

This presentation is **BEST** seen in
Slide Show Mode...

*If you would like to (1) **learn more** about this process, (2) **organize a training session** to learn how to implement this process within your organization, or (3) **organize a facilitated session** to apply this process within a specific project or initiative, please contact:*

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Understanding the Corpus Christi Educational Ecosystem: Promoting a Culture of STEM + Arts and Design On the campus of Texas A&M University-Corpus Christi



An Interactive Charrette:
*Understanding the Corpus Christi
Educational Ecosystem:
Promoting a Culture of
STEM + A/D*

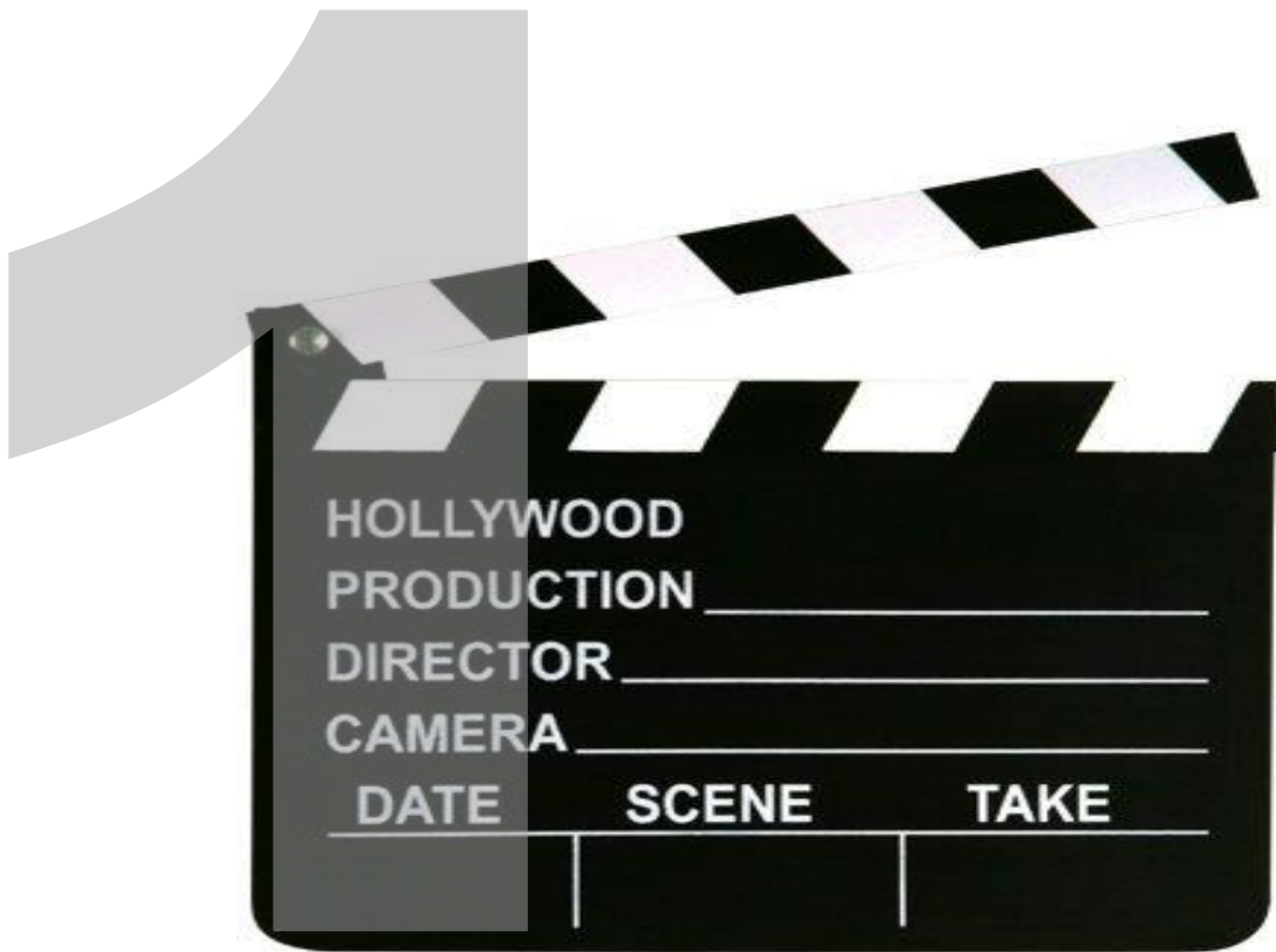


Facilitated by:
Dr. Jorge Vanegas, Dean



A rapid, structured, and flexible process to enable individuals and teams to generate, define, and document ideas, as the point of departure for the development of a framework for business, and of an associated plan of action, in support of a new BEVIPP

(Business, Entrepreneurial Venture, or Initiative/Program/Project)



HOLLYWOOD
PRODUCTION _____

DIRECTOR _____

CAMERA _____

DATE

SCENE

TAKE

**The future of any country
will depend upon the**

in

the country

■

The ability to

, and

will

**dictate the fortunes of
individuals, organizations,
and countries.**

**So, how do you get a diverse
set of stakeholders
(people) together to do so?**

First, we need to move...

From:



To:



**And second, we need to keep
in mind that two things really
bring together people...**

**Either an
Imminent:**



**Or a
Compelling:**



**But, how can we
generate ideas
to do so?**

The background of the slide is a composite image. The top half shows a bright blue sky filled with fluffy white clouds, with the sun shining from the top center, creating a lens flare effect. The bottom half shows a deep blue ocean with a shimmering reflection of the sun on its surface. A semi-transparent blue geometric shape, resembling a stylized house or a large letter 'A', is overlaid on the left side of the image. The title text is centered over the sky portion of the image.

Blue Skies and Blue Oceans



**Where do we
want to be?**



**Where do we
want to be?**

Take away the **Mystery**, and
unleash the **Magic**...

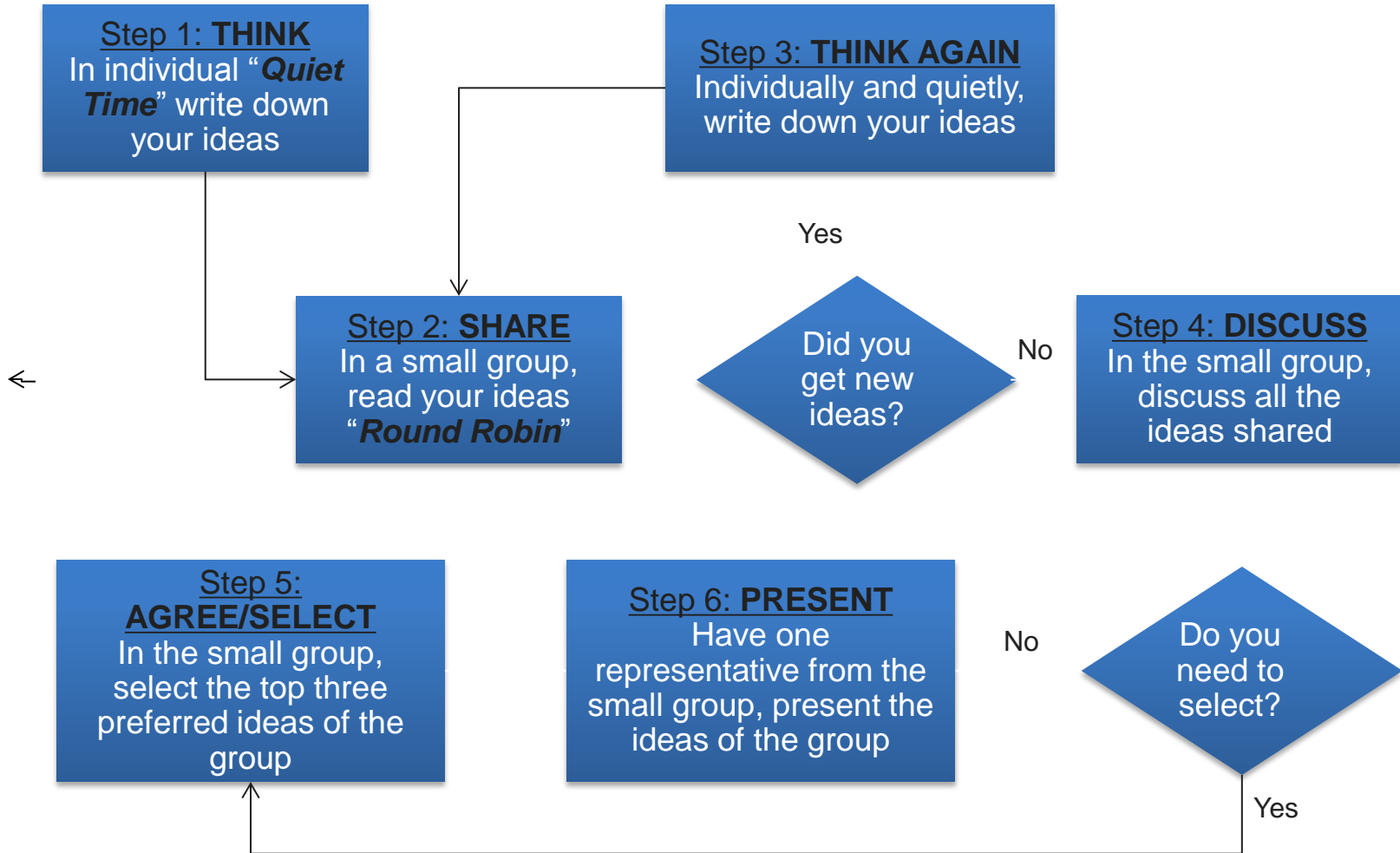
generate
many ideas
select the top
preferred choices

***Educational Ecosystem
in Corpus Christi
(EECC) that promotes a
Culture of STEM + A/D?***

**This Charrette
Offers a
Process for
Unleashing the
Imagination**

Rules of Engagement

TSD(AS)P Process



Session 1:

Documenting the Baseline of Stakeholders

Who are you, and what “**Hats**” are you wearing today?

Please introduce yourself and the organization you represent, and list all the different “**hats**” that you are wearing today. In other words, what **roles** do you play, what **perspectives** do you have, and/or what **points of view** do you represent?

What “**Drivers**” are “**Pushing**” or “**Pulling**” this idea?

Please list all the different factors that are forcing you to create the **EECC**. In other words, what arguments make a compelling case that are pushing or pulling this effort?

What “**Expectations**” do you have?

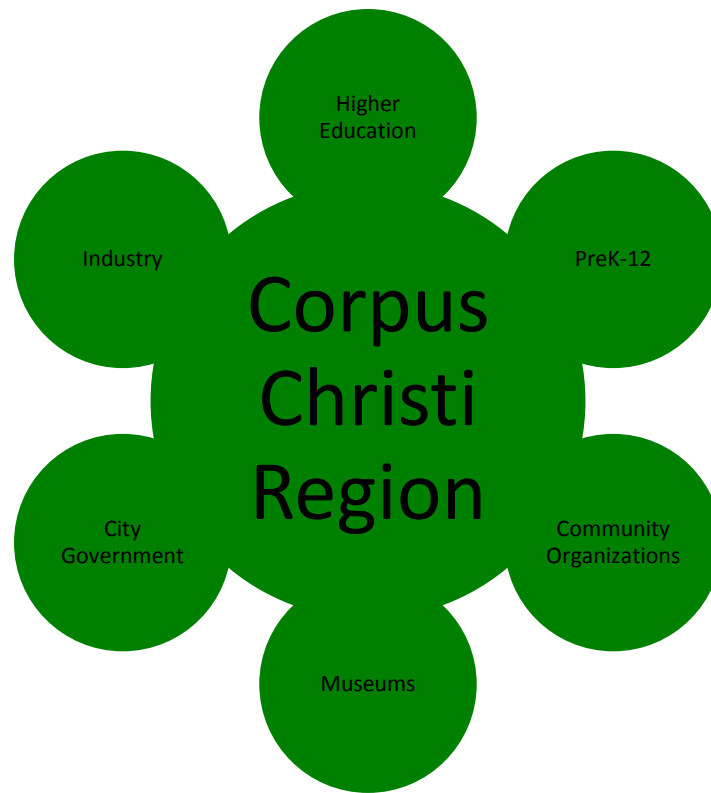
Please list all the different **expectations** you have for today. In other words, what specific **outcomes** or **results** do you want to see that will make you **satisfied** or **happy**?

Session 2:

***What is an
Educational
Ecosystem and
Does One Exist in
Corpus Christi?***

A Presentation by:
Dr. Luis Cifuentes
(TAMU-CC)

Understanding the Corpus Christi Educational Ecosystem: Promoting a Culture of STEM + Arts and Design On the campus of Texas A&M University-Corpus Christi



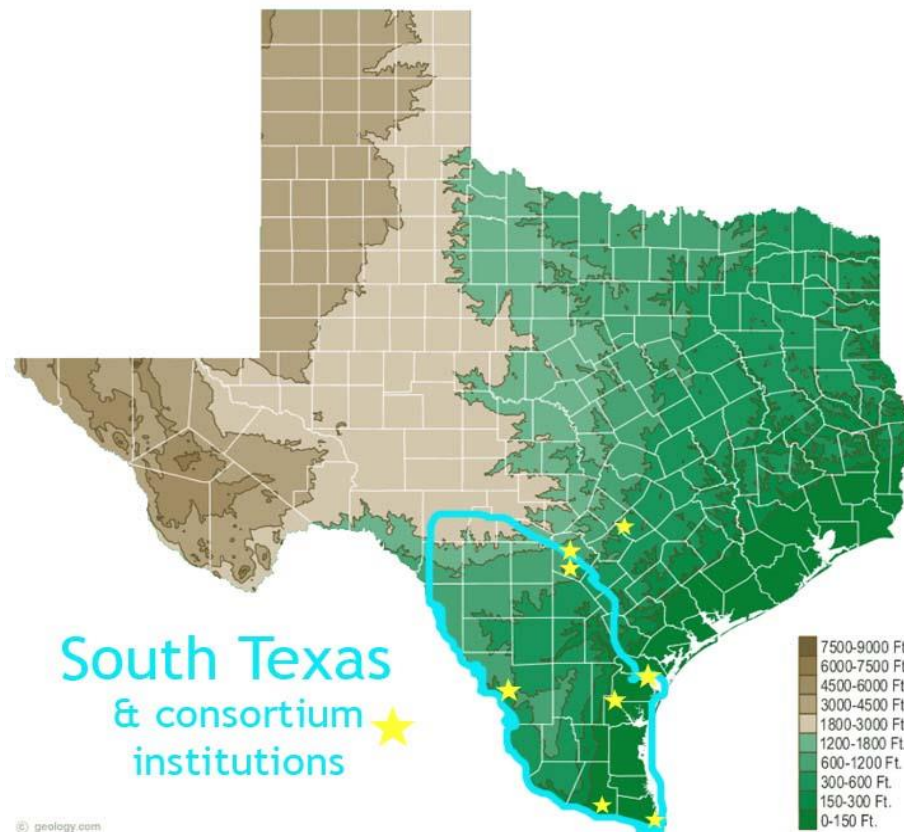
Program Goal

N



South Texas

N



© geology.com
Texas Elevation Map:

