and agree.
- Agreement is necessary for collaboration and effective action.

We must embrace argumentation and collaboration to the heart of 21st-century design.

Therefore: conversation is a necessary foundation for design.

If design, then systems.

If systems, then cybernetics.

If cybernetics, then second-order cybernetics.

If second-order cybernetics, then conversation.

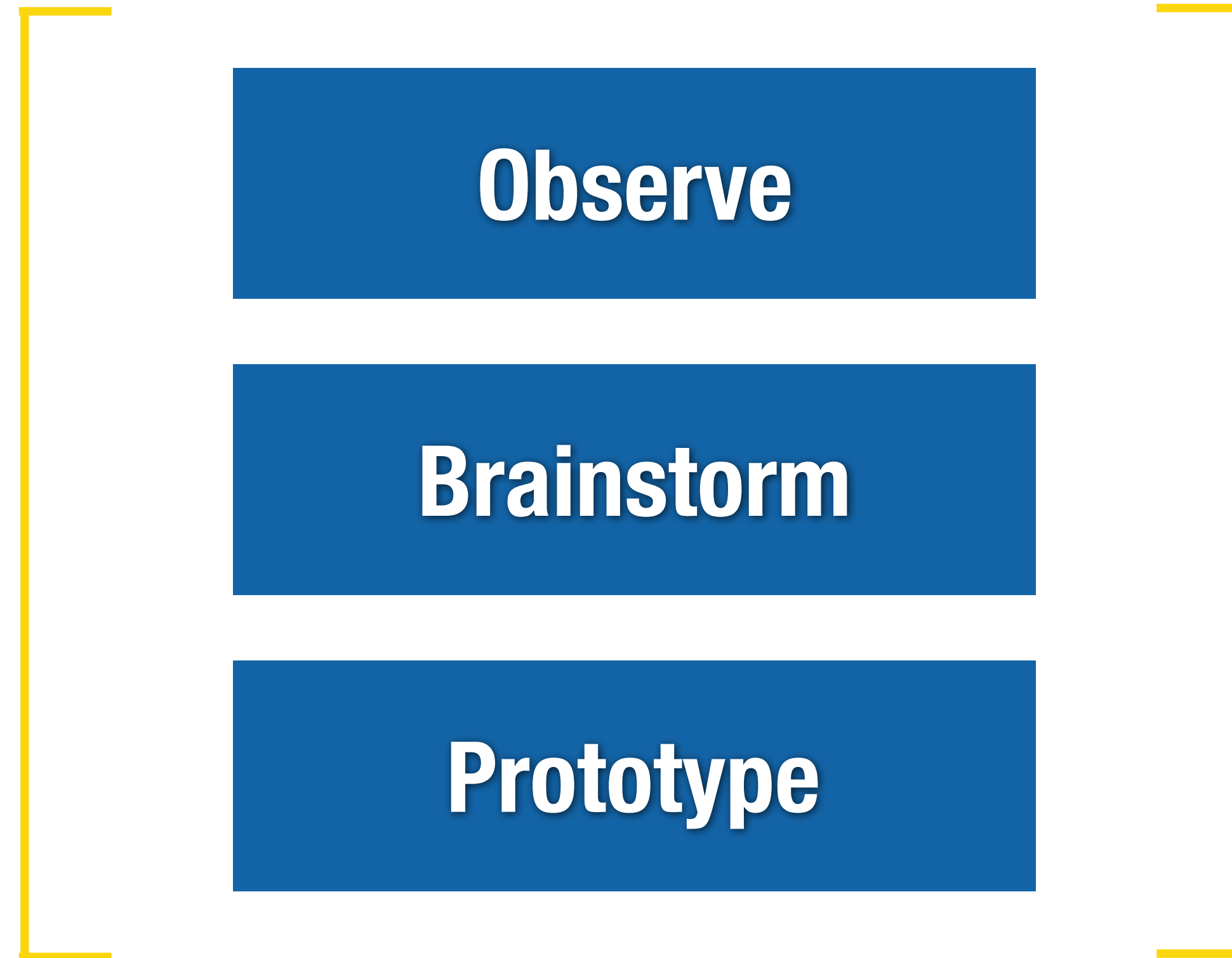
— Dubberly & Pangaro, “Cybernetics and Design: Conversations for Action”, 2015

Design... from Thinking to Conversation



**Design
Thinking**

What is the process of Design Thinking?



What Does that mean?

Ethnography

Observe

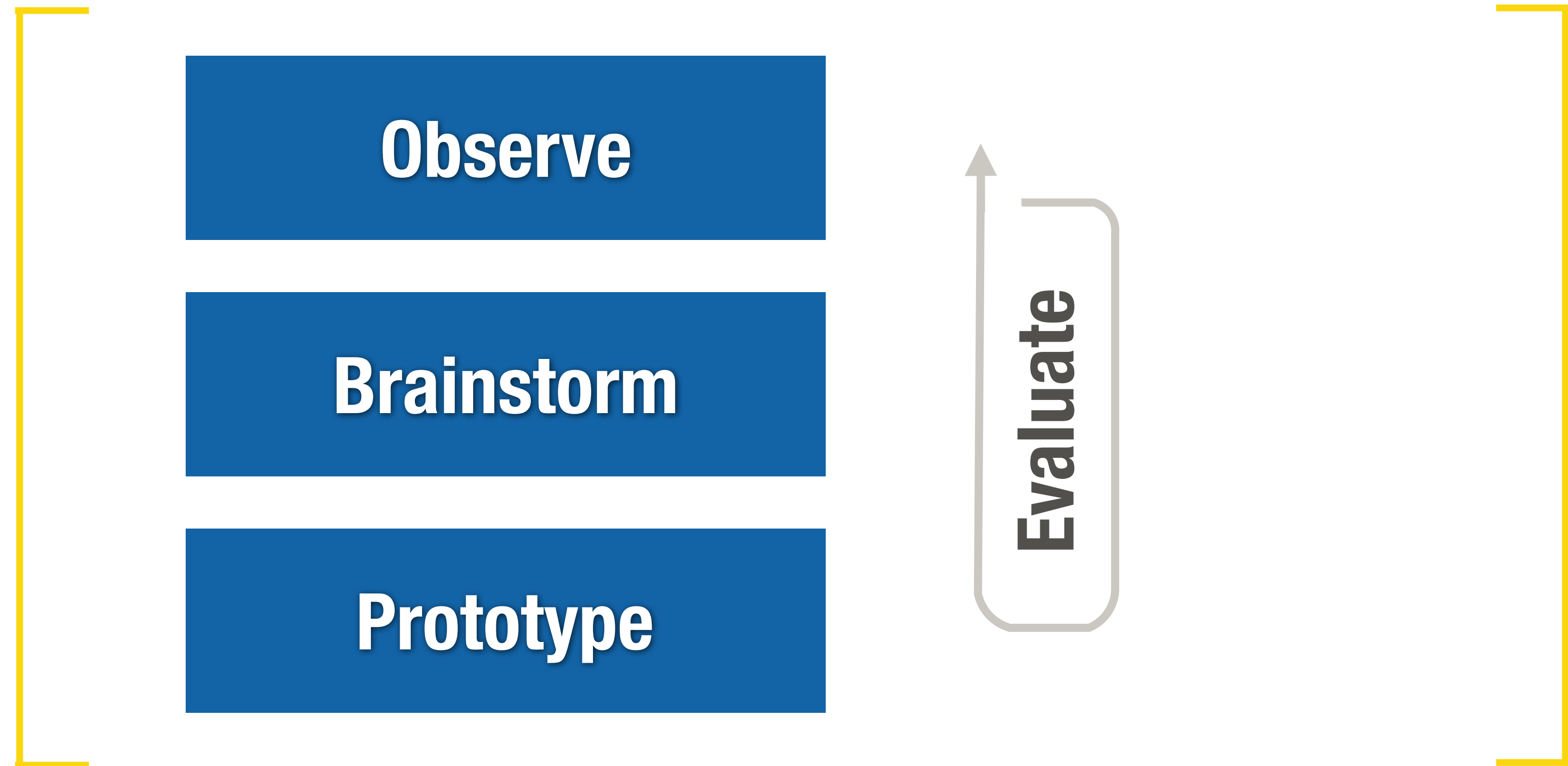
Open-ended idea
generation

Brainstorm

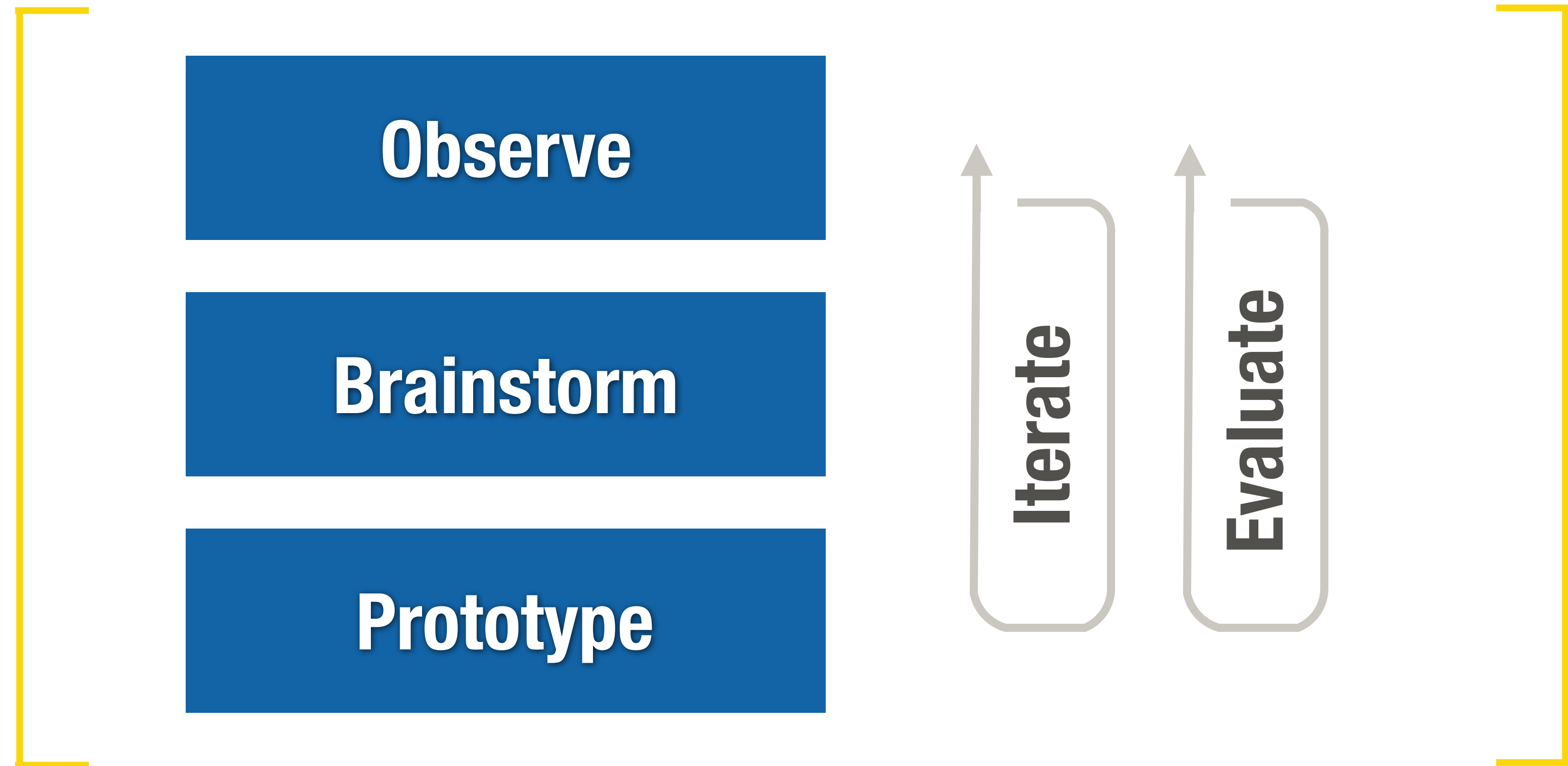
Making and
testing

Prototype

What Does that mean?



What Does that mean?



Limitations

Specific?

Rigorous?

Repeatable?

