

# LEARNING AND DEVELOPMENT FOR SUSTAINABILITY

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# Overview

## Current education

- What does education promote currently?
- What is our focus/ lens?
- What has to be changed for Sustainability?

## Sustainability

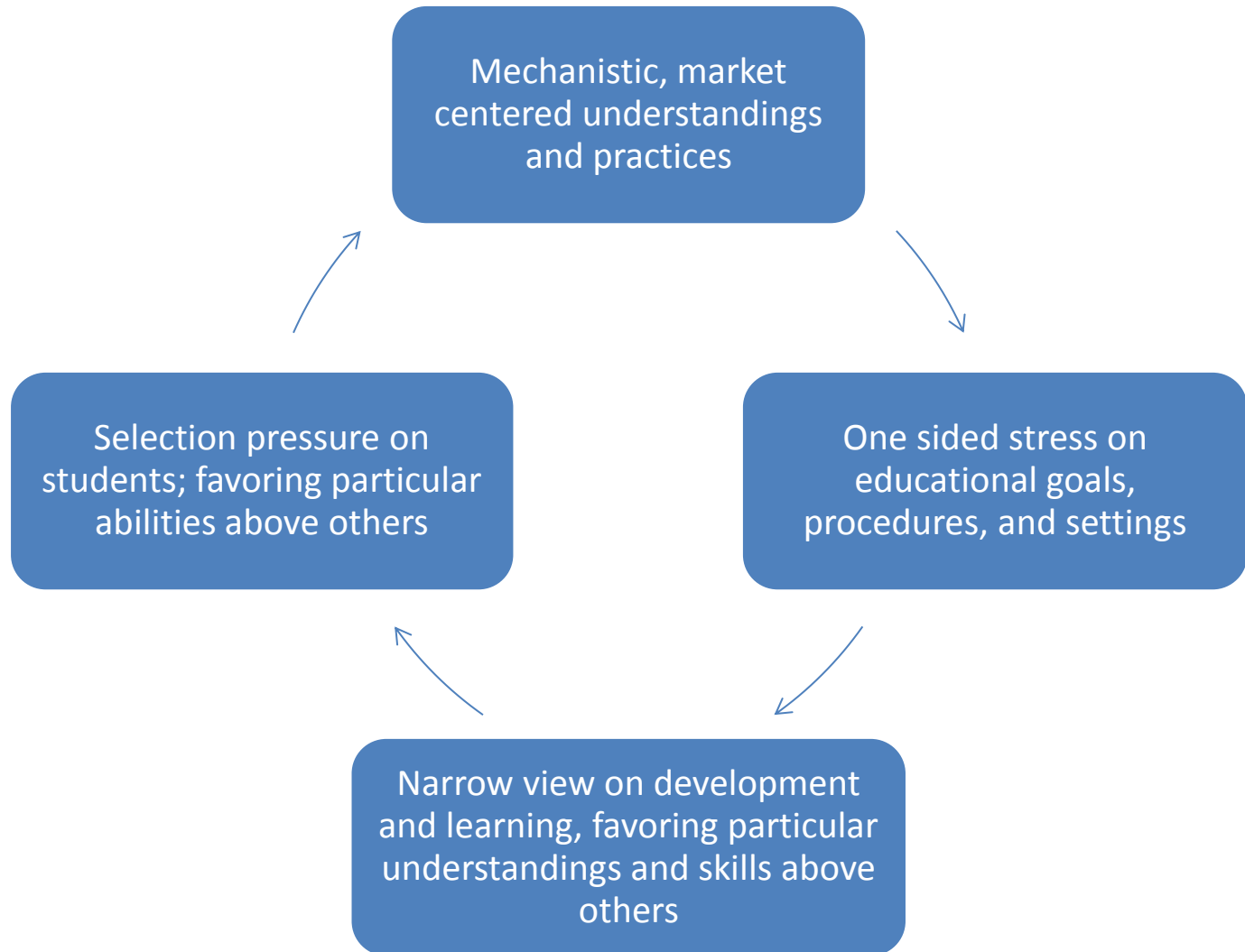
- What does it mean?
- What needs to change in the Educational System?

## Learning and development

- What does it mean?
- What kind of learning and development is provoked in the current situation and has to be mobilized in the new situation
- How to apply to the curriculum?

## Discussions

# Dominant view in current situation



# Educational focus in current situation

Understandings,  
knowledge

Concepts, mental  
models, theories

Linear chains of  
causes and  
effects; single  
cause, and static  
explanations,

skills

Executives:  
routines,  
procedures,  
algorithms

Focus on  
analytical skills,  
cutting  
complexities into  
smaller pieces

Moral values

Rules to obey

Neglect of  
feelings of caring,  
attachment, and  
compassion

# What is wrong with the Mechanistic view?

Problem is not view per se,

... students should learn not only to see 'the trees'

(**mechanistic view**); they should also learn to see the forest for the trees (**system's thinking**).