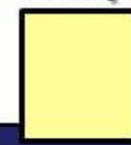
Terrestrial Inputs

POM, DOM, DIN/P,
Trace Metals

12

Atmospheric
Depositions

Aerosol
Sampler



Advection

Assimilation

14

NH_4^+

DIP

Decomposition
Hydrolysis

16

POM

DON/P

13

Sinking

Mixing
Diffusion

Decomposition

Upwelling

15

$\text{NH}_4^+ \rightarrow \text{NO}_3^- \rightarrow \text{N}_2, \text{N}_2\text{O}$

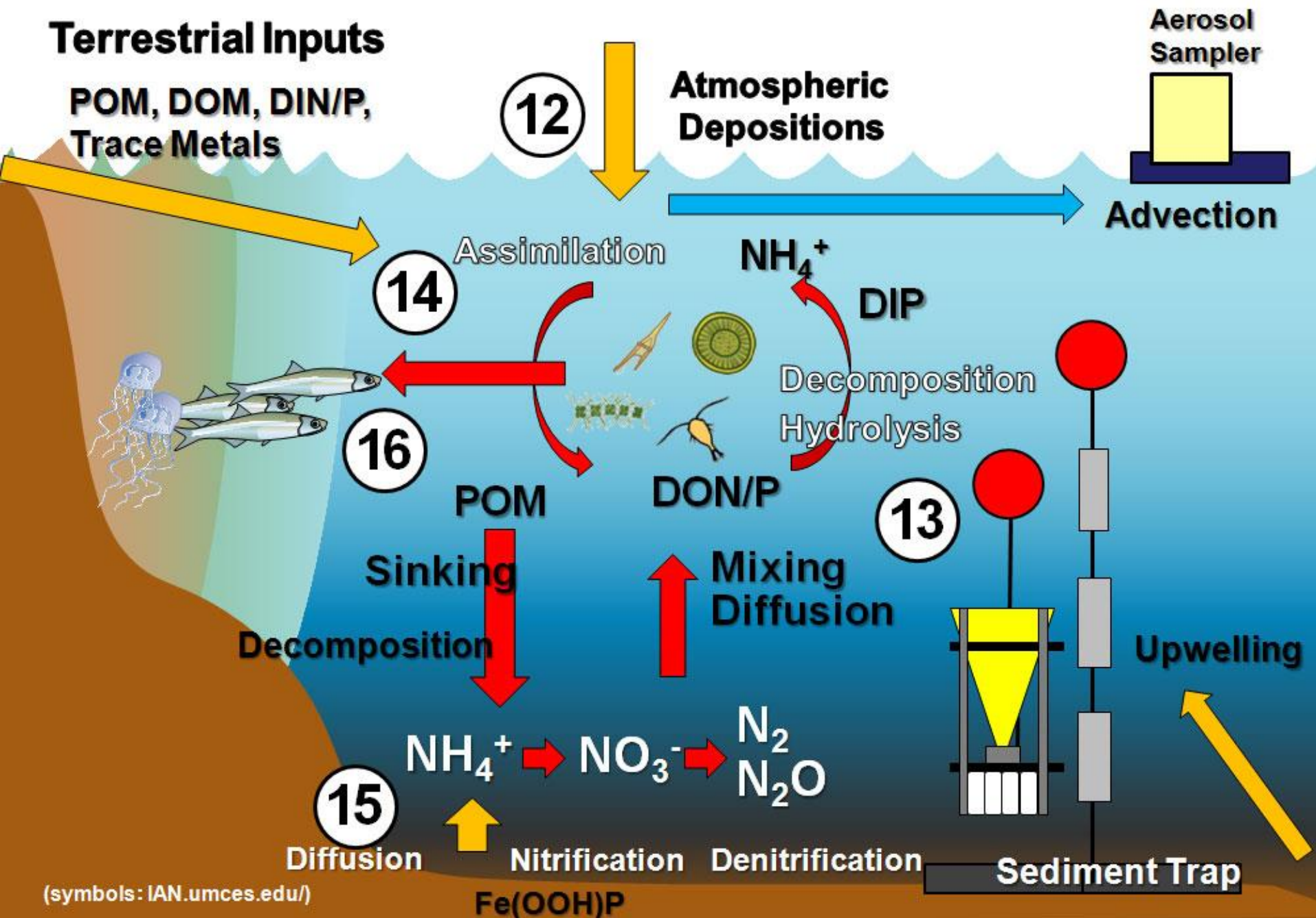
Diffusion

Nitrification

Denitrification

Sediment Trap

$\text{Fe}(\text{OOH})\text{P}$







LEARNING ECOSYSTEM

EDUCATIONAL ENVIRONMENTS

COMMUNITY

TECHNOLOGY

FRIENDS

WORLDVIEW

FAMILY

ENVIRONMENT

ONLINE

CRITICAL

PEERS

THINKING

BOOKS

THEORIES

FILMS

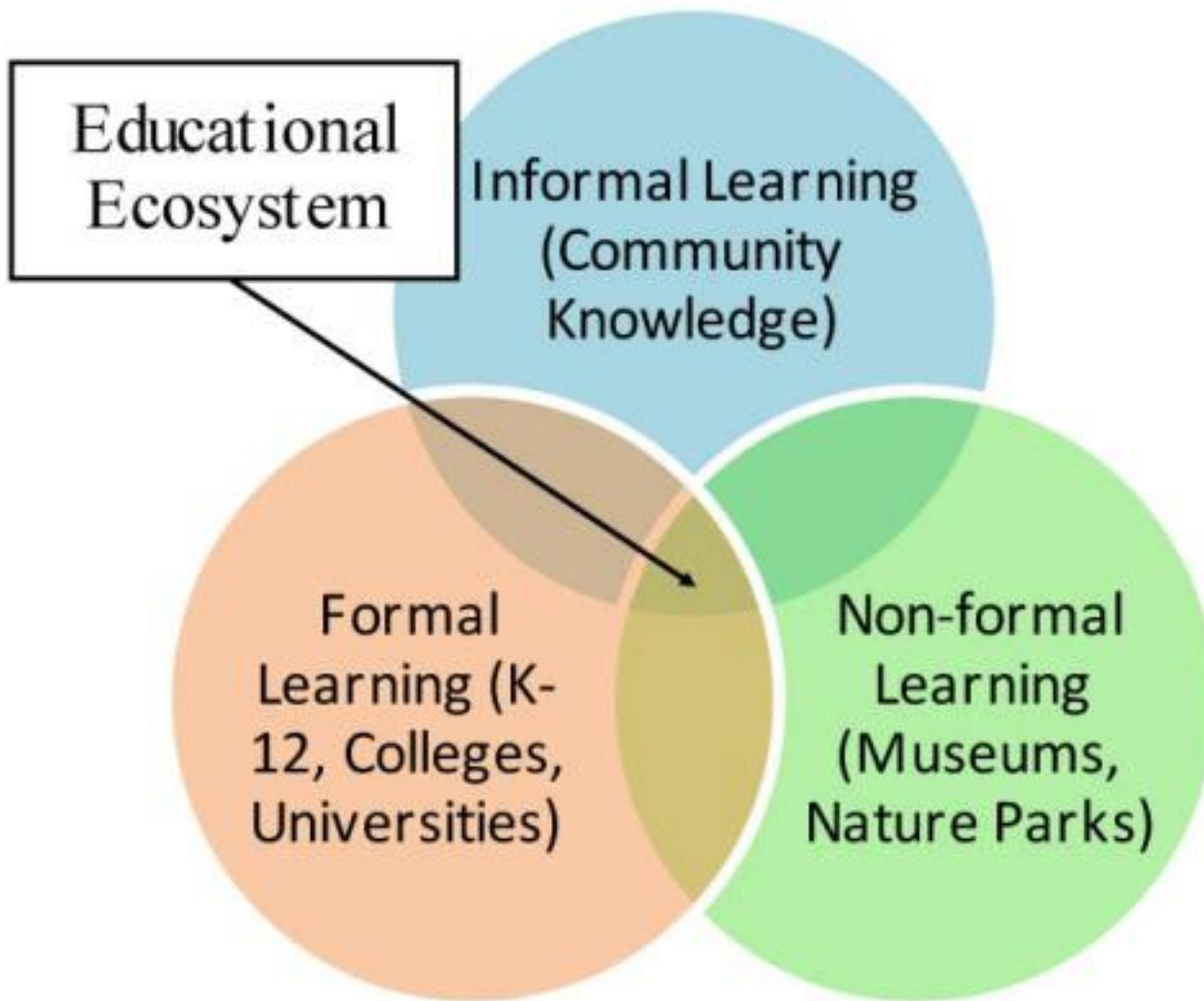
REFLECTIVE

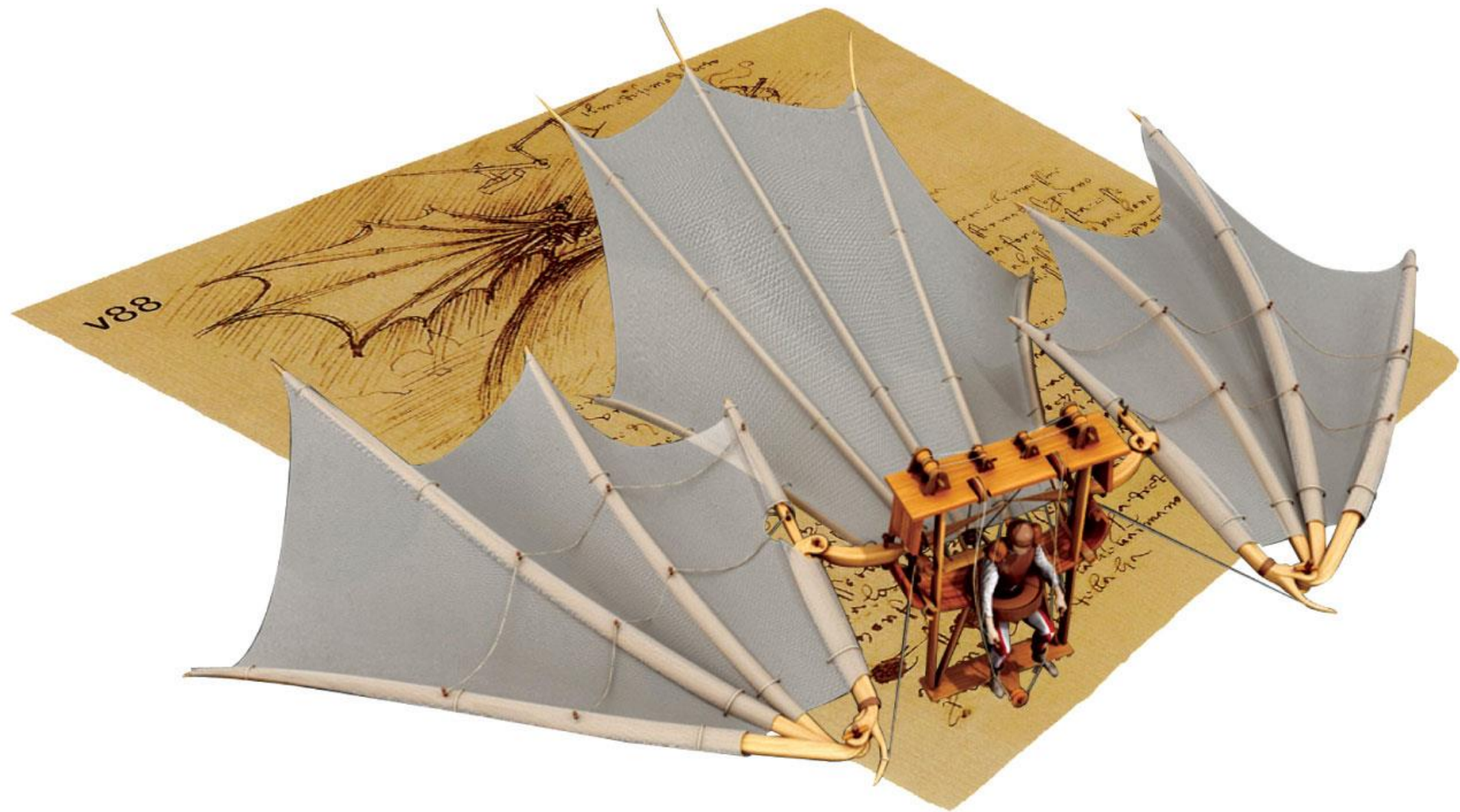
LIFE

EXPERIENCES

SOCIAL INTERACTION







**A Presentation by
Dr. Carol LaFayette
(CARC/TAMU)**

**As you listen to these two
presentations, please
complete Input Sheet 2...**

Reactions from the “Gut”

Based on your personal and/or professional experience, what is your initial **instinctual reaction** to the idea of an **EECC** from your individual personal point of view? From your professional point of view? From the point of view of the organization you represent?

Reactions from the “Heart”

Based on your personal and/or professional experience, what is your initial **emotional reaction** to the idea of an **EECC** from your individual personal point of view? From your professional point of view? From the point of view of the organization you represent?

Reactions from the “Mind”

Based on your personal and/or professional experience, what is your initial **intellectual reaction** to the idea of an **EECC** from your individual personal point of view? From your professional point of view? From the point of view of the organization you represent?

I Like, I Like...

Please take a moment to tell us what do you **like** most about the idea of an **EECC**. What do you like about it from your individual personal point of view?

What do you like about it from your professional point of view? What do you like about it from the point of view of the organization you represent?

I Wish...

(“**Genie Wishes**”)

If you had “**Aladdin’s Lamp**,” please state three **wishes** (aspirations) you would make to ensure the full implementation of the idea of an **EECC**. What would these wishes be from your individual personal point of view? From your professional point of view? From the point of view of the organization you represent?

I Would **Change...** (“**Magic Wands**”)

If you had “**Harry Potter’s Magic Wand**,” please state three **changes** that you would make at an **industry level** in general, and at **organization and individual levels** specifically, to make your wishes for the idea of an **EECC** to come true?

Session 3:

SWORT Analysis

Strengths

Please list as many **strengths** as you can, at an **industry level** in general, and at **organization and individual levels** specifically, of the idea of an **EECC**.

Weaknesses

Please list as many **weaknesses** as you can, at an **industry level** in general, and at **organization and individual levels** specifically, of the idea of an **EECC**.

Opportunities

Please list as many **opportunities** as you can,
at an **industry level** in general, and at
organization and individual levels
specifically, of the idea of an **EECC**.

Risks

Please list as many **risks** as you can, associated with the strengths, weaknesses, and opportunities, at an **industry level** in general, and at **organization and individual levels** specifically, of the idea of an **EECC**.