Observe

Brainstorm

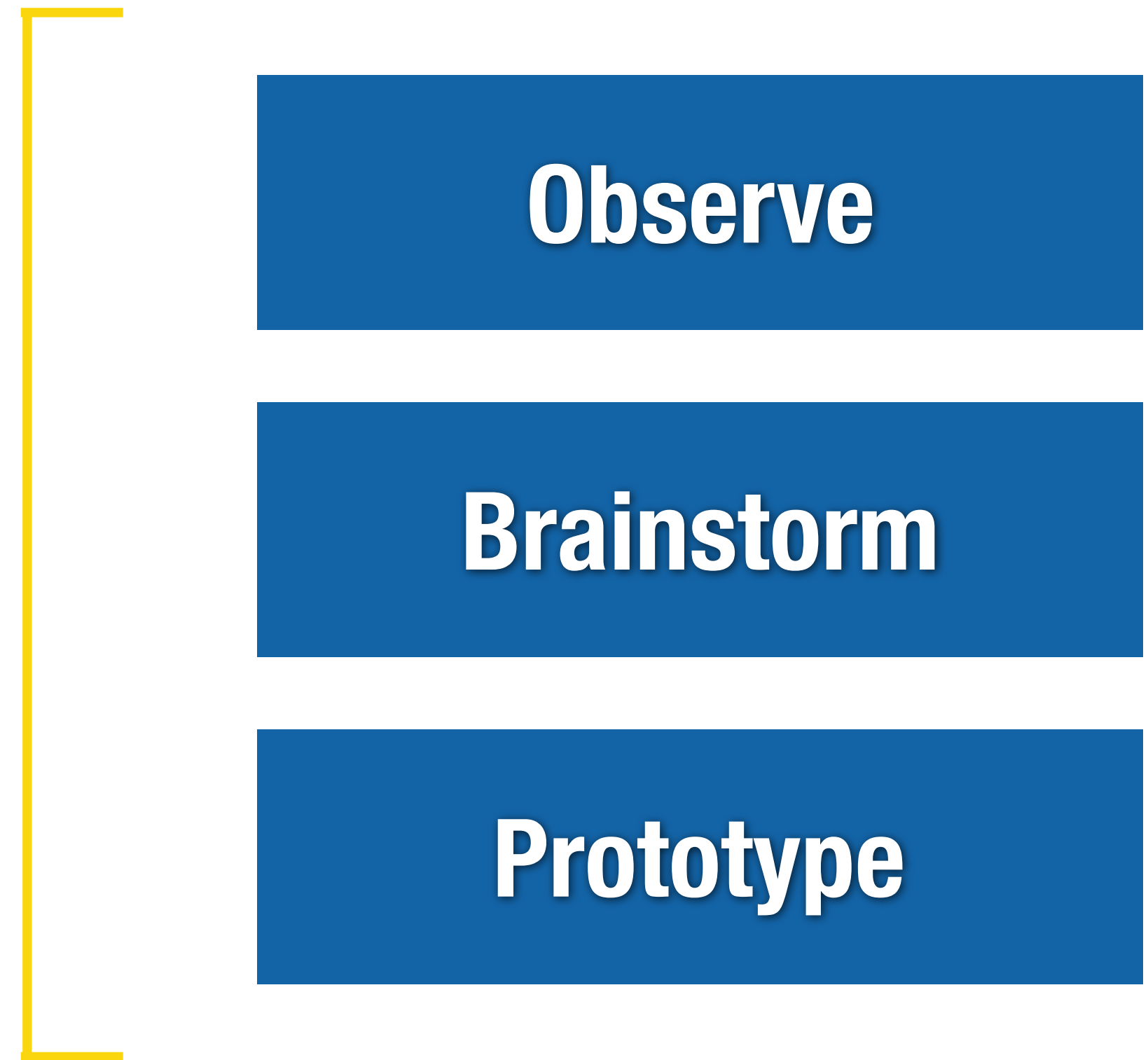
Prototype

Iterate

Evaluate

Limitations

Specific?
Rigorous?
Repeatable?



Clear?
Quantifiable?
Directed?

Rethinking...

Specific?
Rigorous?
Repeatable?



Observe

Brainstorm

Prototype

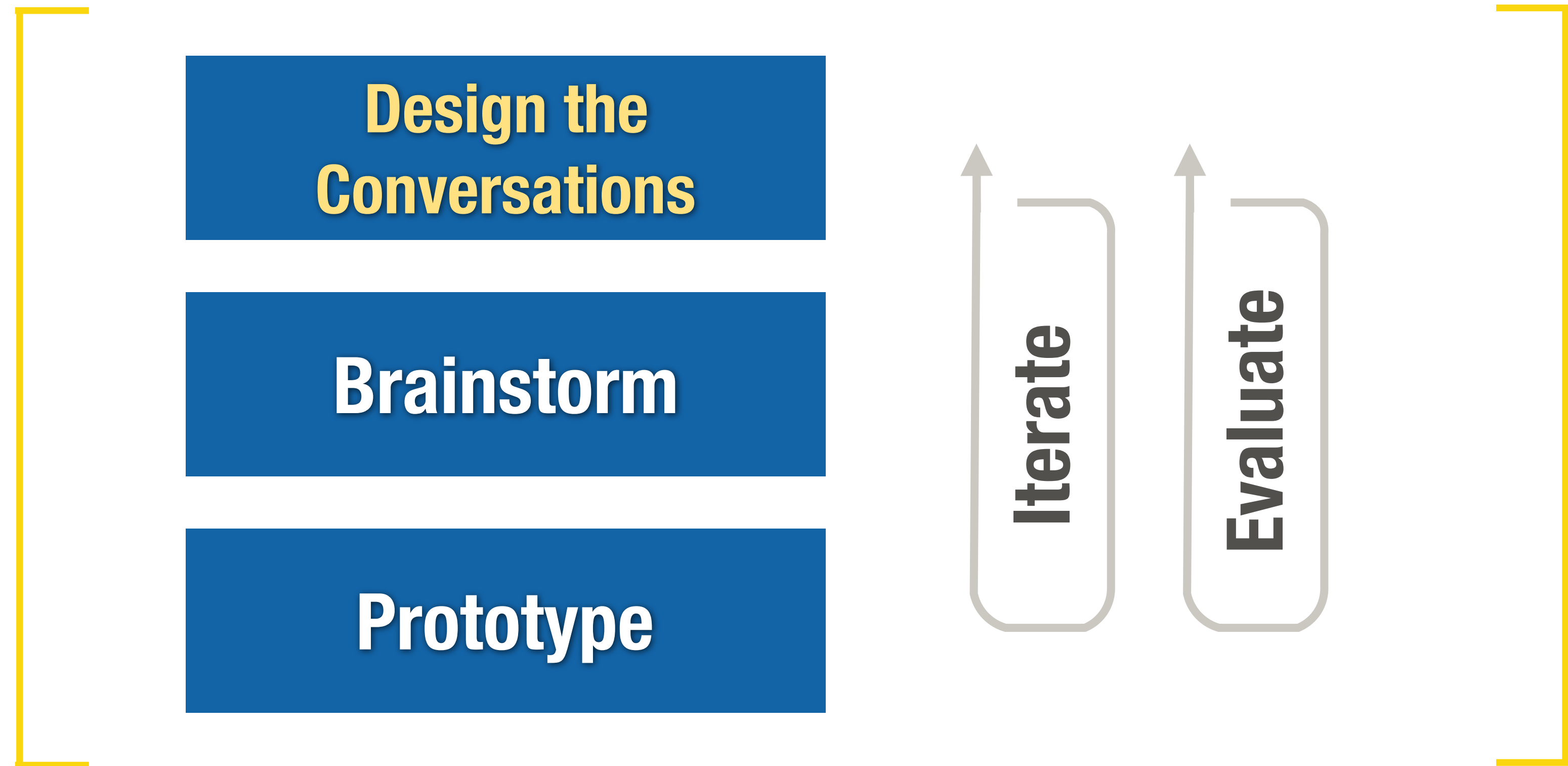
Iterate

Evaluate

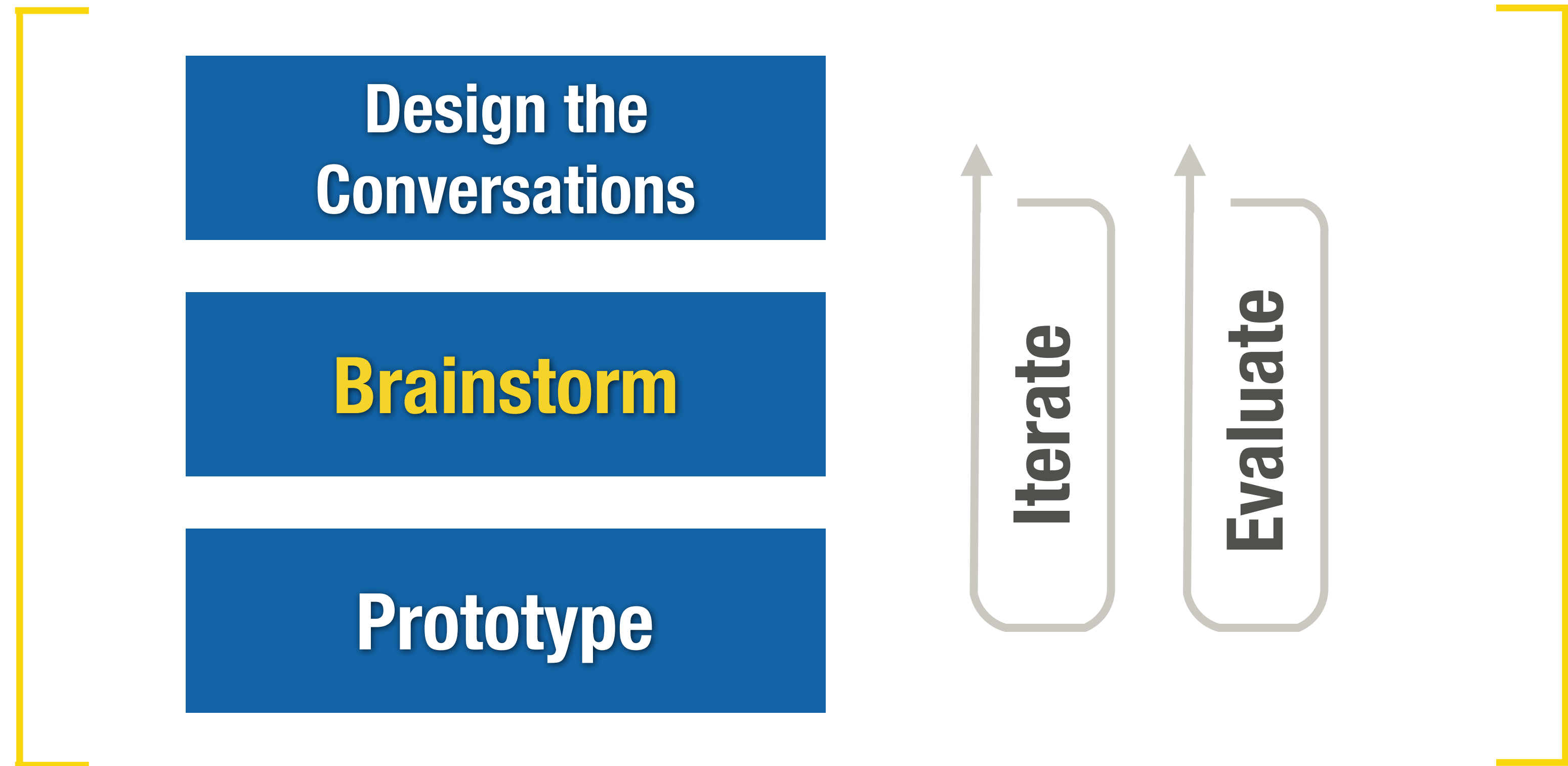


Clear?
Quantifiable?
Directed?