Threats

Please list as many **threats** as you can, stemming from the risks at an **industry level** in general, and at **organization and individual levels** specifically, of the idea of an **EECC**.

✓ **Strengths**

✓ **Weaknesses**

✓ **Opportunities**

✓ **Risks**

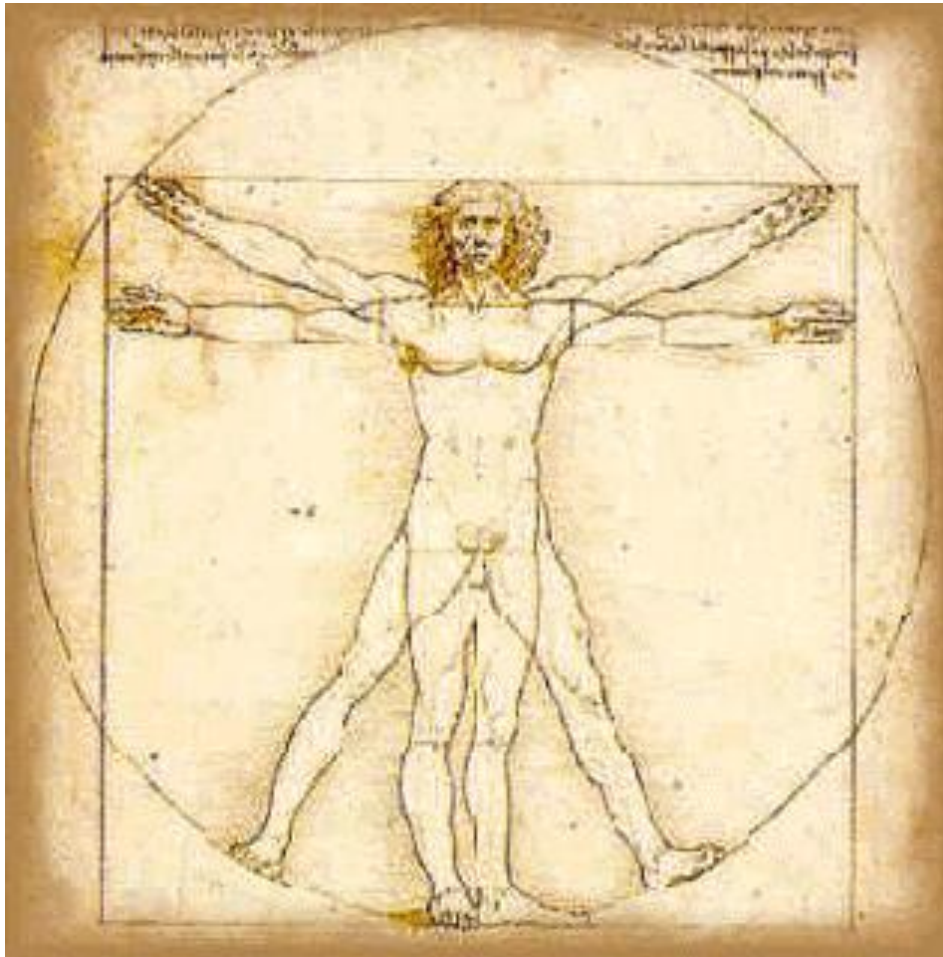
✓ **Threats**

Session 4:

Key Elements of the EECC

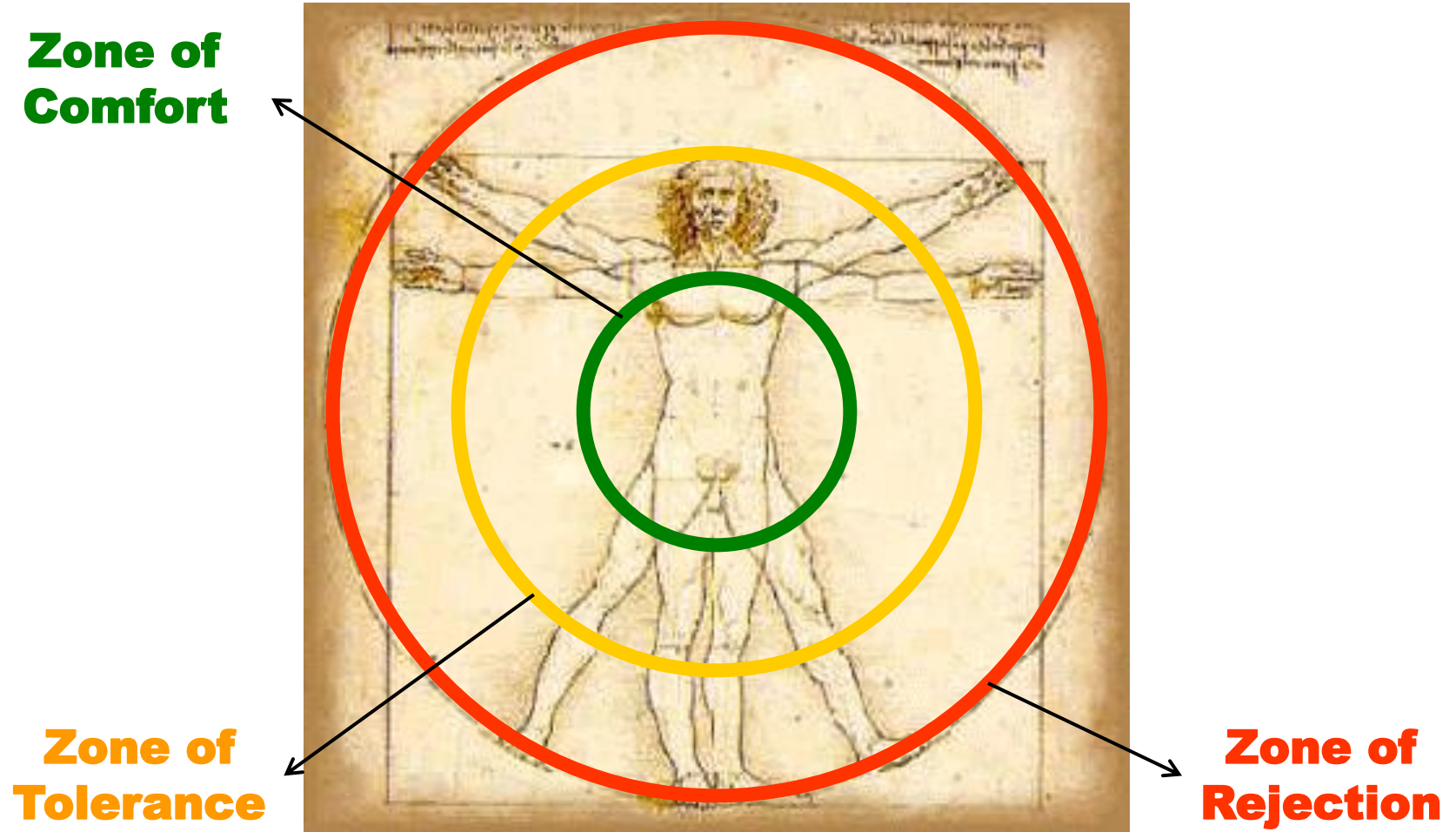
Provocative Thinking

Zones...



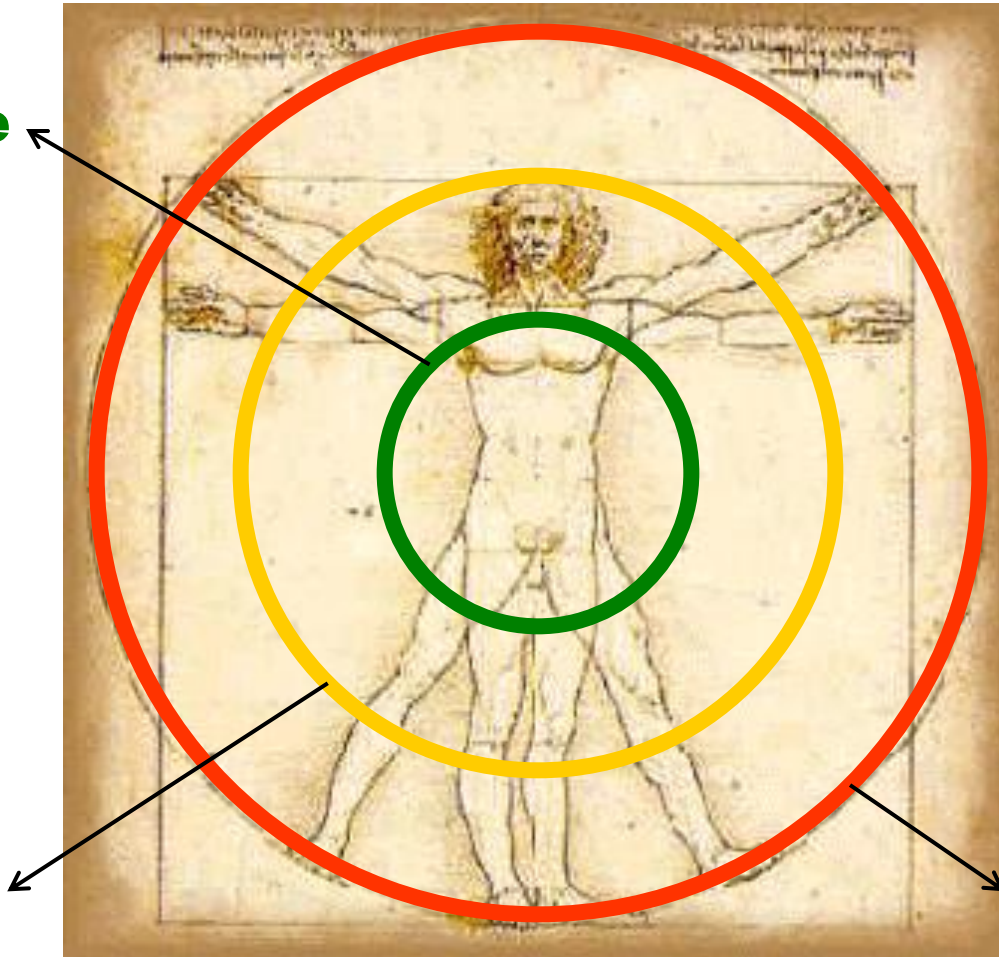
Leonardo Da Vinci's "Vitruvian Man"