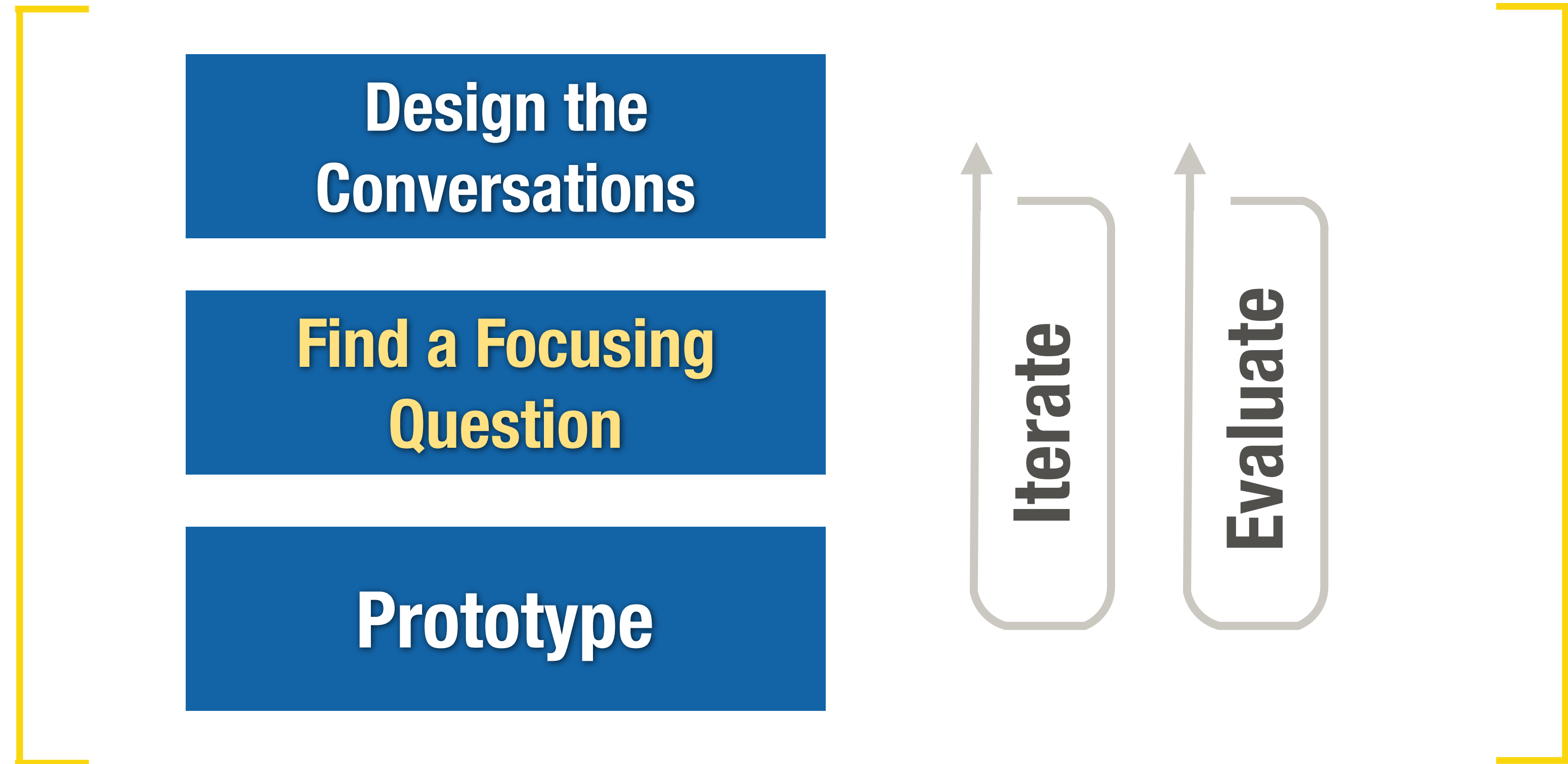
Design the Conversations



Design the Conversations



Find a Focusing Question



Requirements for Focusing Questions

Actionable information flows, not transformation of mass & energy—so it participates in the new economy, the move from “atoms to bits.”

Economic potential—removing uncertainty in the market, creating order from disorder, lowering the human cost of achieving our goals, are all worth something.

Consistent with the social system—connecting to who we are (our history) and what we can see ourselves engaging in.

Engage individuals who want to do it.

Reveal the necessary variety of expertise required for exploring the question, so that we can define it and make it available (requisite variety).

Teach the organization as a whole—so that what is learned can be reproduced.

Find a Focusing Question

Economic Potential
Using bits &
reducing uncertainty

Social Potential
Consistent with who
we are & want to be

Systemic Potential
Engages variety

**Design the
Conversations**

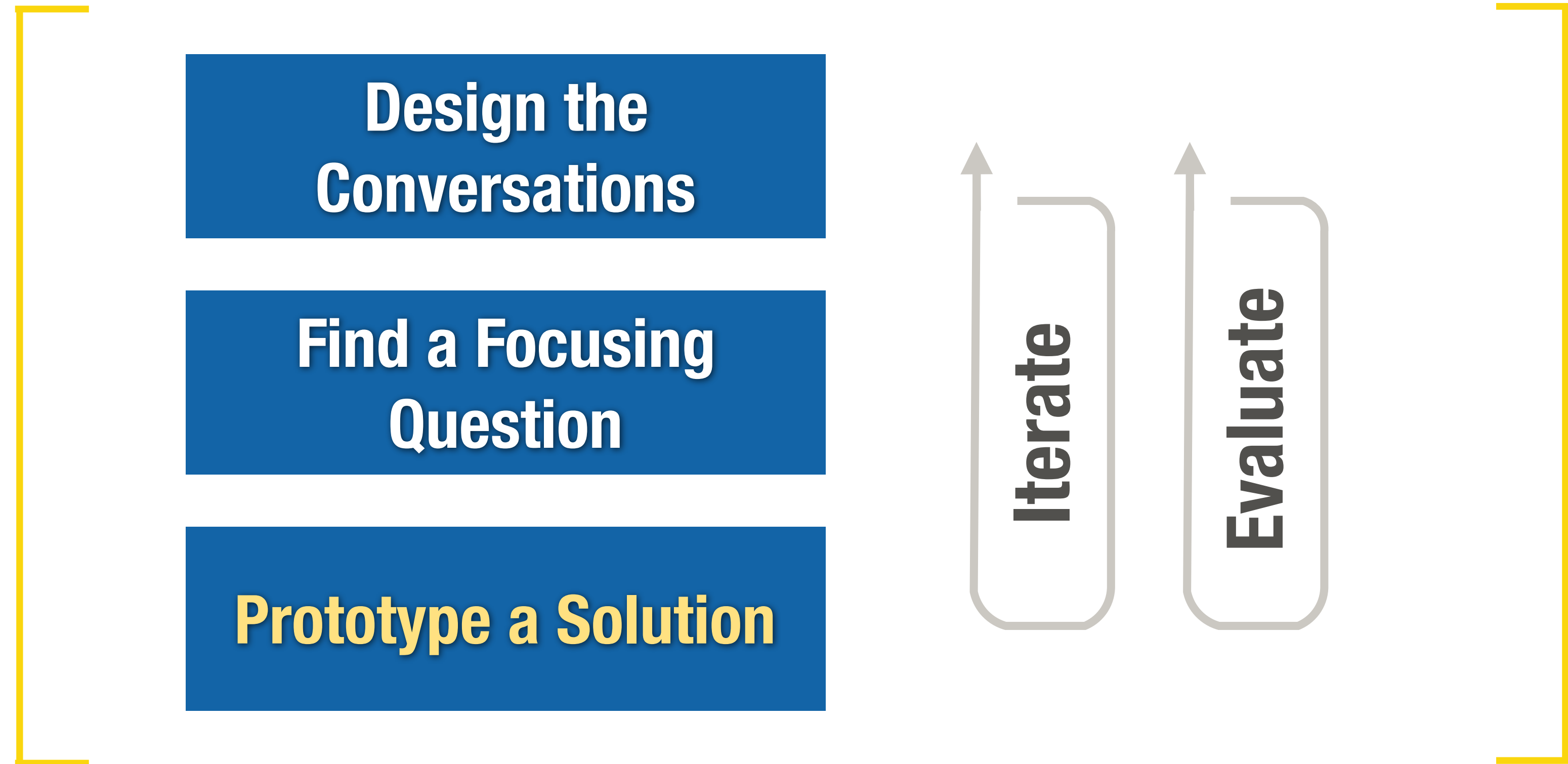
**Find a Focusing
Question**

Prototype

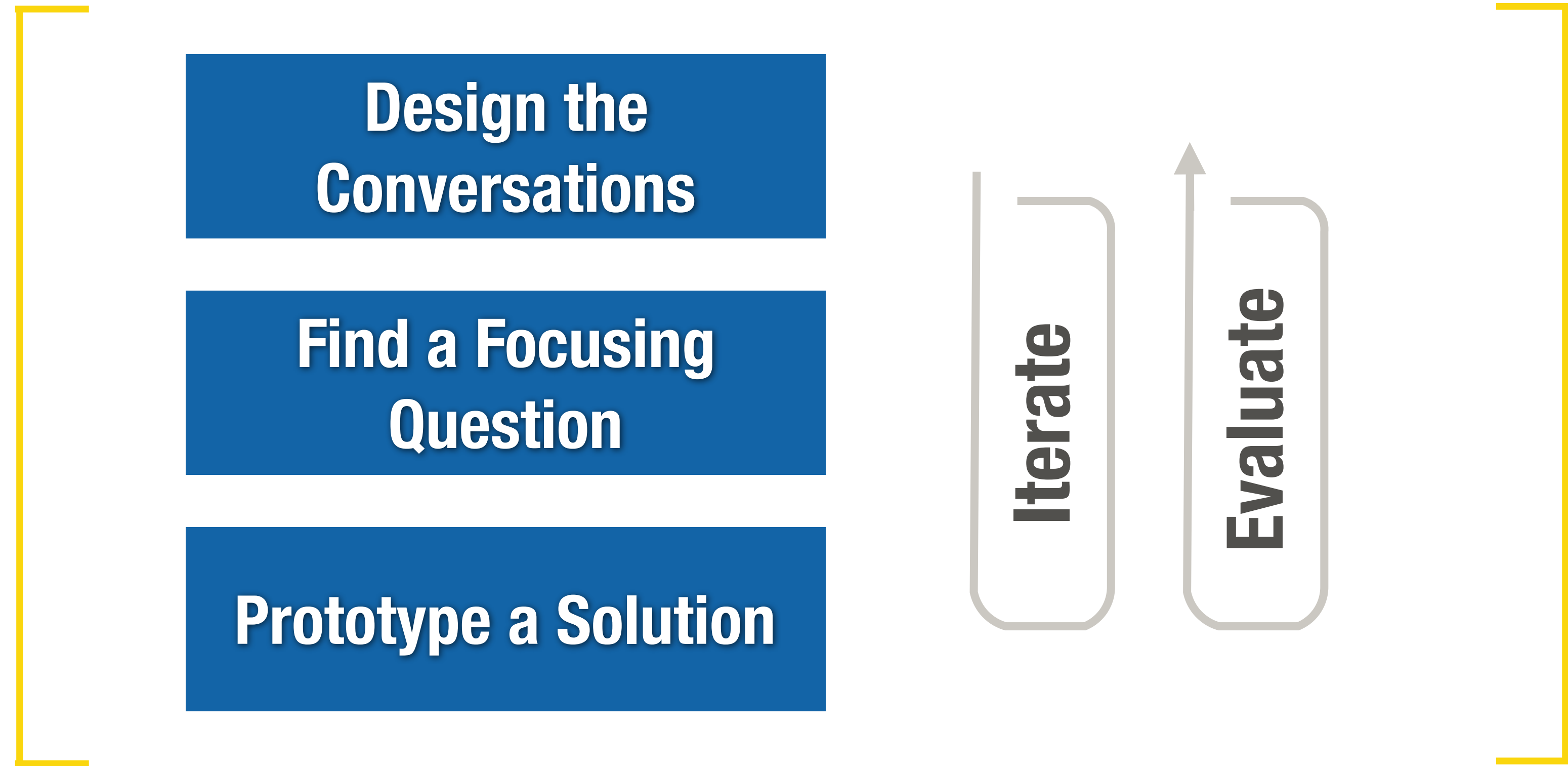
Iterate

Evaluate

Prototype a Solution



Iterate & Evaluate



Iterate & Evaluate

Measure
Improvements
for Users

**Design the
Conversations**

**Find a Focusing
Question**

Prototype a Solution

Iterate

Evaluate

Iterate & Evaluate

Measure
Improvements
for Users

Measure
Convergence
on design goals

**Design the
Conversations**

**Find a Focusing
Question**

Prototype a Solution

Iterate

Evaluate

Iterate & Evaluate

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Measure
Convergence
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**Conversation to
Agree on Means**

Iterate

Evaluate

Conversation is the core

Measure
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**Conversation to
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**Conversation to
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Design... from Thinking to Conversation