Zones of Comfort



Zones of Competency

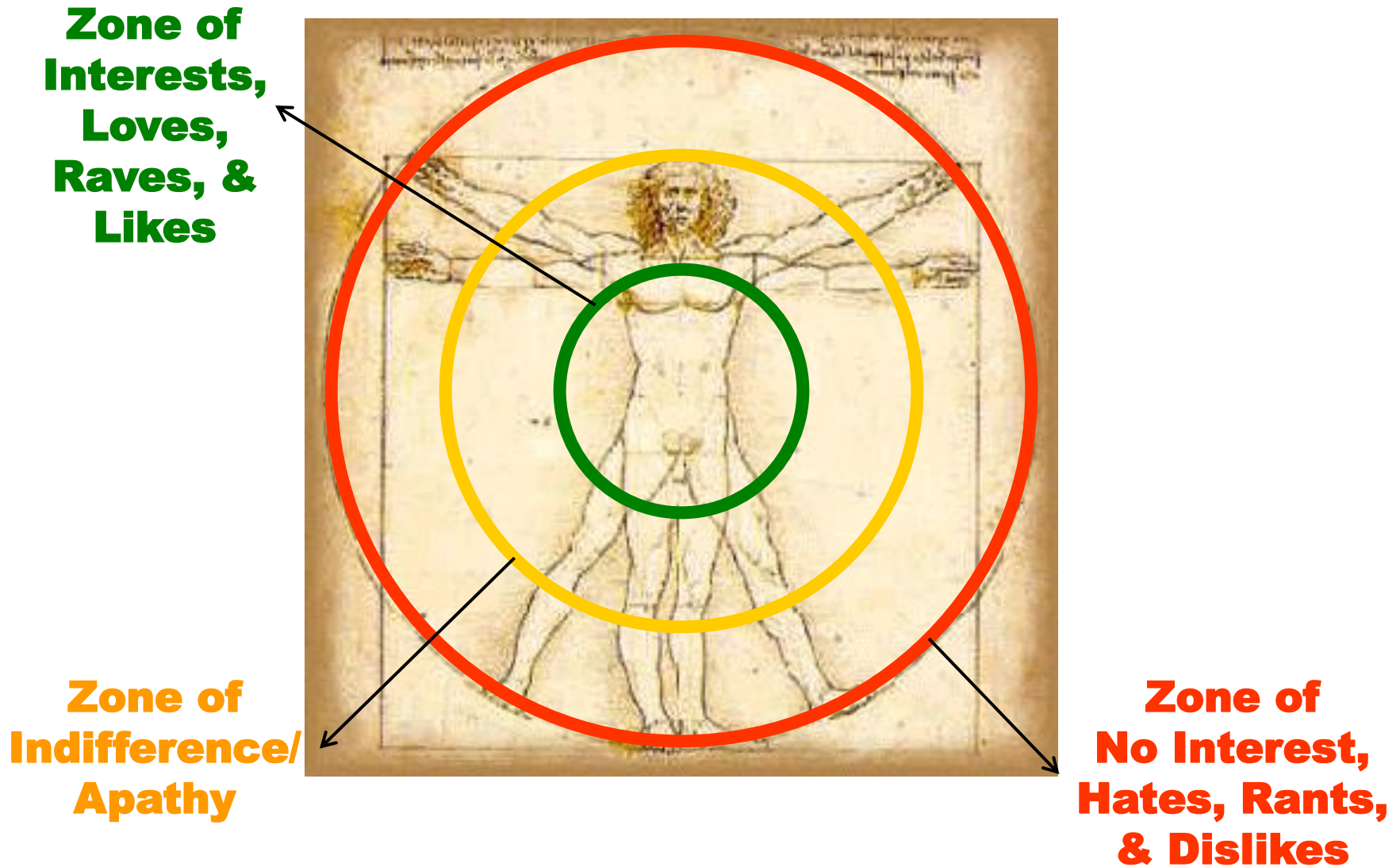
**Zone of
Competence**



**Zone of
Caution**

**Zone of
No Competence**

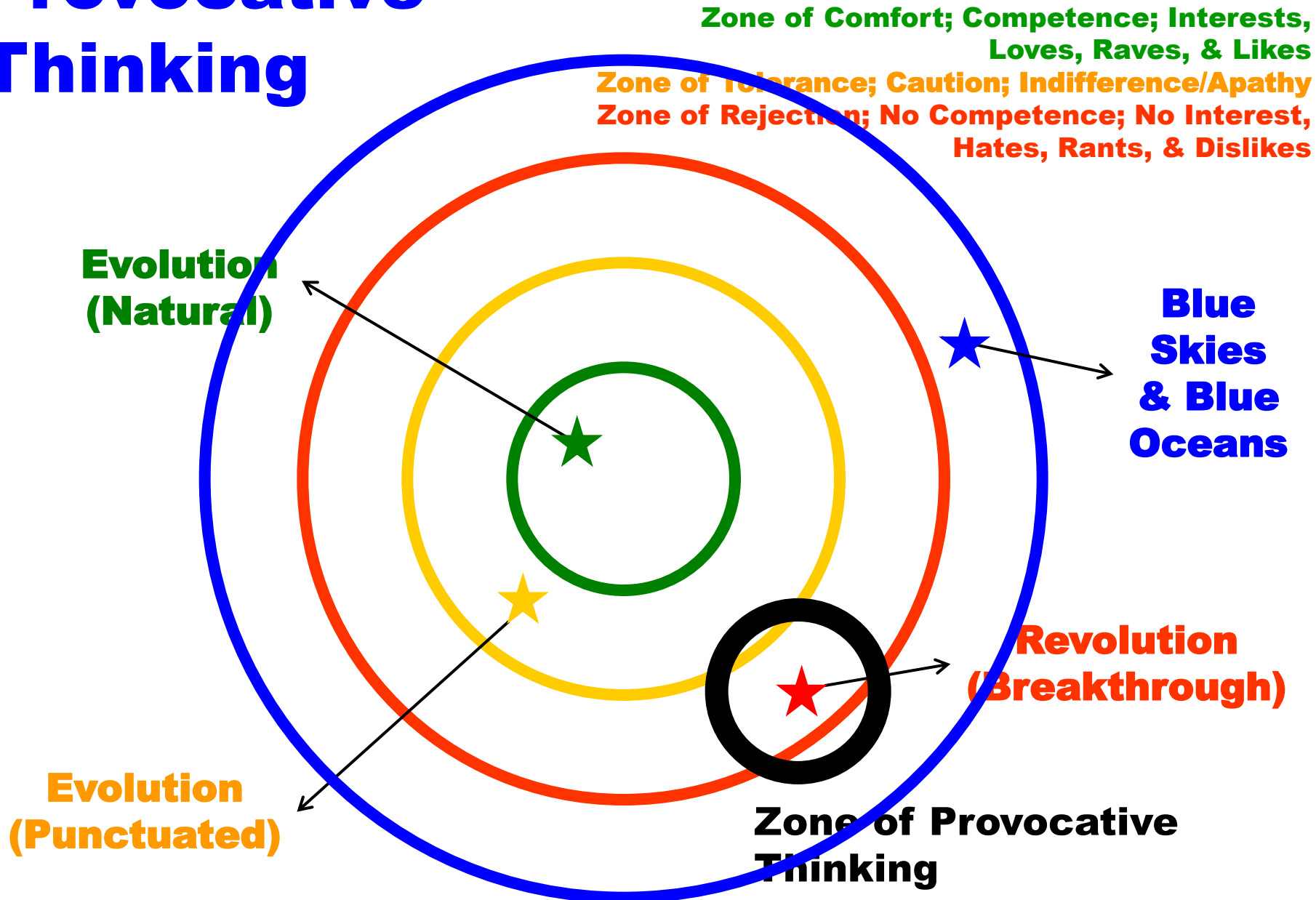
Zones of Interest



Integrated Zones of Comfort, Competency, and Interest



Provocative Thinking



**Re-frame the Objective with a
“Provocation” posed as a
question within the zone of
“Provocative Thinking”**

In what ways,

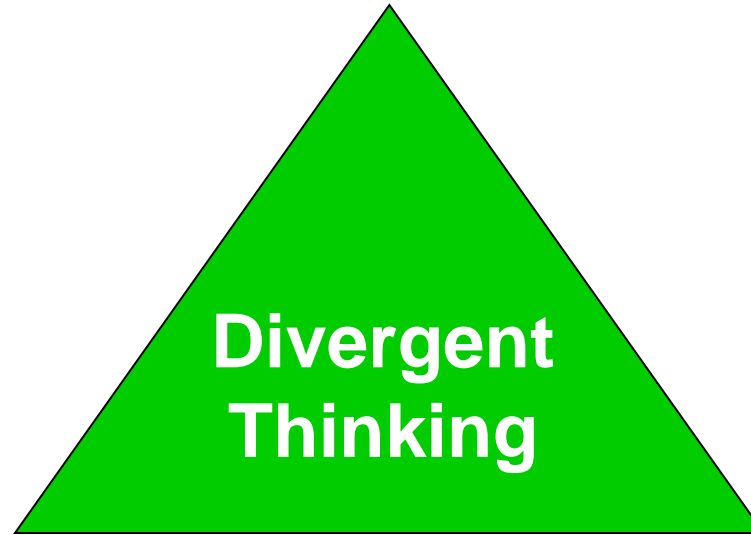
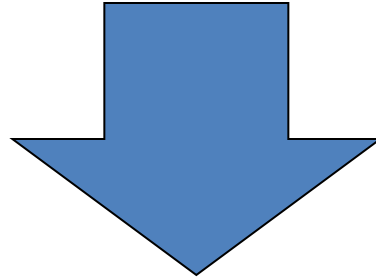
<<might/could/would/should/must>>...

<<an entity>>...

***<<do an action on an object to achieve
a desired outcome>>...?***

Apply the Divergent Thinking Guidelines

Procedural Knowledge





defer_judgment



strive_for_quantity
strive_for_quantity



make_associations

make_associations

(and build upon the ideas of others)

(and build upon the ideas of others)



strive_for_novelty

strive_for_novelty

Generating ideas...

In response to the idea of an **EECC**, please apply the **Divergent Thinking Guidelines**, to generate and list as many **Elements of an EECC** as possible, within the time period allocated to do so.

The Objective of Session 4

In what ways,

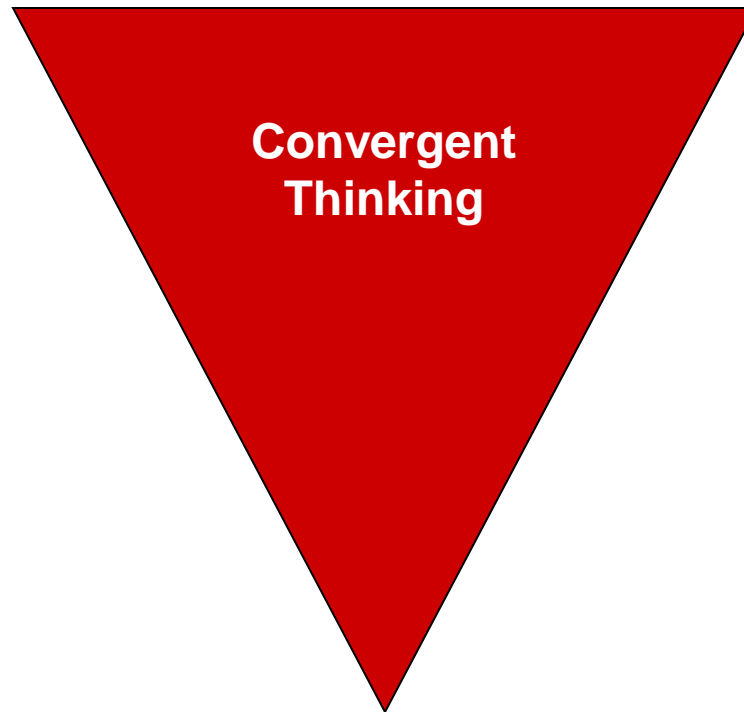
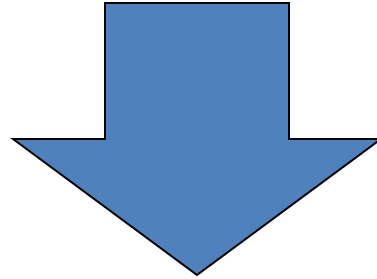
might

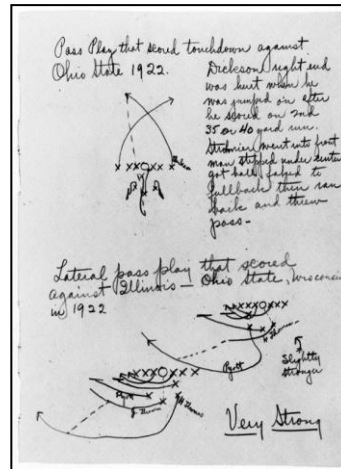
***a collaboration among the
people and organizations
represented at this charrette***

***identify the key elements of
an EECC, which would enable
a culture of STEM + AD***

Apply the Convergent Thinking Guidelines

Procedural Knowledge





be_deliberate

pe_qe!pelsfe



be_affirmative

be_affirmative



seek_out_novelty

seek_out_novelty



check_with_objective

check_with_objective

“Pruning” ideas...

Using the list of ideas generated through **Divergent Thinking**, please apply the **Convergent Thinking Guidelines** to select the **Top Key Elements of an EECC**, within the time period allocated to do so.

Session 5:

Network, Resources, and the Culture of an EECC

Questions to Answer

Please list as many ideas, suggestions, and recommendations as you can for the types of **questions** that you would like to see the **EECC** pursue.

Problems to Solve

Please list as many ideas, suggestions, and recommendations as you can for the types of **problems** that you would like to see the **EECC** pursue.

Needs to Satisfy

Please list as many ideas, suggestions, and recommendations as you can for the types of **needs** that you would like to see the **EECC** pursue.

Opportunities to Realize

Please list as many ideas, suggestions, and recommendations as you can for the types of **opportunities** that you would like to see the **EECC** pursue.

Aspirations to Fulfill

Please list as many ideas, suggestions, and recommendations as you can for the types of **aspirations** that you would like to see the **EECC** pursue.

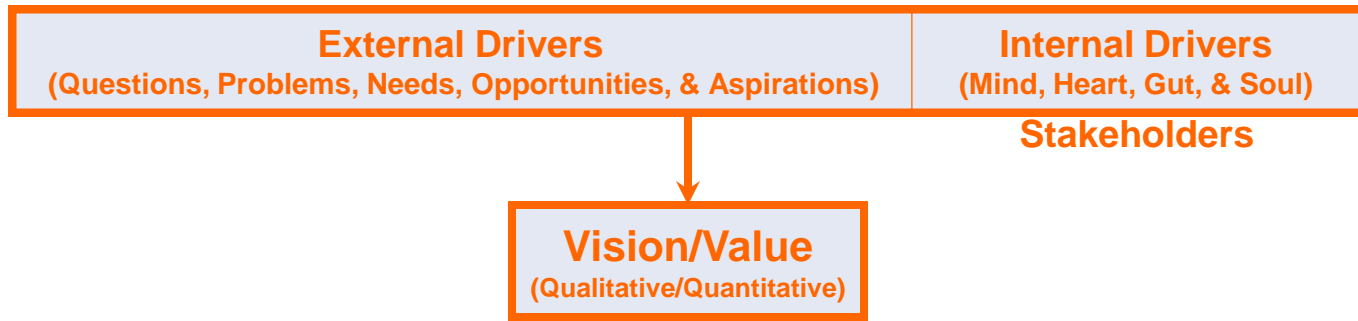
Priorities to Pursue

Of the Questions, Problems, Needs, Opportunities, and Aspirations identified, please list the principal **priorities** that you would like to see the **EECC** pursue.

- ✓ **Questions**
- ✓ **Problems**
- ✓ **Needs**
- ✓ **Opportunities**
- ✓ **Aspirations**
- ✓ **Priorities**

Session 6:

An Initial Plan of Action for an EECC





Stakeholders

Vision/Value
(Qualitative/Quantitative)

Strategic Goals

Tactical Objectives

Operational Plan of Action



Strategic Goals

Please establish a set of **general strategic goals**, which will enable achieving the vision and value for the **EECC**.

Tactical Objectives

Then, for the strategic goal established in “**A**,” continue by determining any specific **tactical objective(s)**, which will enable achieving the goal (i.e., What to do...).

Associated **Operational Plan of Action**

Then, for the tactical objectives determined in “**B**,” continue by defining an associated **operational plan of action**, which will enable achieving the strategic goal and tactical objective(s) (i.e., *How to do it...*).

ELEMENTS OF A PLAN OF ACTION

- **Why**

- What is the *justification* for the objective?

- **What**

- What *specific tasks* need to be executed and completed to achieve the objective?

- **How**

- What *procedures/methods* to be followed in the execution of each task?

ELEMENTS OF A PLAN OF ACTION (cont.)

- **Who**

- Who has the *responsibility* for the execution of each task?

- **With What**

- What *resources* are required to be able to execute and complete each task?

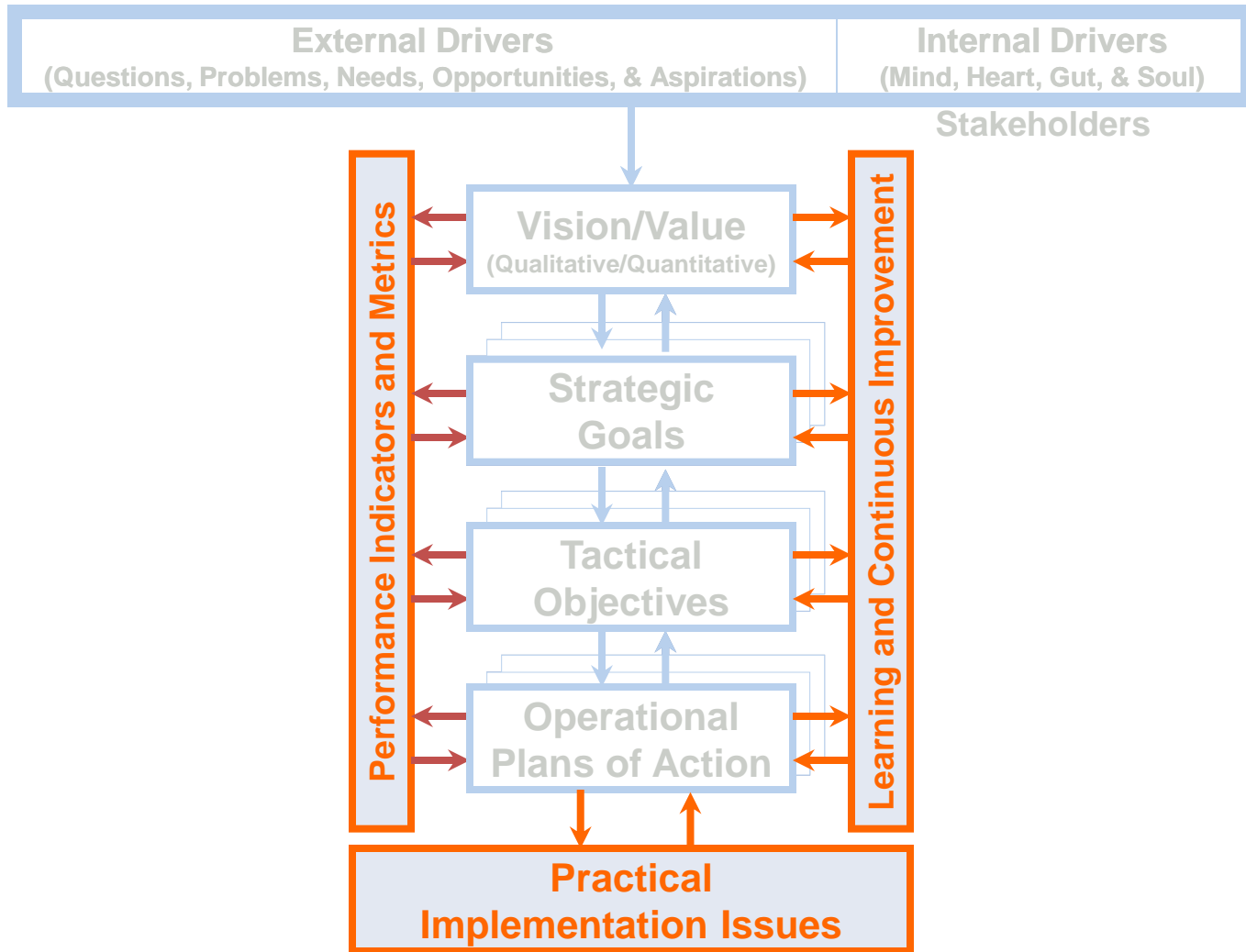
ELEMENTS OF A PLAN OF ACTION (cont.)

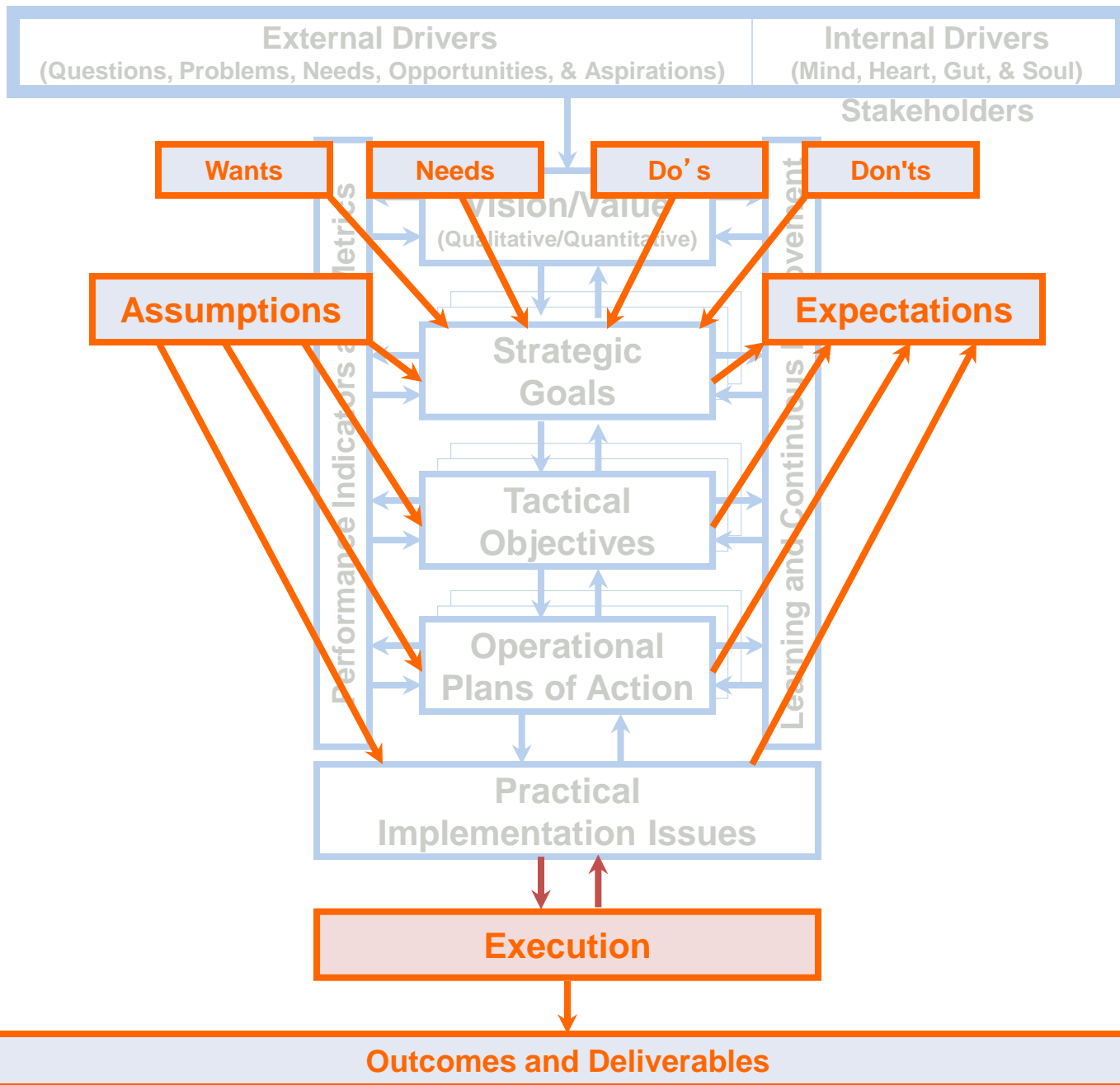
- **When**

- What is the **target date** for the completion of each task?

- **Where**

- Where is the **location** for the execution of each task?





Potential Pitfalls

It is necessary to respond to other **potential pitfalls** that could affect the successful execution of the strategic goals, tactical objectives, and associated plan of action for the **EECC**.

OTHER POTENTIAL PITFALLS

- **Lack of clear definition of...**
- **... Assumptions**
 - What are the fundamental **assumptions** driving the goals, objectives, and any element within the plan of action?
- **... Expectations**
 - What are the principal **expectations** stemming from the goals, objectives, and any element within the plan of action?

OTHER POTENTIAL PITFALLS (cont.)

- **Wants and Needs**

- What are the main wants and the main needs associated with any of the elements of the plan of action?

- **Do's and Don'ts**

- What are the principal things to do and to not do within any of the elements of the plan of action?

Anticipated Outcomes and Deliverables

To ensure the successful execution of the detailed plan of action for the **EECC**, it is necessary to to clearly establish all anticipated **Outcomes** and **Deliverables**

OUTCOMES AND DELIVERABLES

- It is necessary to define the anticipated **Outcomes**
- It is necessary to define the anticipated **Deliverables**

Commitments

To ensure the successful execution of the detailed plan of action for the **EECC**, it is also necessary to clearly establish the **commitments** that need to be made.

Individual Commitments

Please list at least one specific **individual commitment** to the **EECC**, which you are willing to make from a personal point of view.

Institutional Commitments

Please list at least one specific **institutional commitment** to the **EECC**, which you are willing to make from an institutional point of view (i.e., the organization you represent).

Commitments from Others

Please list at least one specific **commitment from other individuals or organizations** to the **EECC**, which you would like to see. Please name the individual or the organization, if any, that you would like to see make the commitment .

Strategic Goals

List the **general strategic goals**, which will enable achieving the vision and mission for a **EECC**.

Tactical Objectives

For each strategic goal, determine the specific **tactical objectives**, which will enable achieving the goal.

Operational Plans of Action

For each tactical objective, define an associated **operational plan of action**, which will enable achieving the tactical objective.

Potential Pitfalls

Respond to the **potential pitfalls** that could affect the successful execution of the strategic goals, tactical objectives, and operational plans of action for the **EECC**.

Outcomes and Deliverables

To ensure the successful execution of the detailed plan of action for the **EECC**, define the **anticipated outcomes and deliverables.**

Commitments

Define the **commitments** that need to be made to ensure achieving the strategic goals, tactical objectives, and operational plans of action for the **EECC**.

- ✓ **Strategic Goals**
- ✓ **Tactical Objectives**
- ✓ **Plan of Action**
- ✓ **Potential Pitfalls**
- ✓ **Outcomes & Deliverables**
- ✓ **Commitments**

Presentations by the Seven Breakout Groups

Final Thoughts...

**Our World
Offers Endless
Horizons for the
Imagination**

The world is full of...

**Mysteries, Wicked
Problems,
& Grand Challenges**



Adapted from: Roger Martin, The Design of Business

... And the world is also full of...

**Mysteries, Wicked
Problems,
& Grand Challenges**

**Harsh Realities,
Complex
Challenges, &
Serious Impacts**



Adapted from: Roger Martin, The Design of Business

Which then we can convert into...

**Mysteries, Wicked
Problems,
& Grand Challenges**

**Harsh Realities,
Complex
Challenges, &
Serious Impacts**

**Questions,
Problems,
Needs,
Opportunities,
& Aspirations**



Adapted from: Roger Martin, The Design of Business

We are in a continuous pursuit to:

- ✓ Answer **questions** through **research**,
- ✓ Solve **problems** through knowledge, experience, and expertise in **specific knowledge domains**,
- ✓ Satisfy **needs** through **services**,
- ✓ Realize **opportunities** through **entrepreneurship**, and
- ✓ Fulfill **aspirations** through **empowerment, facilitation, coaching, and training...**

So, what if we took all these...

✓ **Harsh Realities**

✓ **Complex Challenges**

✓ **Questions**

✓ **Serious Impacts**

✓ **Problems**

✓ **Needs**

✓ **Opportunities**

✓ **Grand Challenges**

✓ **Aspirations**

✓ **Wicked Problems**

✓ **Mysteries**

As the fuel for imagination...