**Design
Thinking**

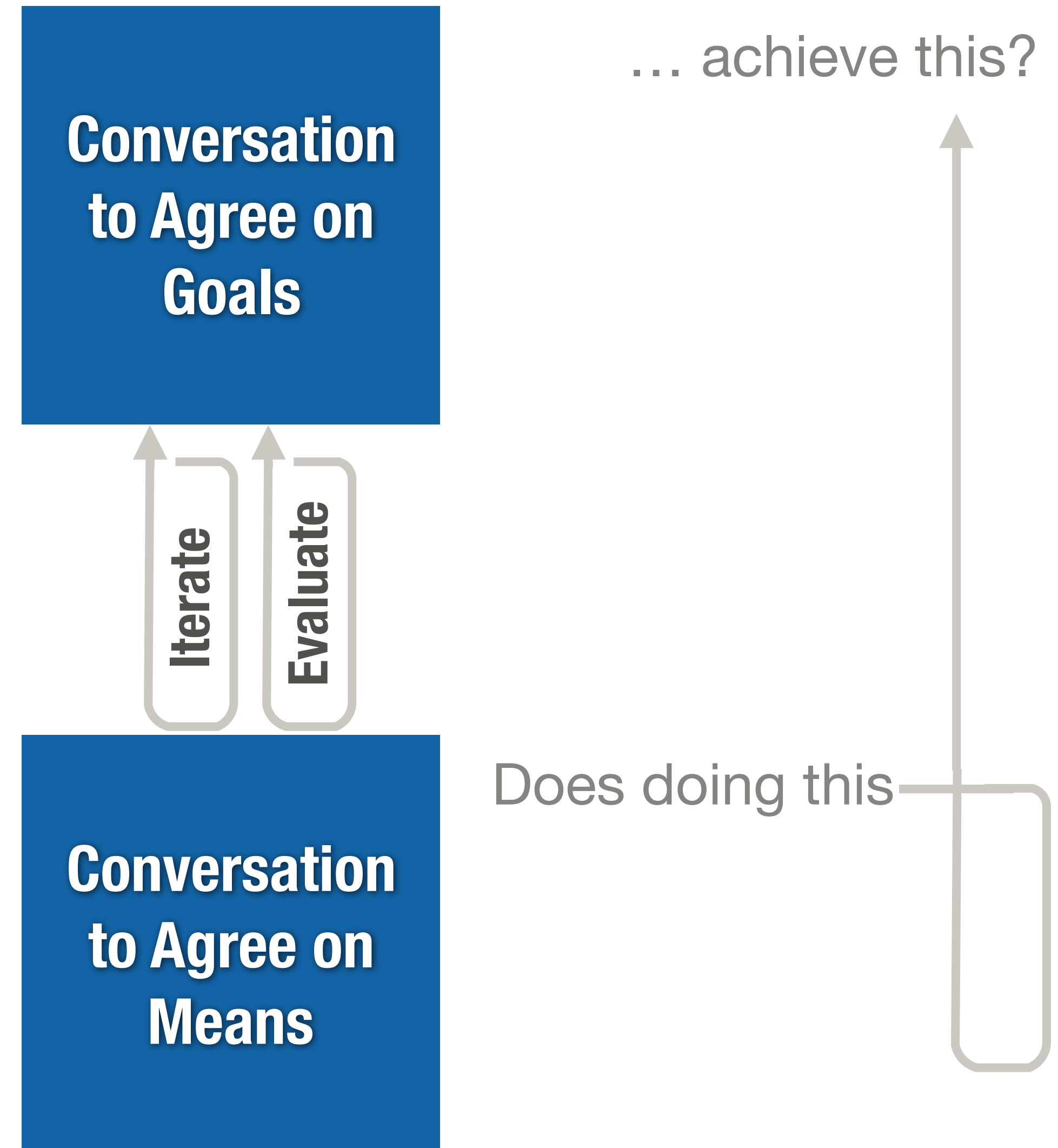
Rethinking Design Thinking

**Conversation
to Agree on Means**

Design as Conversation

**Conversation
to Agree on
Means**

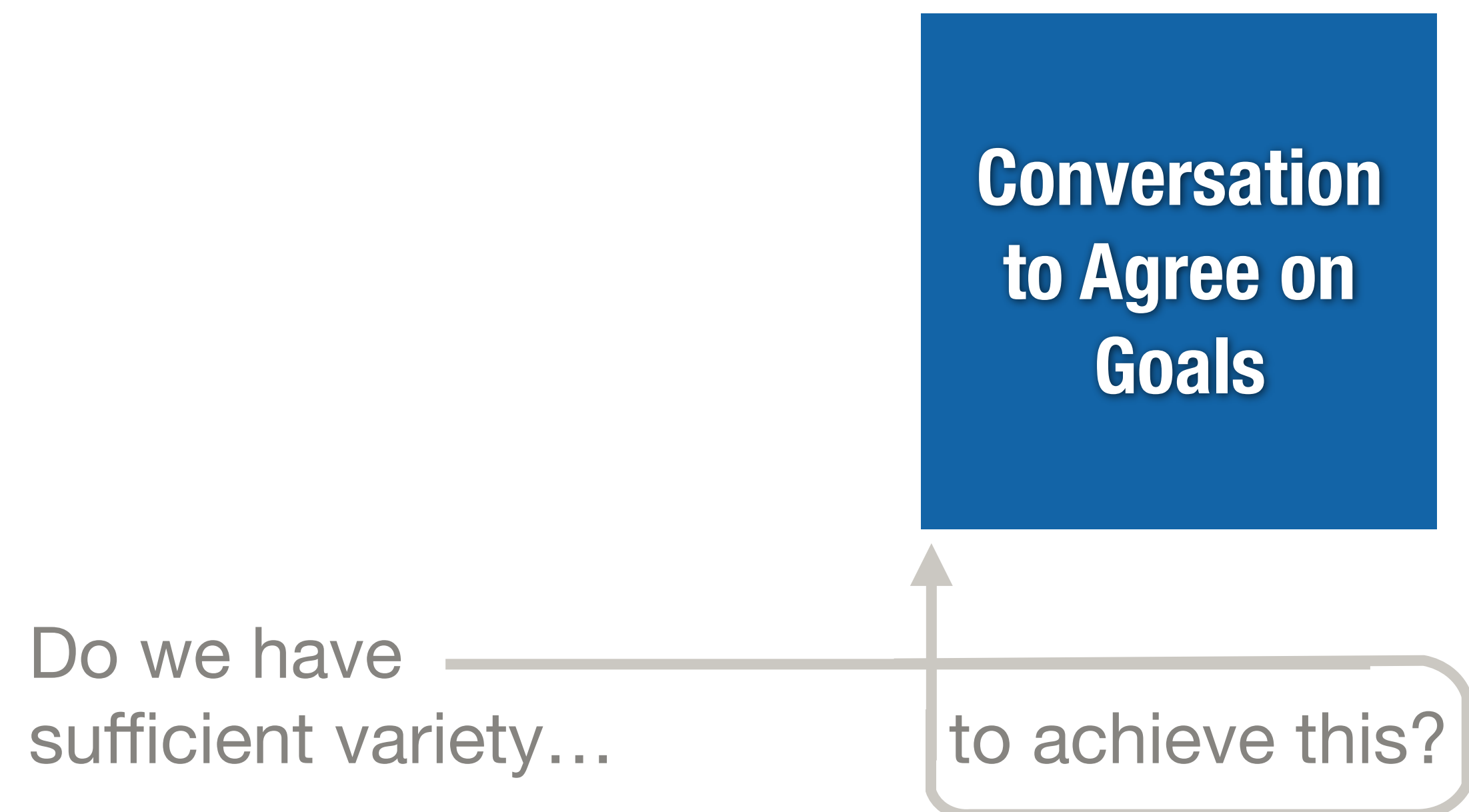
Design as Conversation



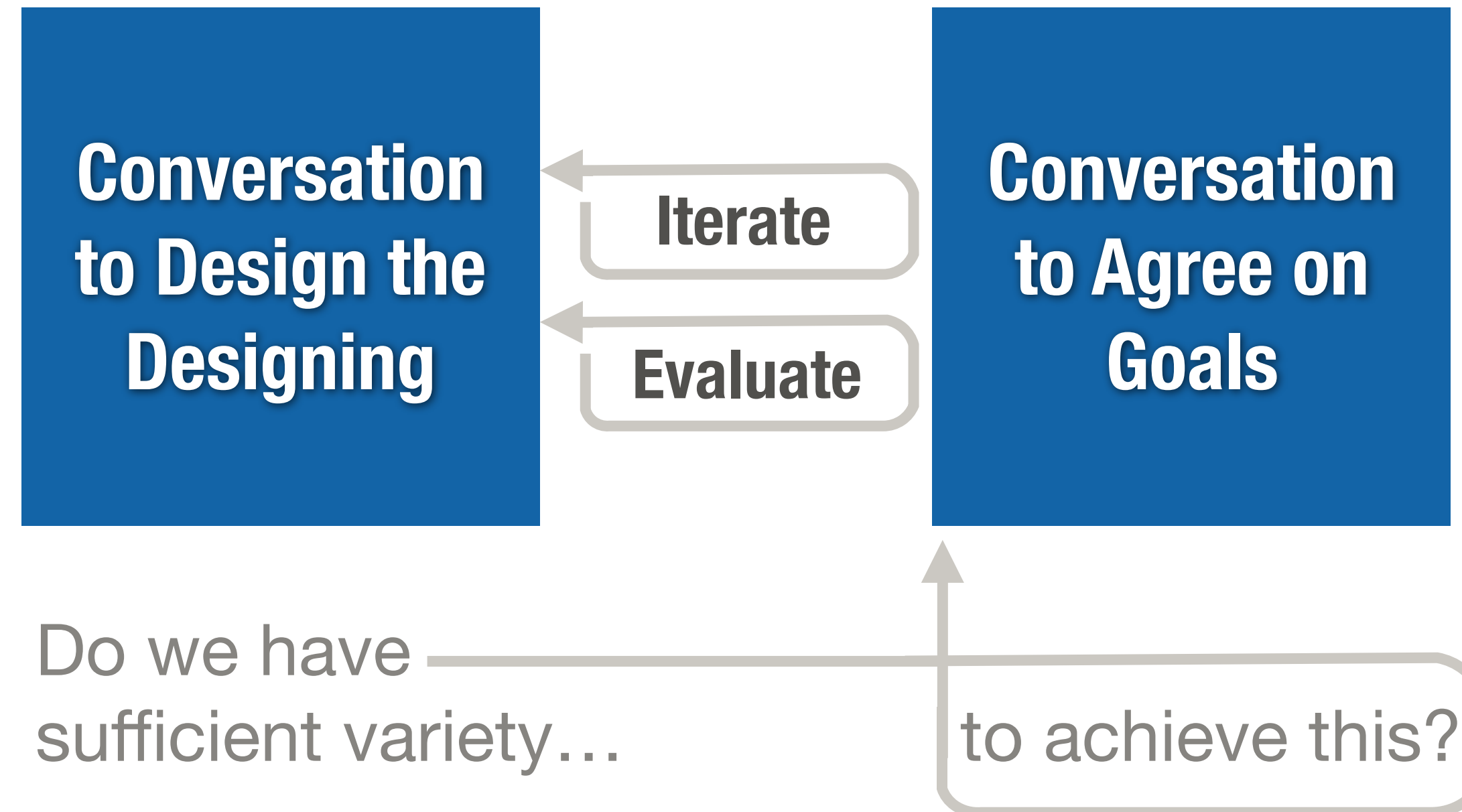
Design as Conversation

**Conversation
to Agree on
Goals**

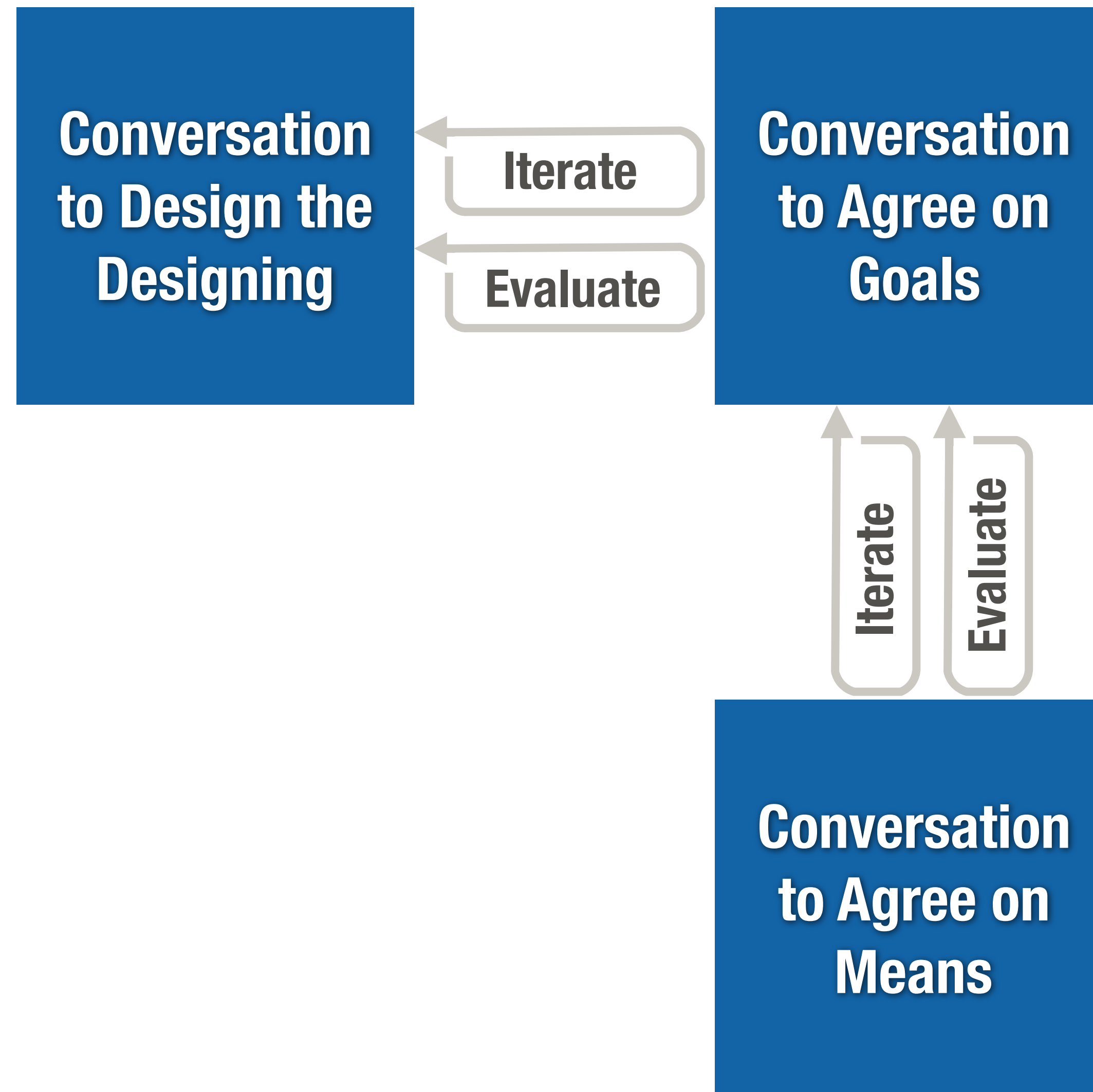
Design as Conversation



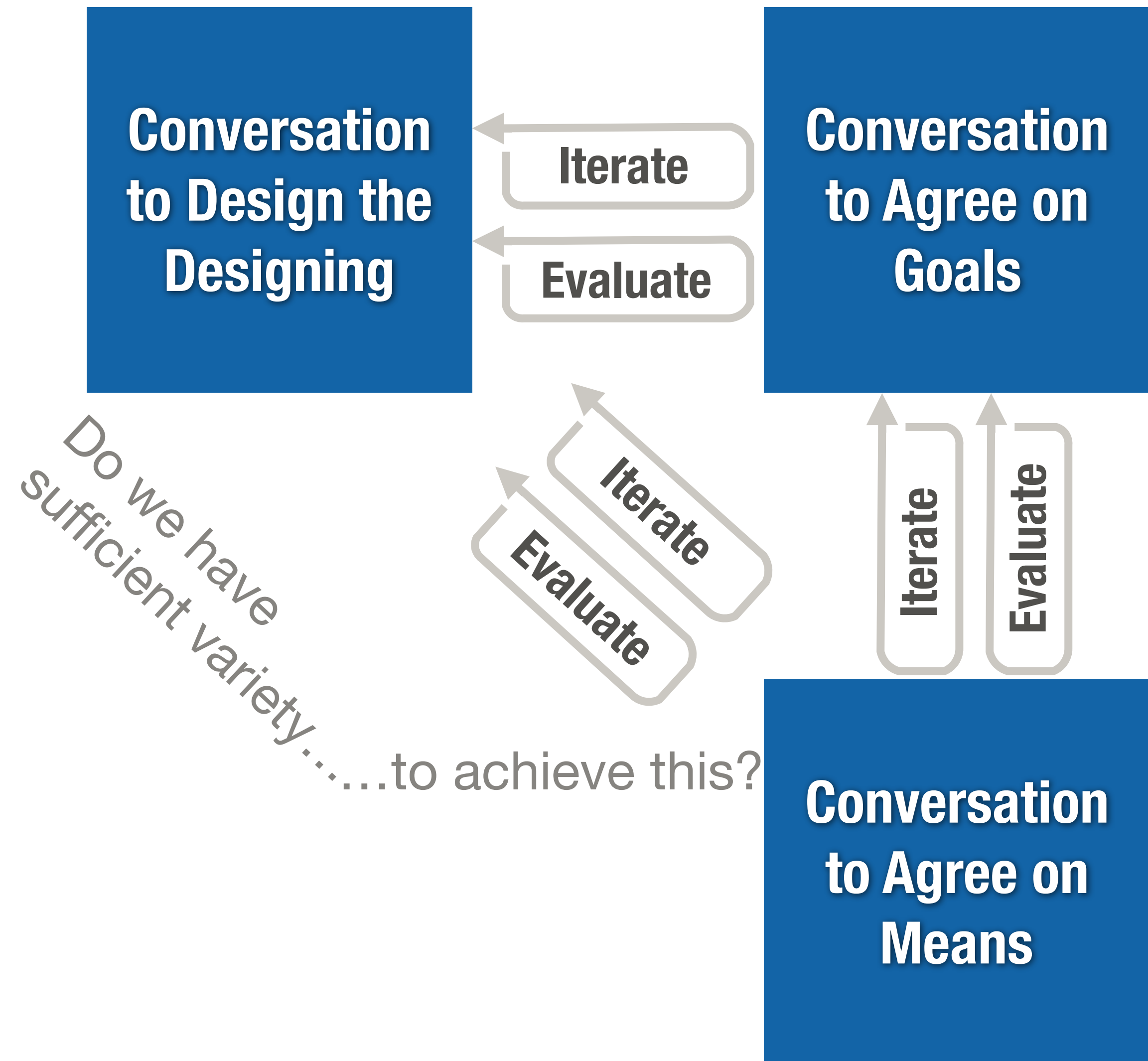
Design as Conversation



Design as Conversation



Design as Conversation



CONVERSATION

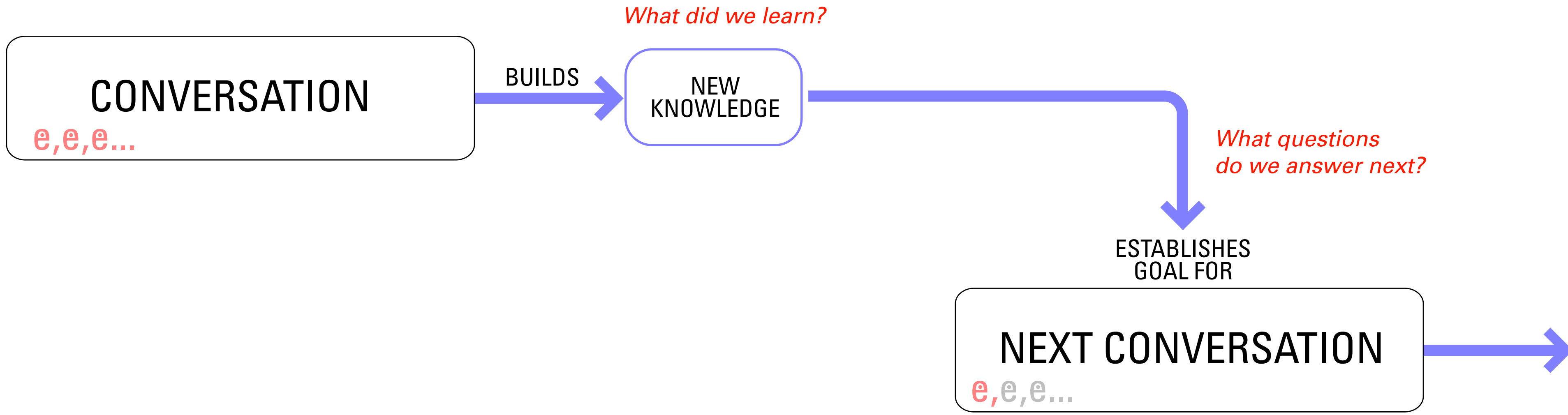
e,e,e...

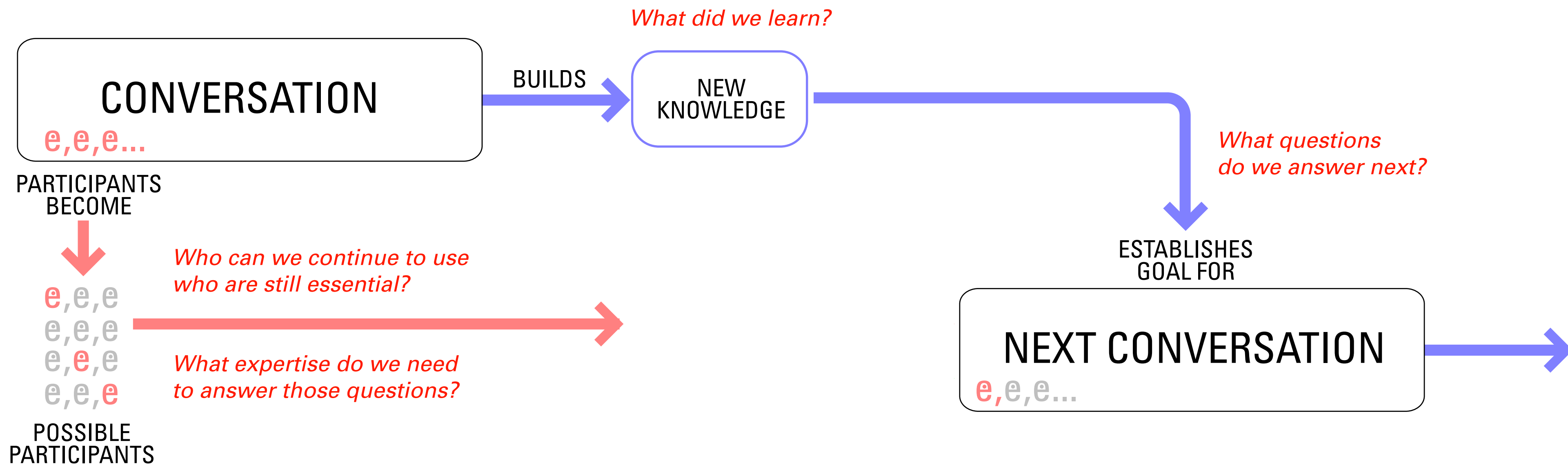
CONVERSATION
e,e,e...

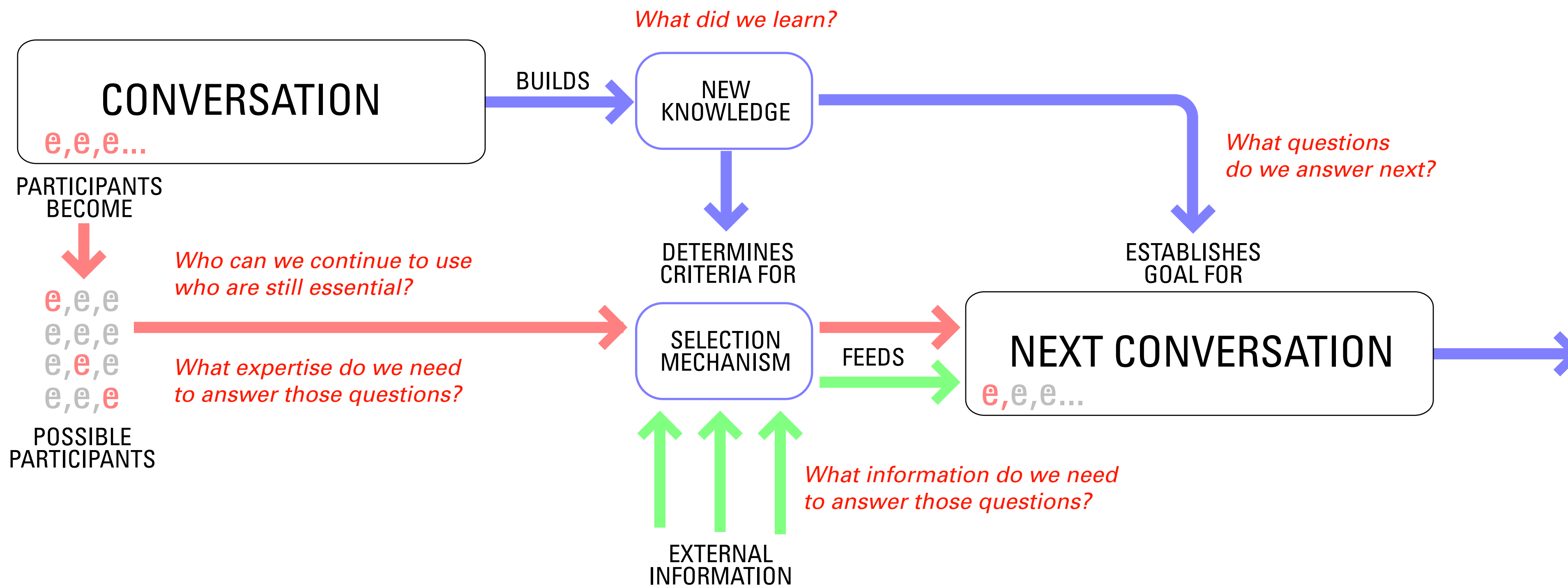
BUILDS →

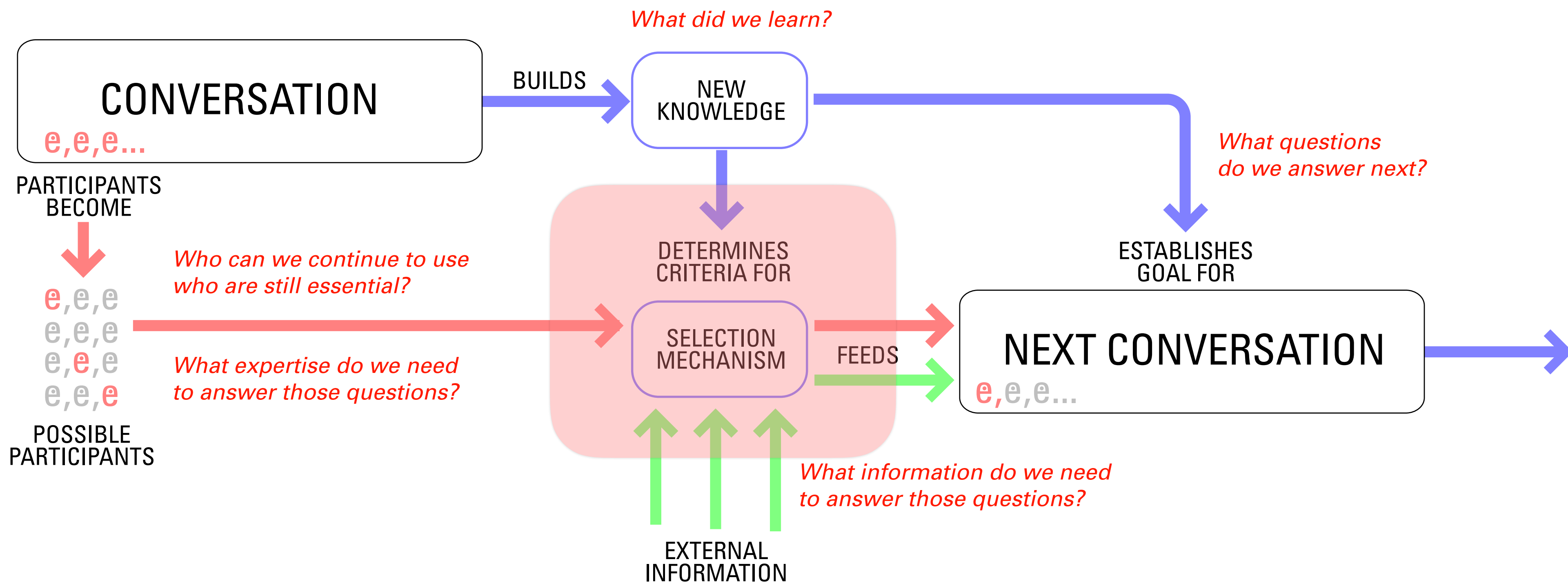
**NEW
KNOWLEDGE**

What did we learn?