✓ Harsh Realities

✓ Complex Challenges

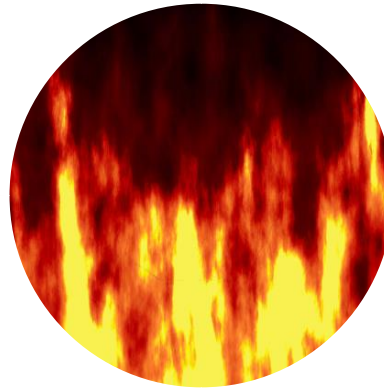
✓ Questions

✓ Serious Impacts

✓ Problems

Imagination

✓ Needs



✓ Opportunities

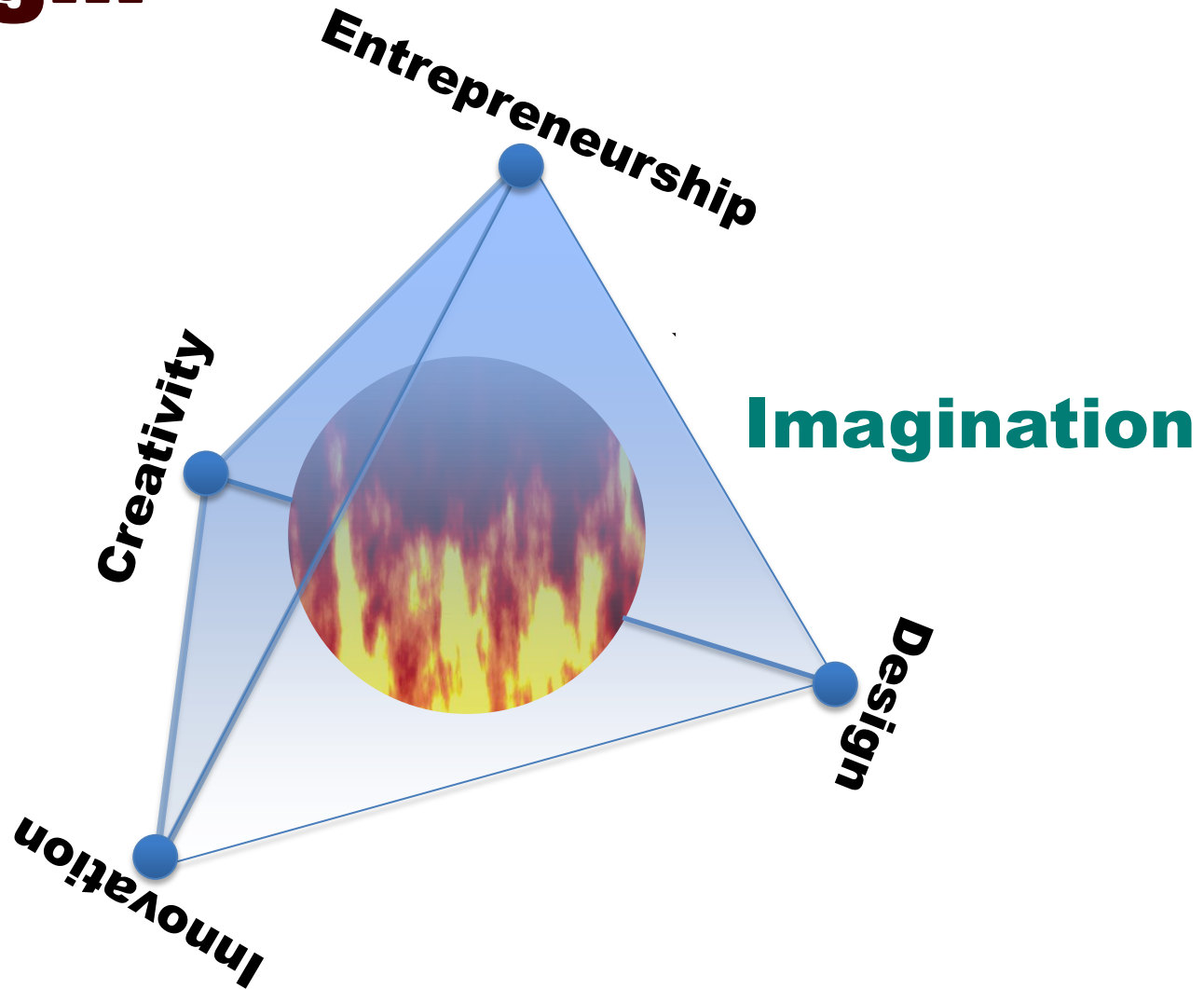
✓ Grand Challenges

✓ Aspirations

✓ Wicked Problems

✓ Mysteries

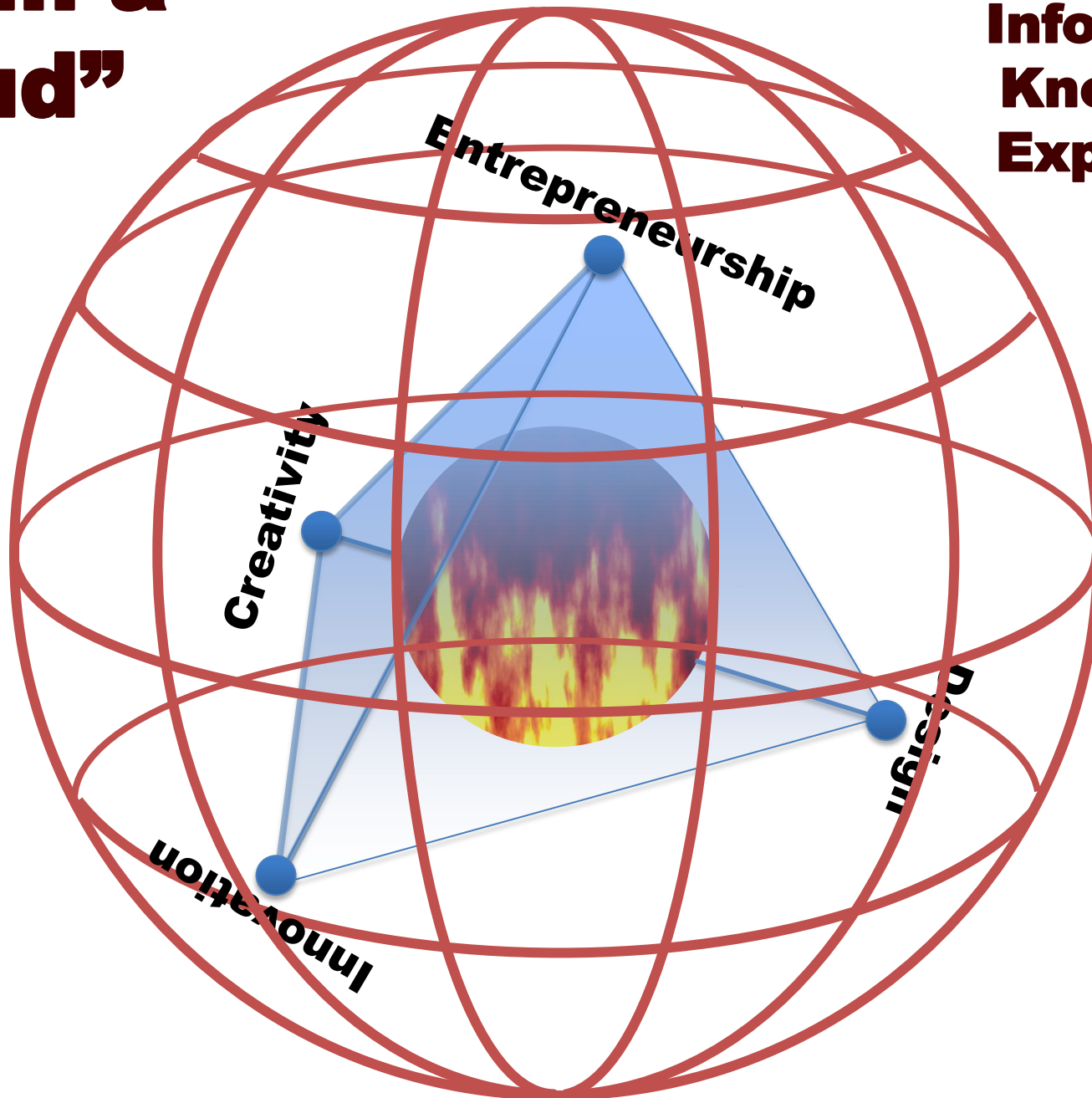
At the core of four ways of thinking...



In any disciplinary domain...