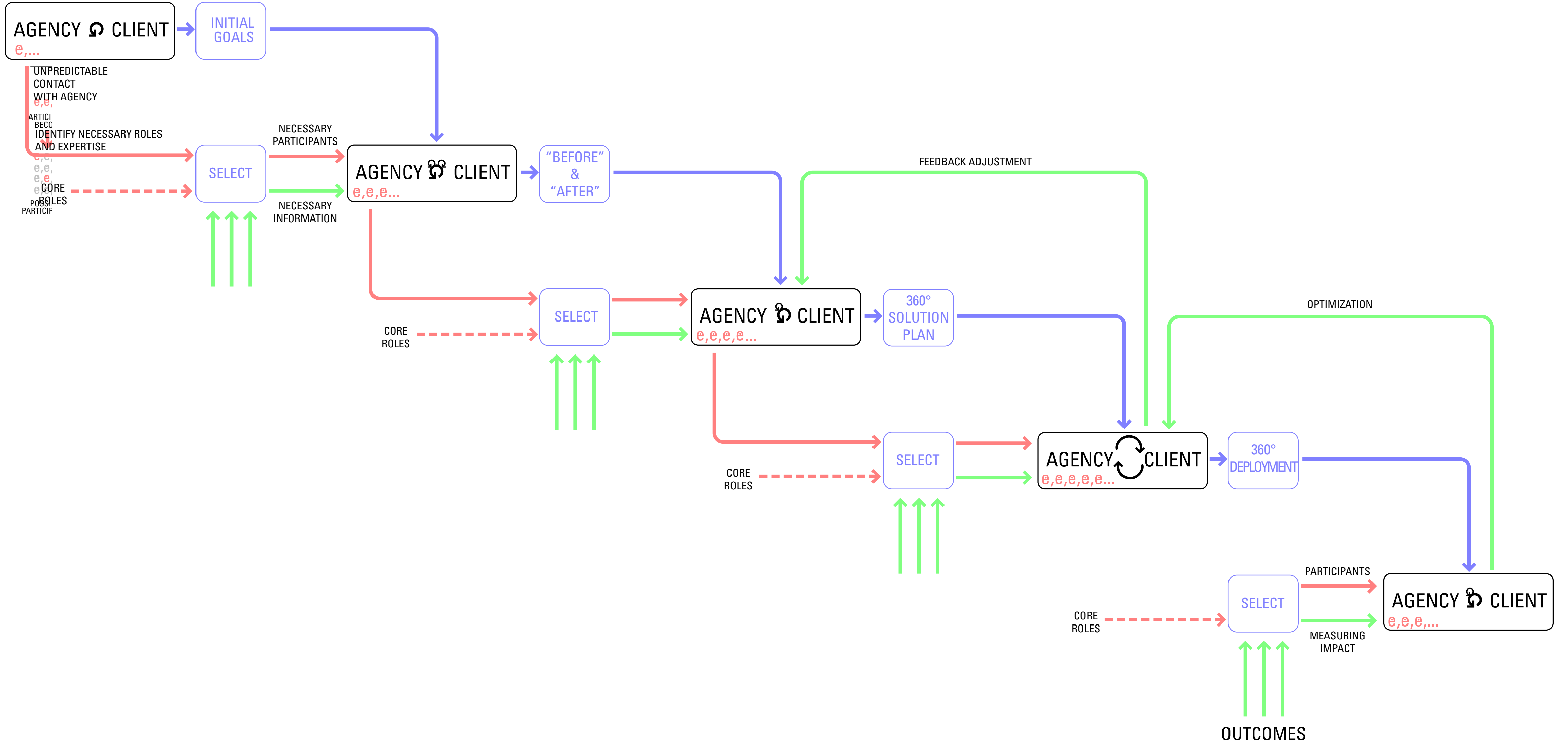
catalyst

ideation

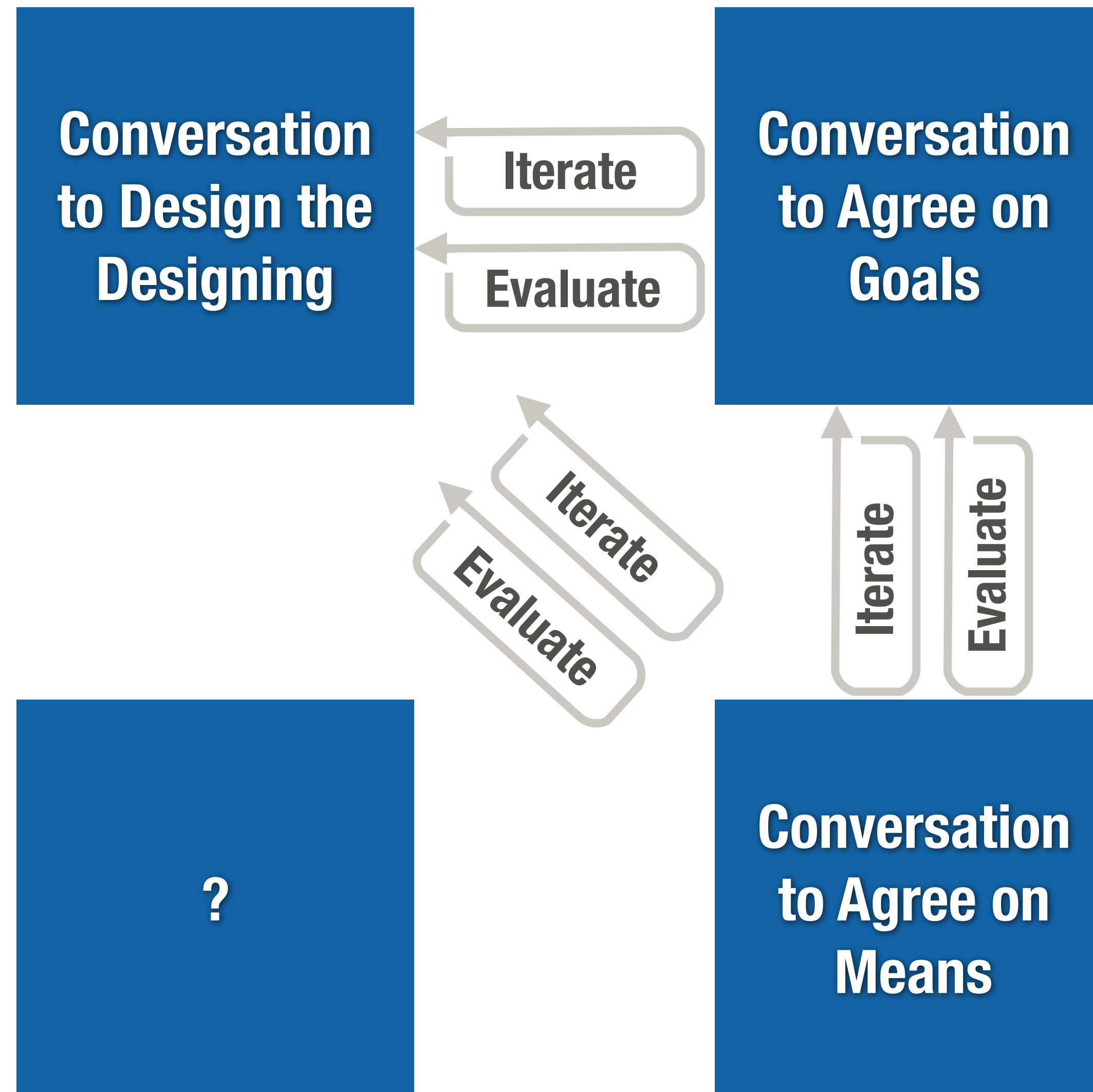
solution

delivery

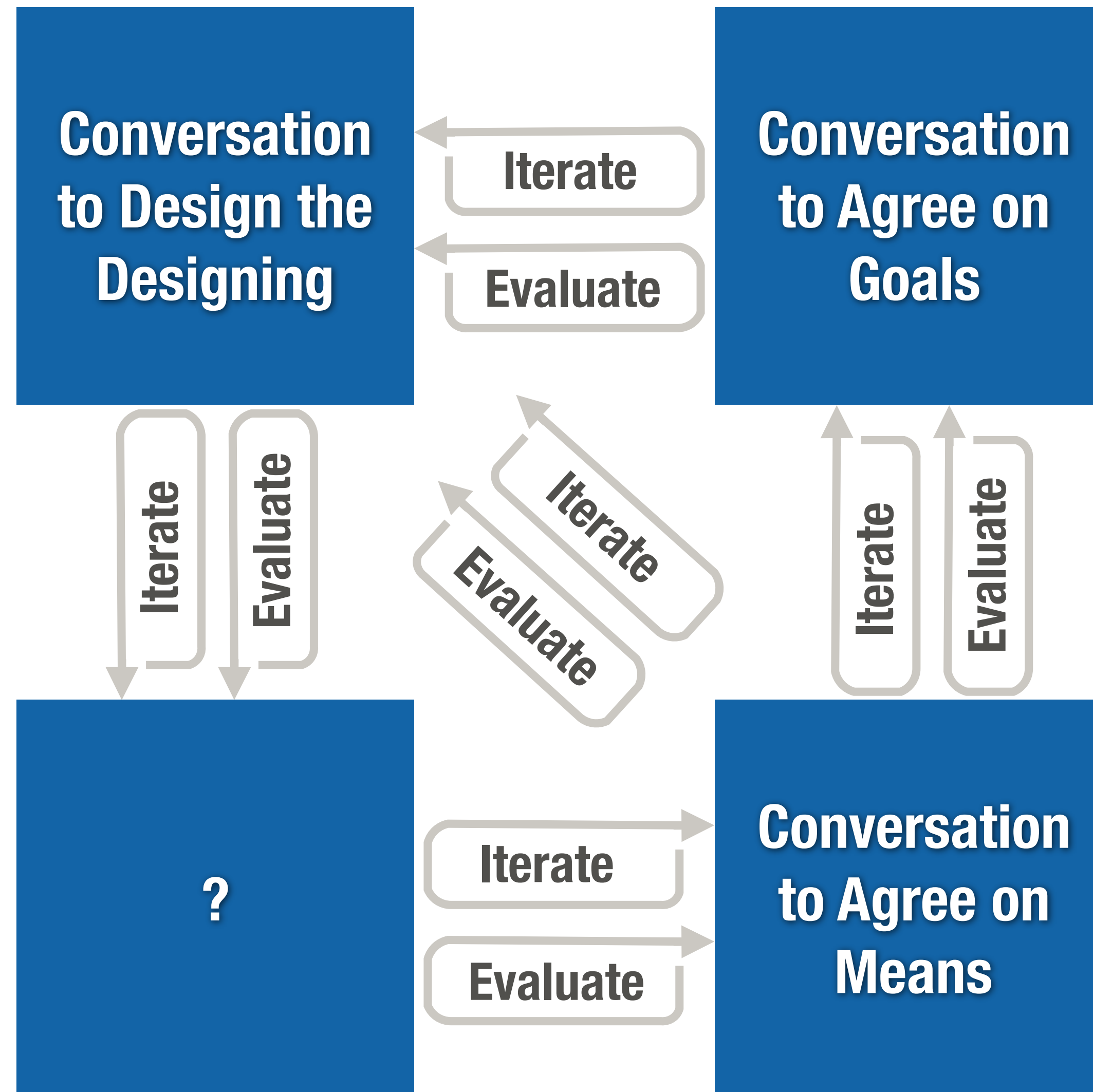
evaluation

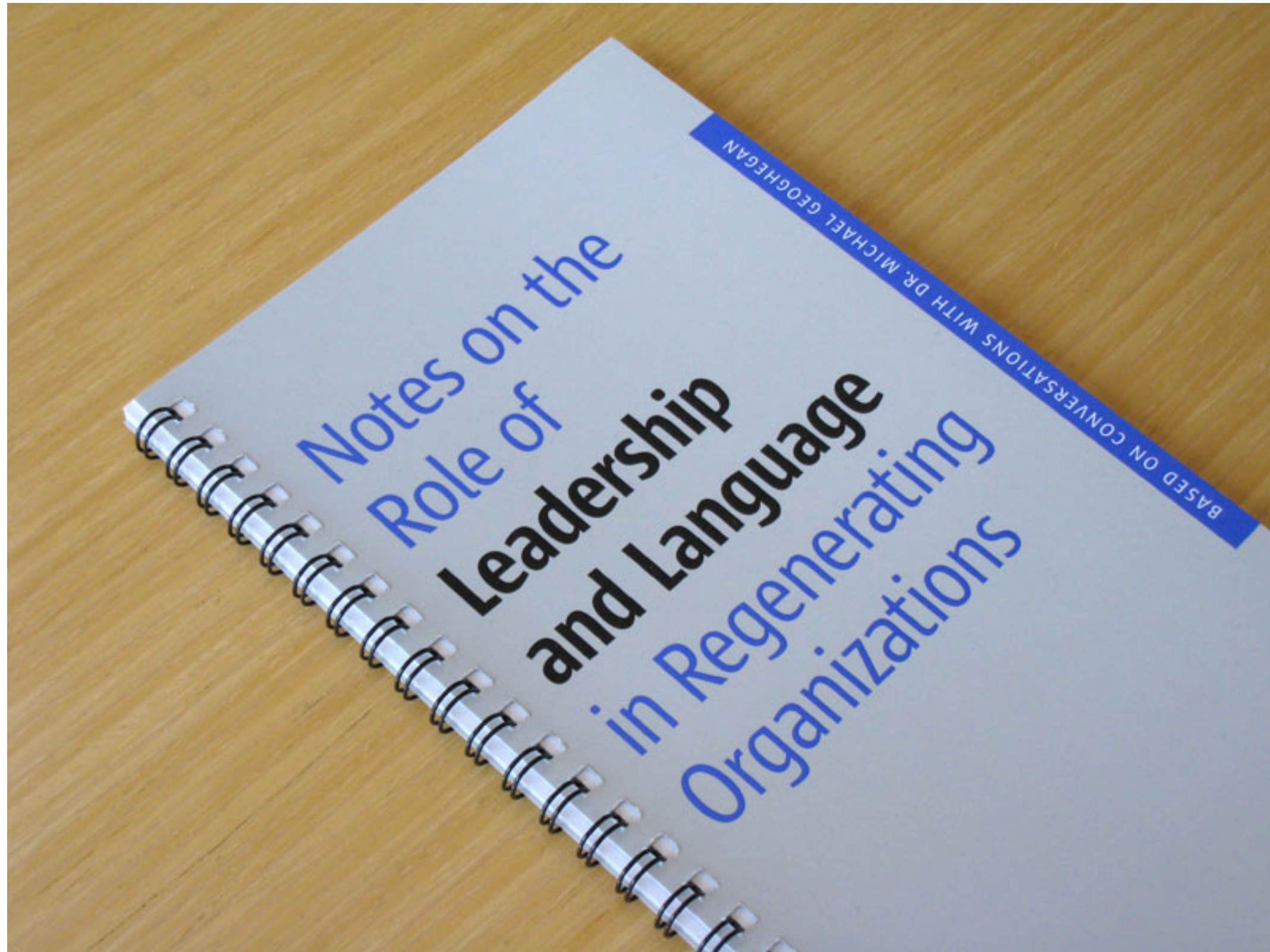


Design as Conversation



Design as Conversation





An organization is its language.

Ultimately,
an organization consists of conversations:
who talks to whom, about what.

Each conversation
is recognized, selected, and amplified
(or ignored) by the system.
Decisions, actions, and a sense of valid purpose
grow out of these conversations.

Conversation leads to agreement.
Agreement leads to transaction.

Narrowing language increases efficiency.

Organizations create their own internal language to solve specific problems.

This language serves as a kind of shorthand: Managers use it every day, knowing they will be clearly understood.

Over time, this internal language grows increasingly specialized — and narrow.

Narrowing language also increases ignorance.

The organization's internal language is designed to help managers facilitate present-day business — not look beyond it.

Using the internal language, managers increase efficiencies, but cannot recognize new fields of research, new discoveries, new approaches.

Past language limits future vision.

Managers understand the organization's past behavior.
But this knowledge,
and the language that accompanies it,