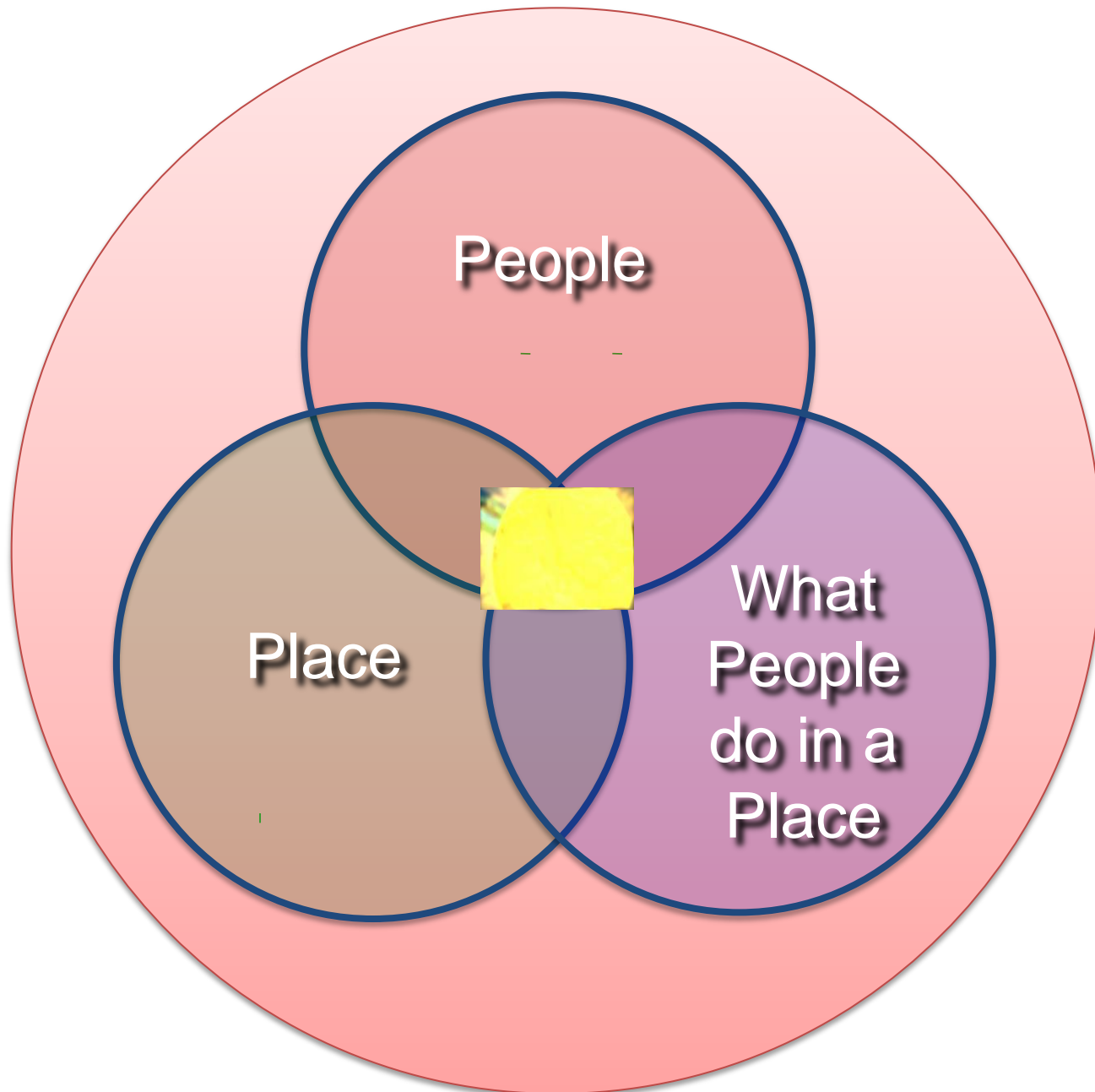
**Within a
“cloud”
of...**

**Data,
Information,
Knowledge,
Experience,
and
Wisdom**

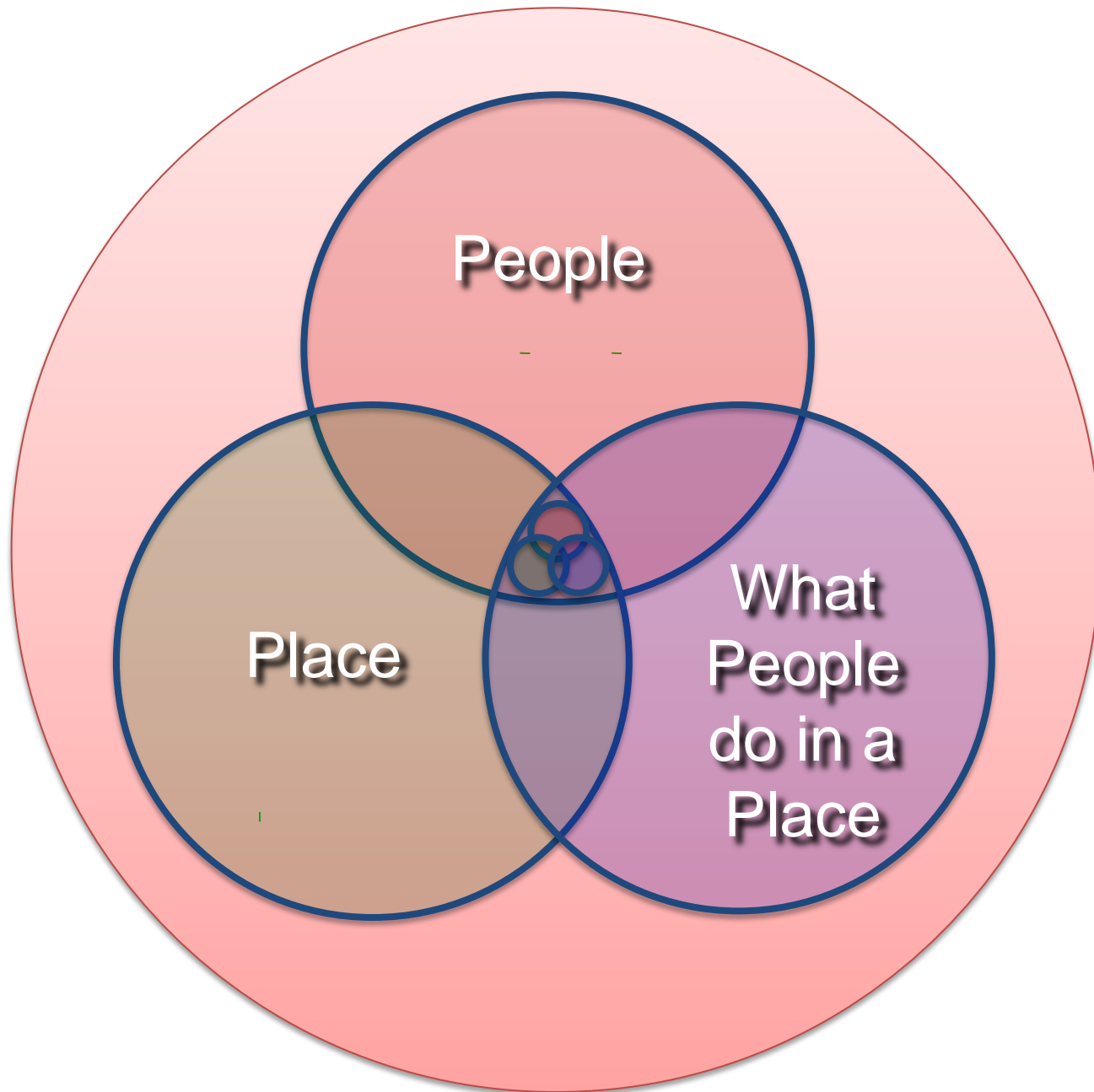


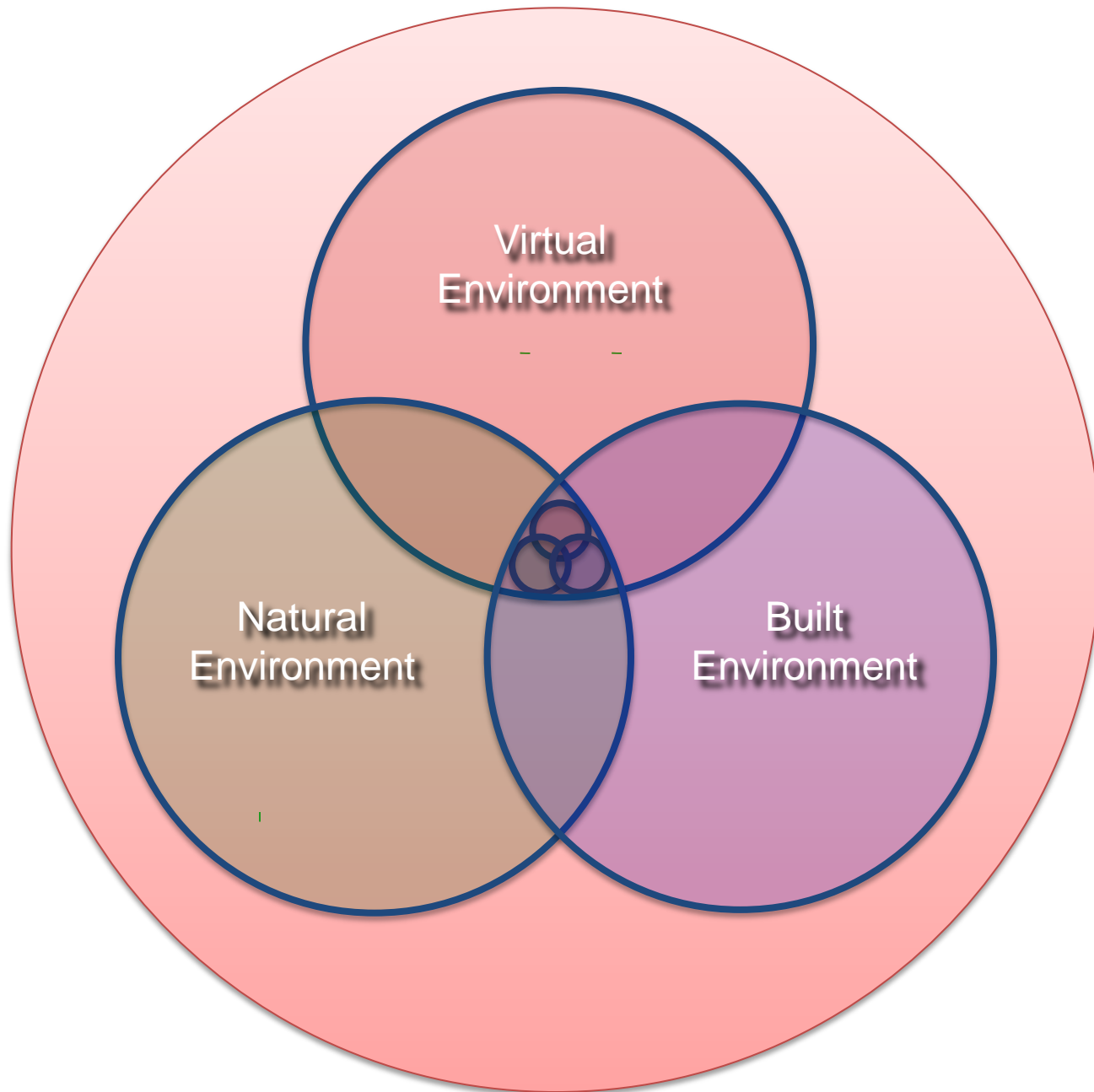


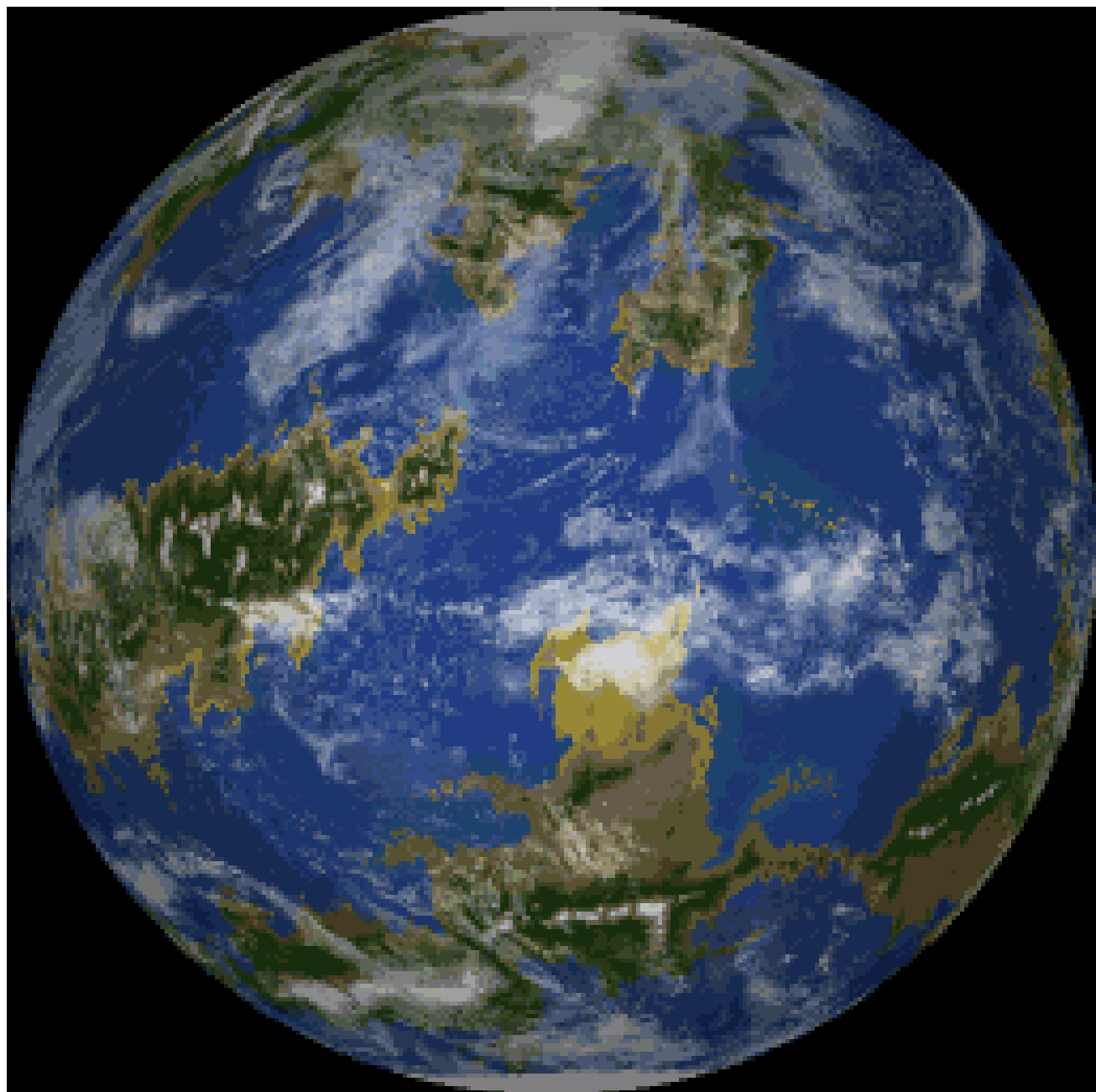
... With the goal of enhancing
the quality of...



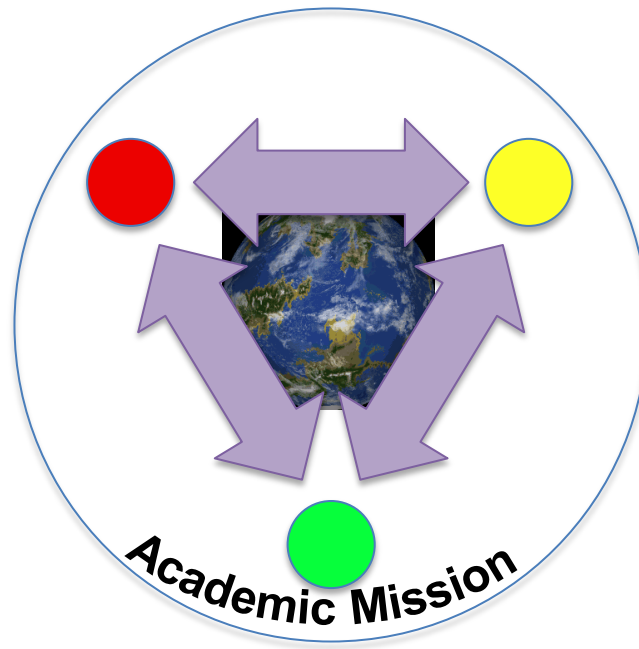
... Within three environments...










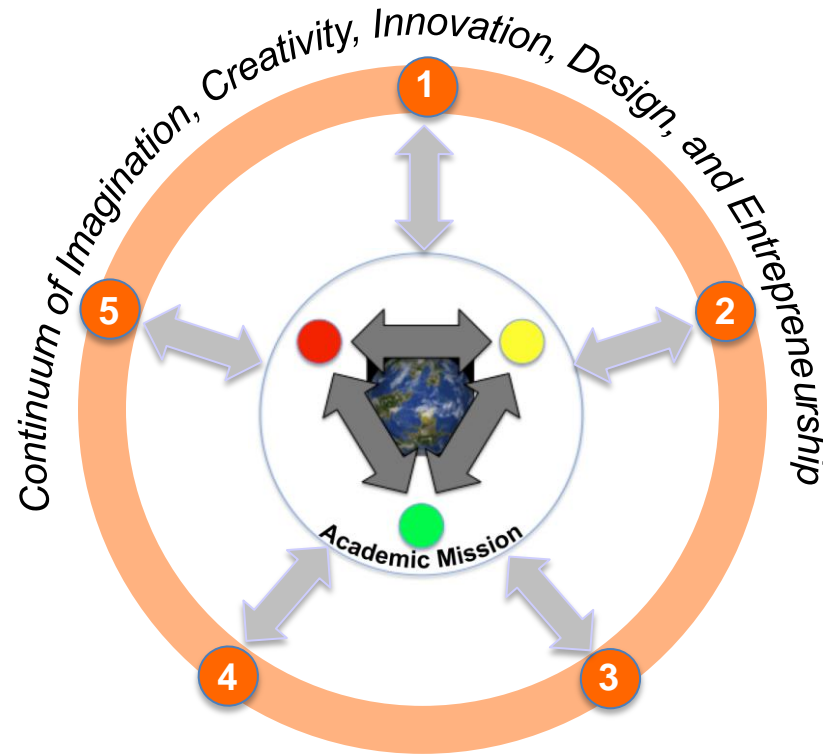
Embedded within...



The Academic Mission:

-  Learning/Teaching
-  Research, Creative Work, and Scholarship
-  Engagement (Practice, Outreach, & Service)

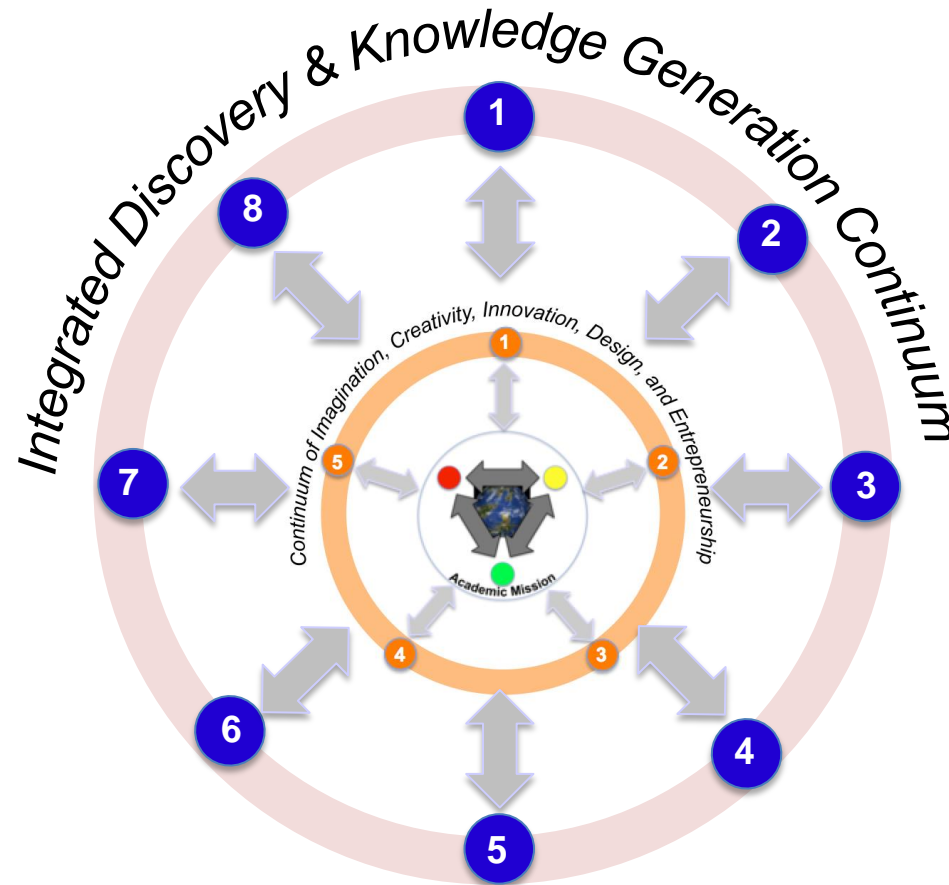
In turn, embedded within...



A Continuum of:

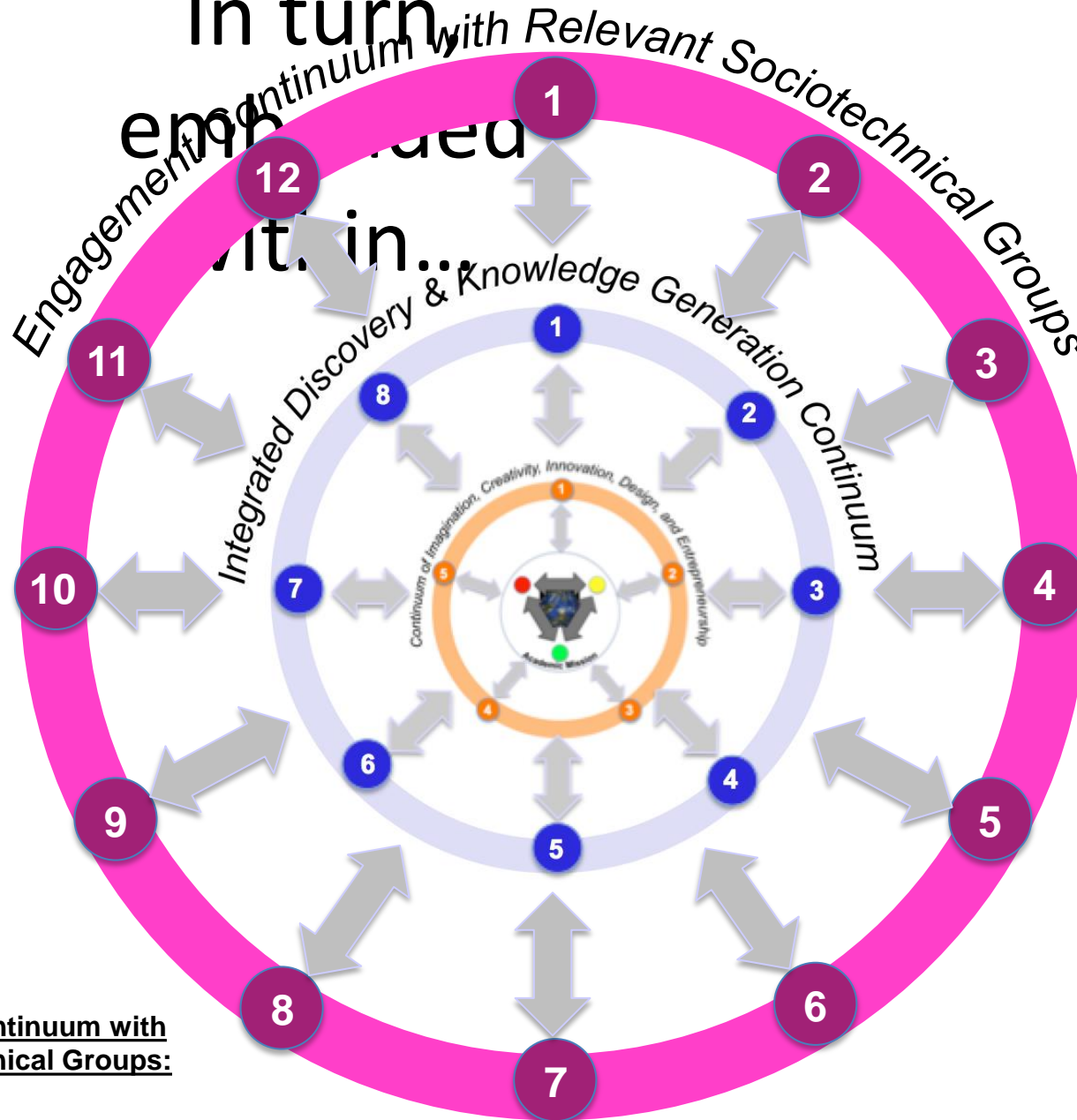
- (1) Imagination; (2) Creativity; (3) Innovation; (4) Design; and (5) Entrepreneurship...

Which is then embedded within...



A Continuum of Integrated Discovery & Knowledge Generation:

- (1) Benchmarks & Baselines; (2) Visions & Desired Outcomes; (3) Research; (4) Development; (5) Demonstration; (6) Deployment; (7) Dissemination; and (8) Evaluation...

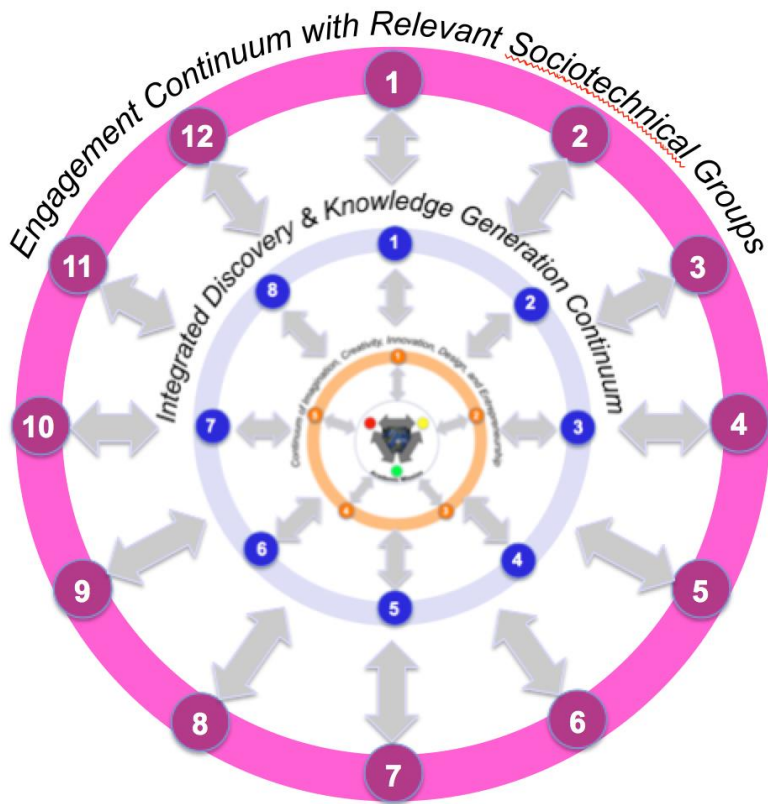


An Engagement Continuum with Relevant Sociotechnical Groups:



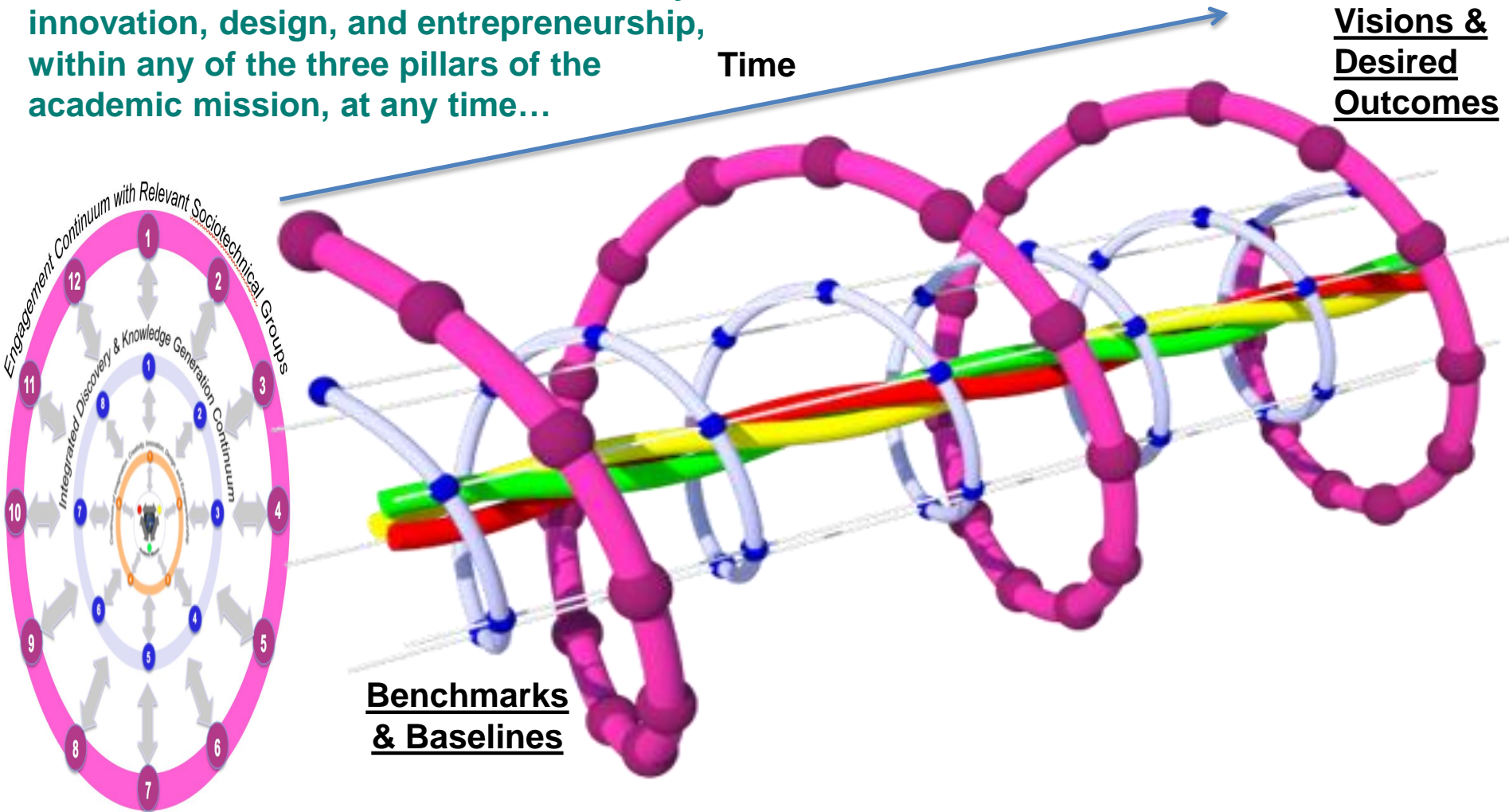
(1) Agriculture & Life Sciences; (2) Architecture; (3) Visual and Performing Arts; (4) Education and Human Development; (5) Engineering; (6) Geosciences; (7) Health Sciences; (8) Law and Government; (9) Liberal Arts; (10) Science; (11) Veterinary Medicine and Biomedical Sciences; and (12) Other...

Creating over time...

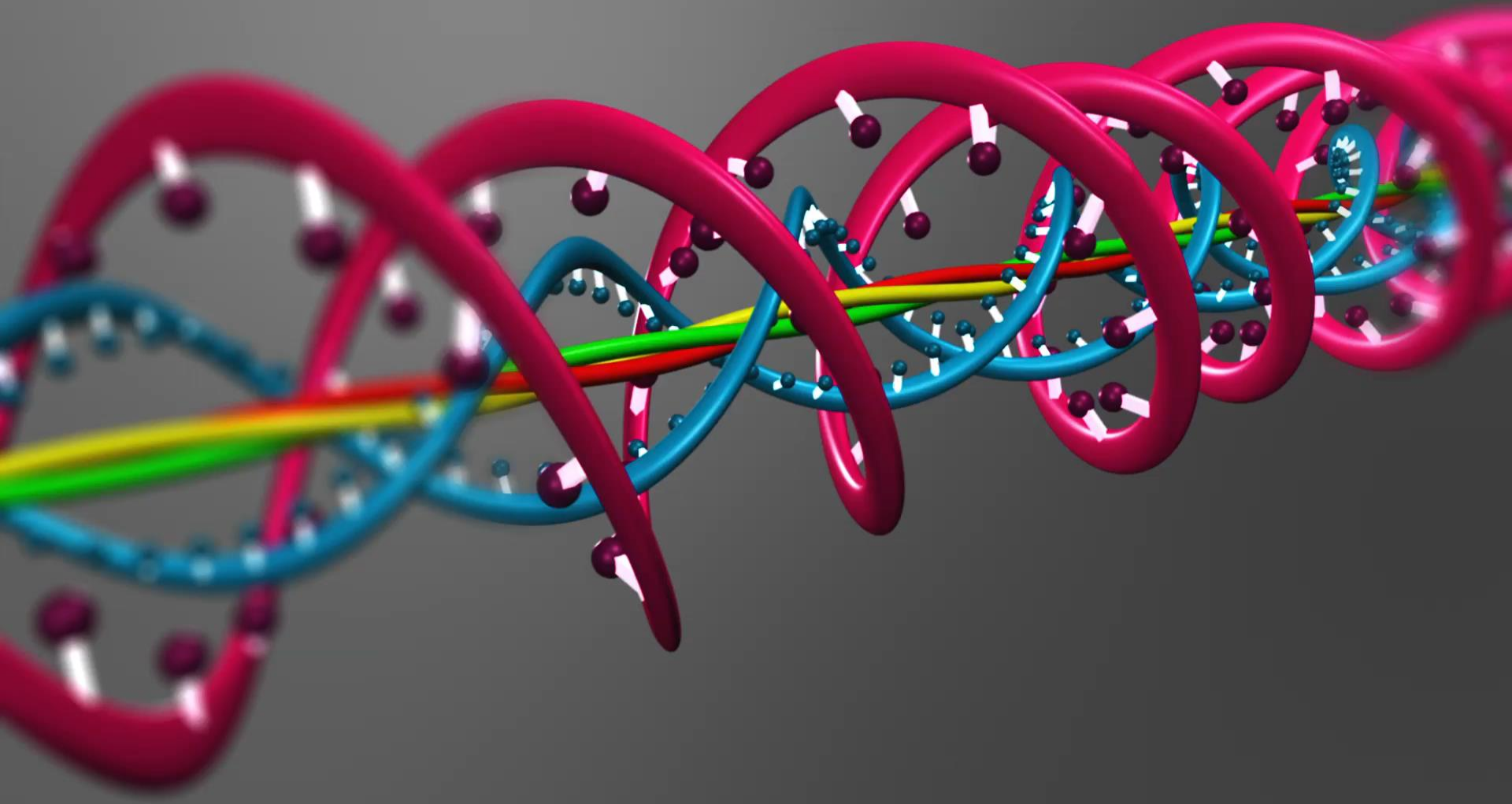


A dynamic continuum over time of transdisciplinary interactions...

...Where any of the sociotechnical groups can engage in any of the discovery and knowledge generation stages, and any dimension of the continuum of creativity, innovation, design, and entrepreneurship, within any of the three pillars of the academic mission, at any time...



Continuously evolving and adapting...



Session 7:

Challenges, Reflections, and Assessment

“Bugs”

Please list anything that still **bothers or annoys you** about the idea of an **EECC**.

“Rants”

Please list anything that you **hate** or **really do not like at all**, about the idea of an **EECC**.

“**Raves**”

Please list anything that you **love** or **really like**, about the idea of an **EECC**.

“Huh’s”

Please list any **muddy points** (i.e., ***anything that may not be clear***) and/or specific questions that might have been generated by the idea of an **EECC**, for which you would like to find an answer.

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“Aha’s”

Please list any specific **insights, revelations, or lessons learned** that might have been generated by the idea of an **EECC**, which you will take away with you.

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What **Grade** would you give this charrette?

On a **scale of 1 to 10**, with 1 being the worst and 10 being the best, what **grade** would you give to this **Working Session**?

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What can be done to make it a **Perfect Grade**?

If the grade you gave **is not 10**, what
could/should/must be done to make it
a **10**?

In closing...

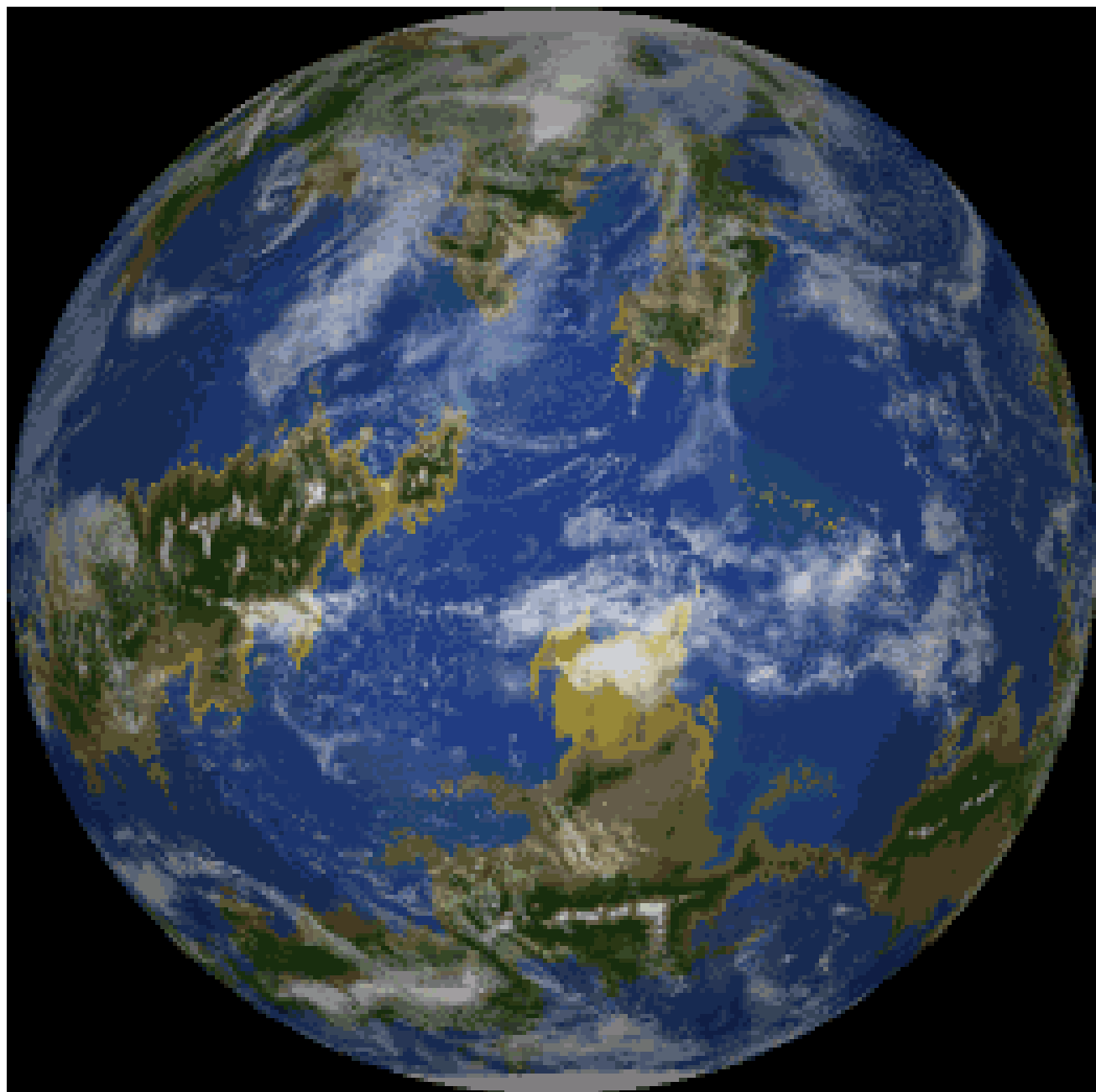
**Go out
there, and
start...**

Flying the Blue Skies...





**... And Navigating
the Blue Oceans...**



Thank you!

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*If you would like to (1) **learn more** about this process, (2) **organize a training session** to learn how to implement this process within your organization, or (3) **organize a facilitated session** to apply this process within a specific project or initiative, please contact:*

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