limit their vision
of the organization's potential future state.

Using the language of the past,
managers may try to provide a vision for the future.
But it is an old future —
a memory of what the future could be.

Managers may strive for fundamental change,
but their language prevents them from achieving it.

Expanding **language** increases opportunity.

The conversations necessary
for generating new opportunities
come from outside the system.

For an organization to survive,
it must be able to acquire
new, relevant language domains.

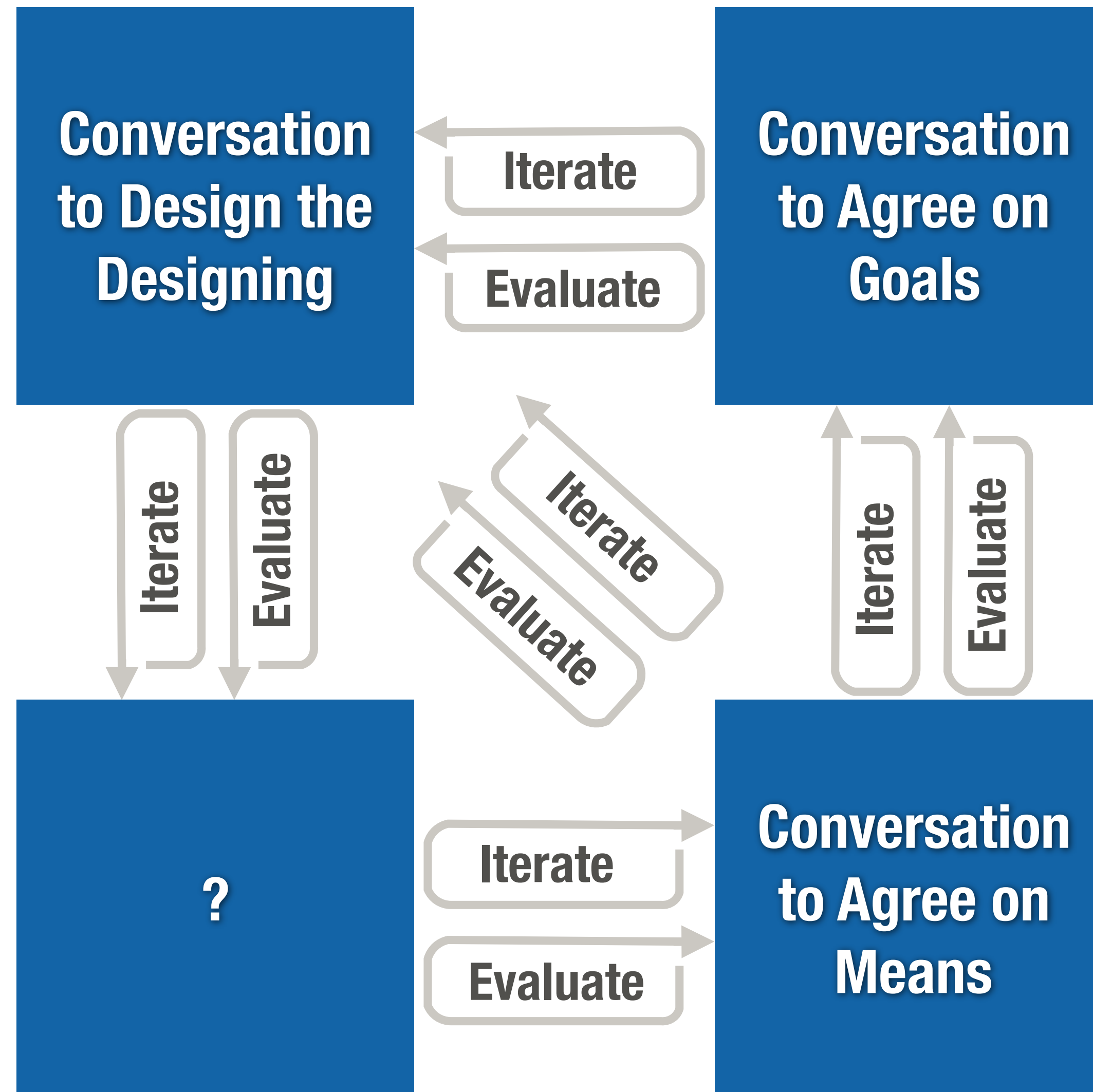
To regenerate,
an organization creates
a new **language**.

To support an organization's future viability, effective decision makers actively introduce change into the system.

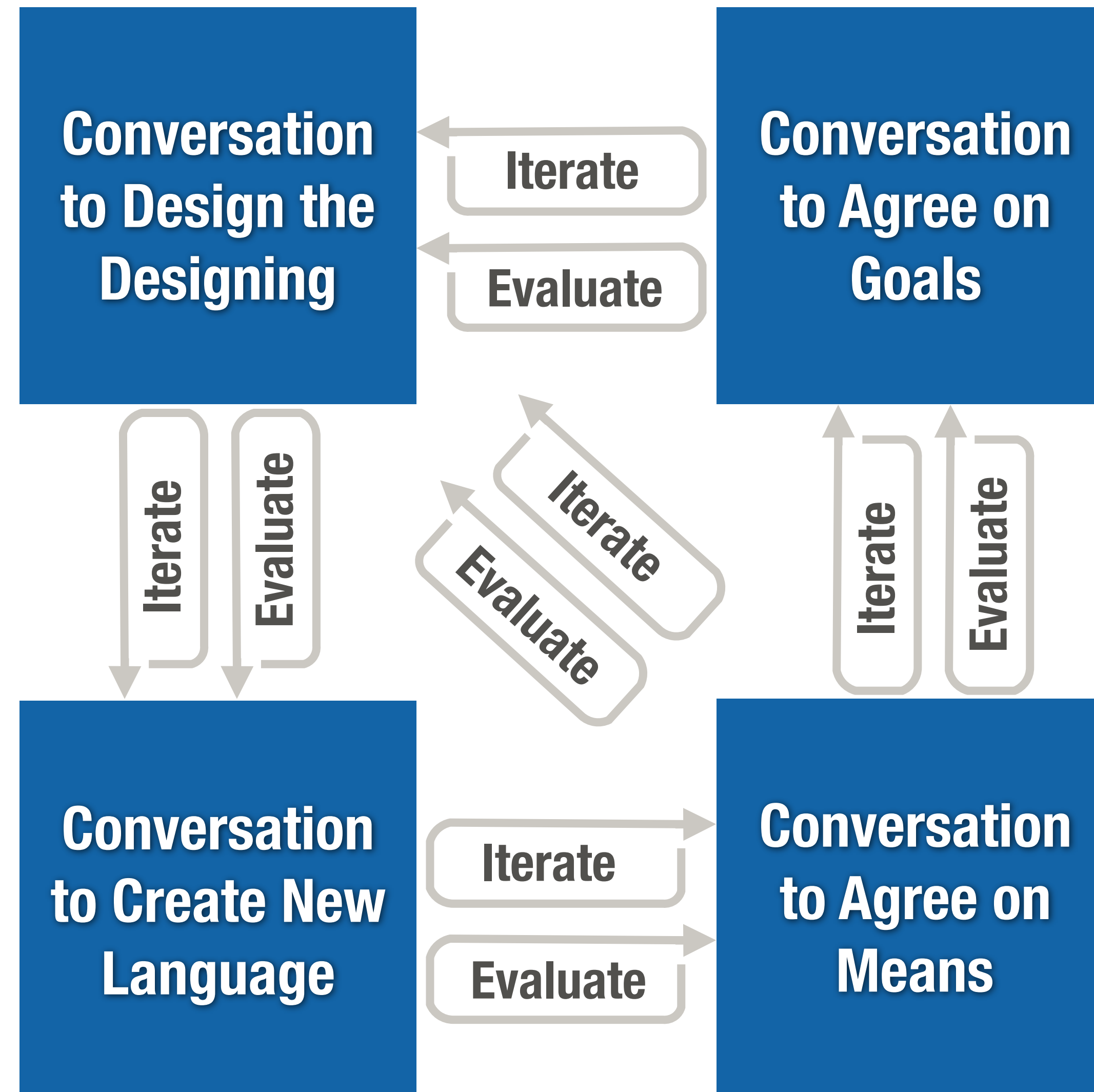
They do so by generating new language that appropriate groups in the organization come to understand and embrace.

This new language does not overtly challenge the pre-existing, efficient system, but rather creates new distinctions and supportive relationships.

Design as Conversation



Design as Conversation



A. Conversation to Agree on Goals

Decide why we are doing what we are doing

- to create value for shareholders
- to pursue our vision for a market
- to commit to sustainable innovation.

B. Conversation to Design the Designing

Identify irreplaceable expertise (variety) for every conversation.

C. Conversation to Create New Language

As a new space of possibilities evolves, frame the situation and define new language.

D. Conversation to Agree on Means

Decide how to achieve our goals, that is, create a plan for the actions of the enterprise.

A.

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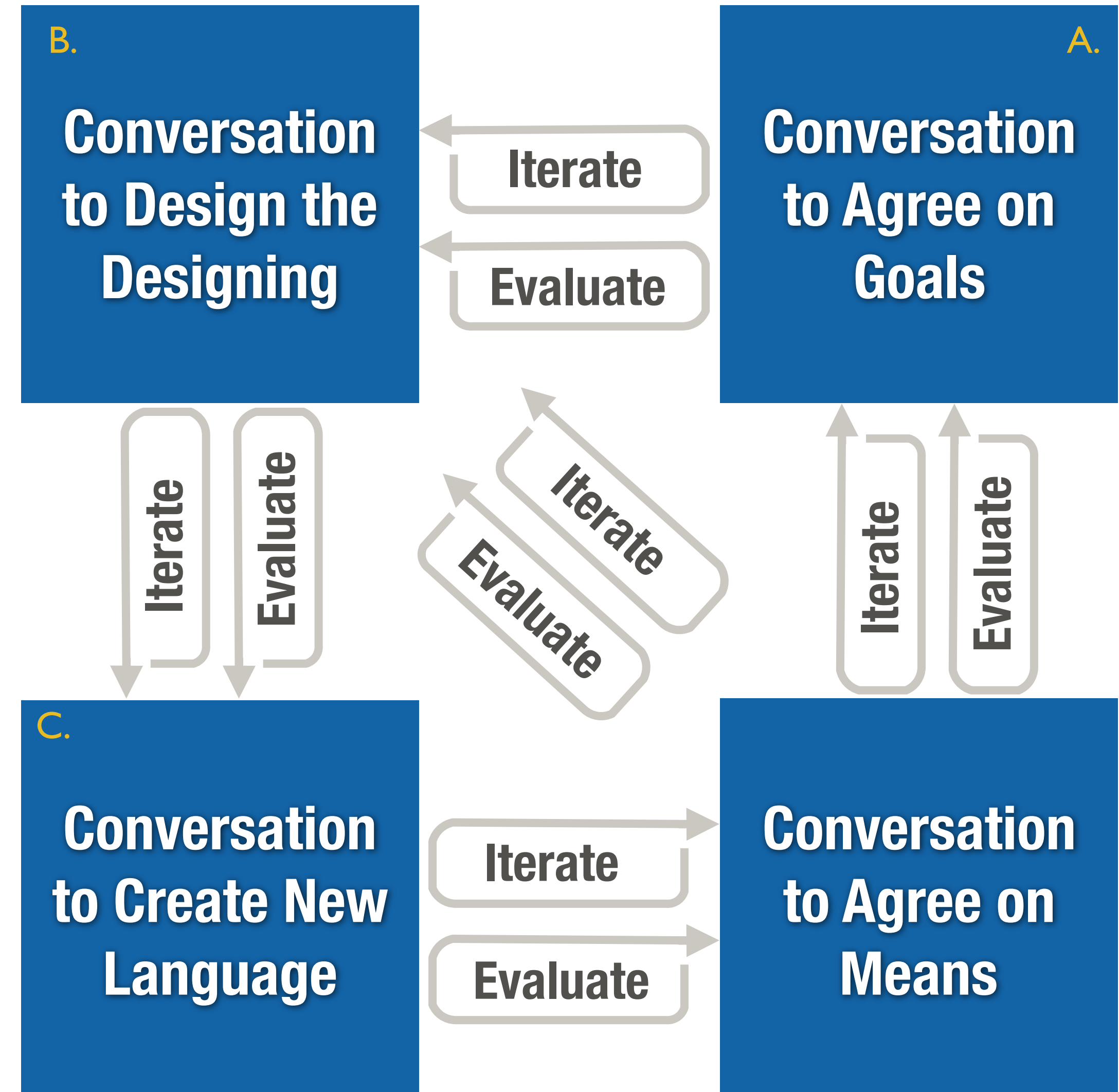
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Design = Social = Conversations for Action

If we converse explicitly about goals, we are transparent about frames and values.

(This is ethical.)

**If we converse about the means to achieve those goals,
we more fully engage participants and their abilities, improving outcomes.**

(This is collaborative.)

**If we converse to co-evolve new language, we can escape the limitations
of current viewpoints, and create new frames and new possibilities.**

(This is innovative.)

**If we converse about the design process, we enter all our conversations
as participants, answerable for our actions.**

(This is responsible.)

Design = Social = Conversations for Action

If we converse explicitly about goals, we are transparent about frames and values.

(To agree on goals is ethical.)

**If we converse about the means to achieve those goals,
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(To agree on means is collaborative.)

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(To create new language is innovative.)

**If we converse about the design process, we enter all our conversations
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(To design the designing is responsible.)

Design = Social = Conversations for Action

(To agree on goals is ethical.)

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**Conversation
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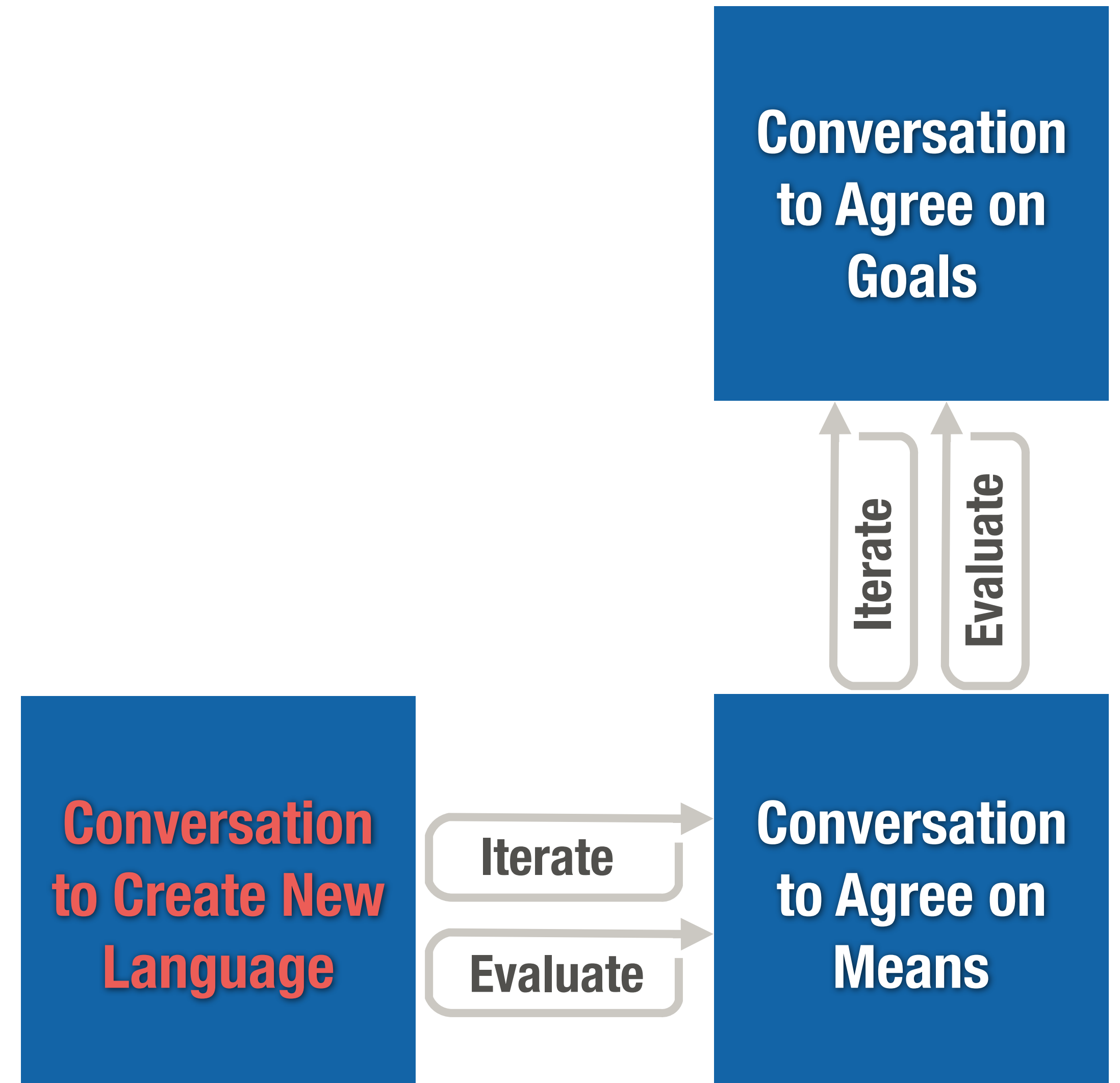
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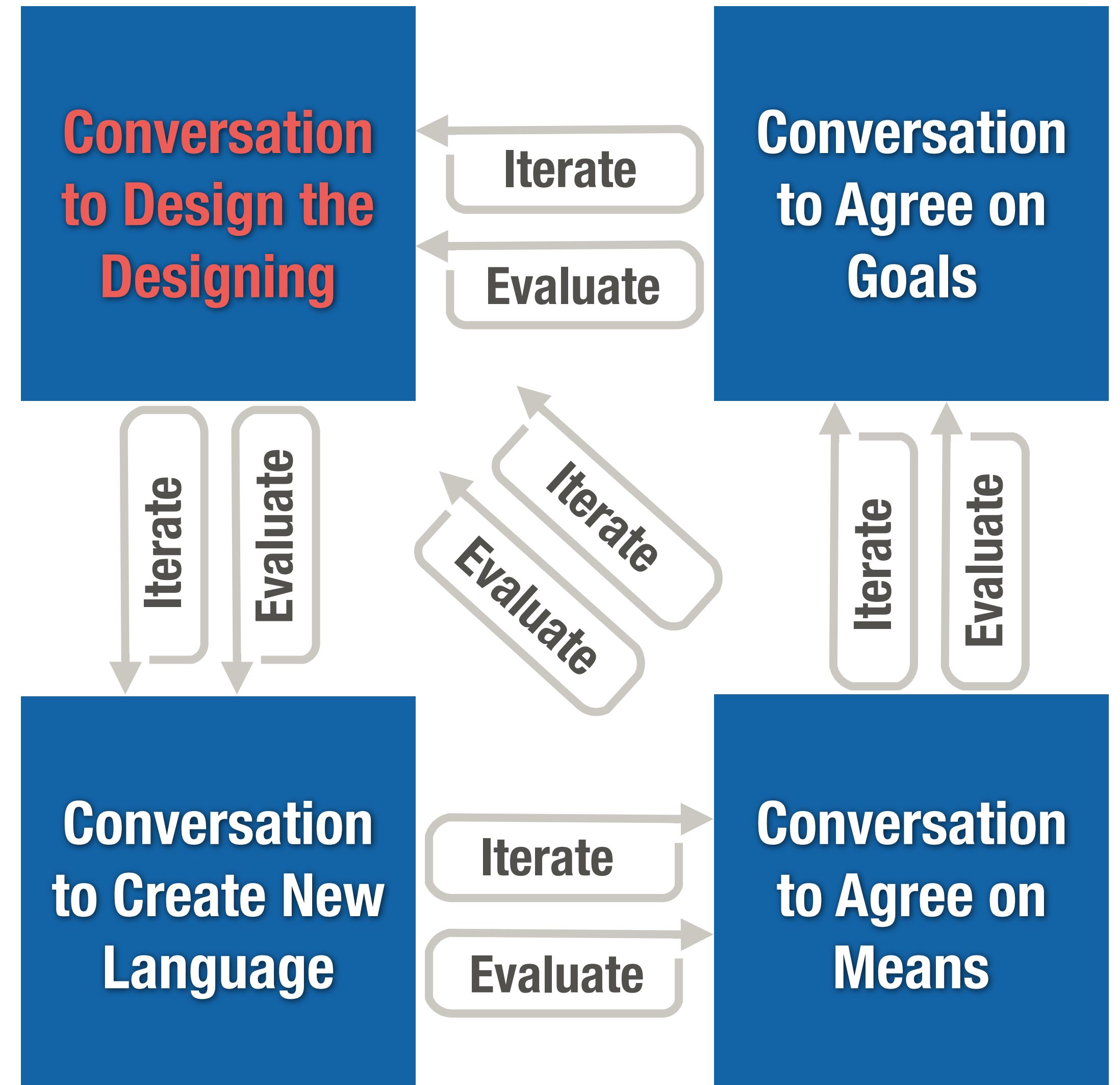
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***“Conversation is the bridge between
cybernetics and design.”***

— Ranulph Glanville, 2009

Thank you.

See pangaro.com/rsd5 for slides and references

Special Thanks to:

Ranulph Glanville

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Pooja Upadhyay

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***“Design is the action;
Second-order Cybernetics is the explanation.”***

— Ranulph Glanville, 2009

— Glanville, “Second-order Cybernetics”, in *Systems Science and Cybernetics - Volume III*