# How to change?

Albert Einstein

"The world we have created is a product of our thinking. If we want to change the world, we have to change our thinking."

"We can't solve problems by using the same kind of thinking we used when we created them."

# Learning and development for sustainability

## New way of seeing and thinking

- Getting sight on the whole, by seeing how things get interconnected and observing the behavior that results from the interconnection

## New goals for education

- Knowledge, skills, practices, motivations and emotions that enable a child to contribute to the wellbeing of the systems she is and will be part of

## New look at development and learning

- Seeing the system(s) and activities a child needs to mobilize for learning to take place

## New look at teaching

- Centering activities around the child by mobilizing her visible and *hidden* capacities, and ensuring that all get appropriately interconnected for learning to take place

# Consequences for education (non-exhaustive list of changes)

## Curriculum

- content
- When to teach what
- ways of teaching

## Cooperation

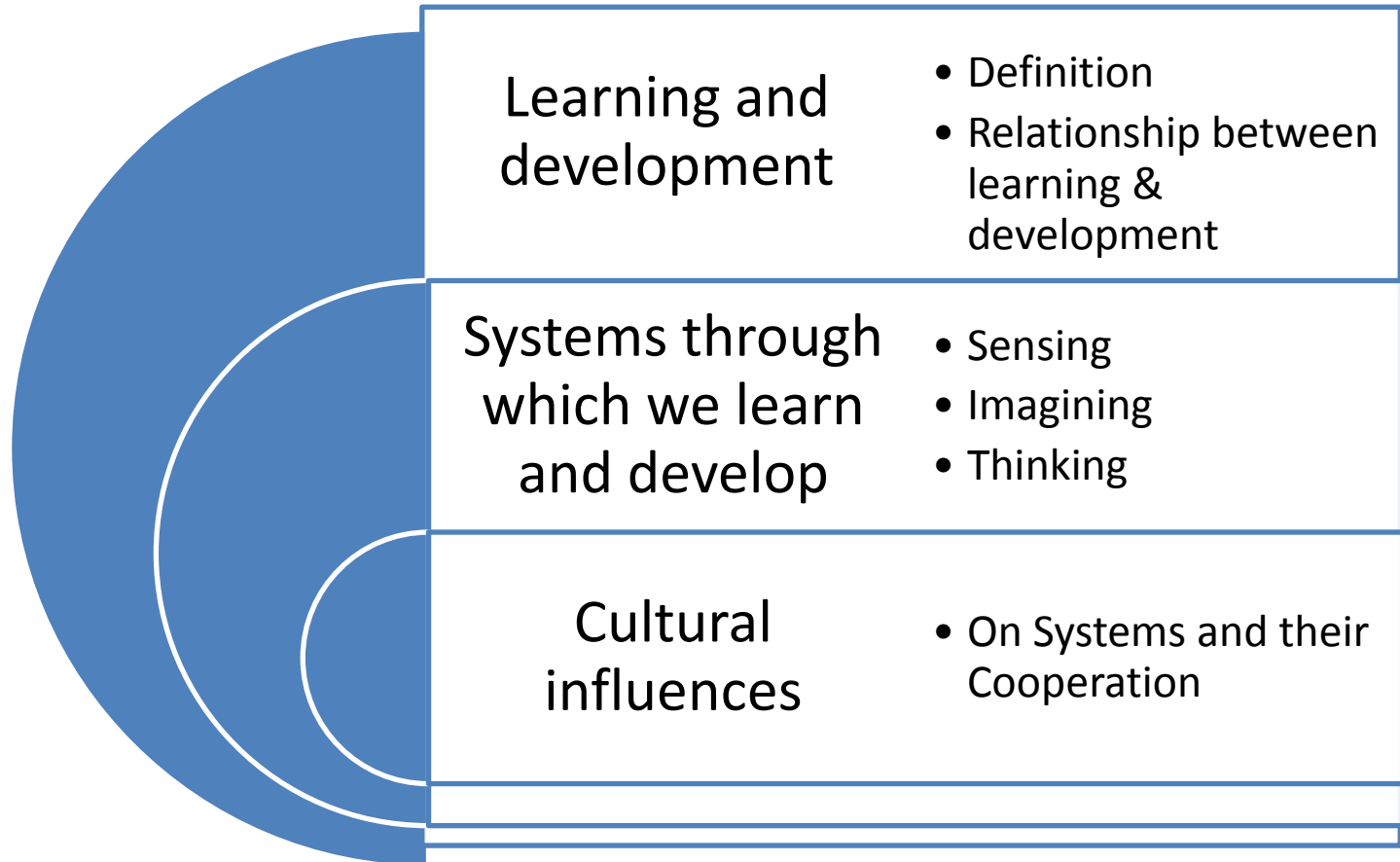
- among students
- among teachers
- among teachers students

## Evaluations

- students
- quality program
- quality cooperation
- improvements



# Learning and development: overview



# The broader picture

1. All living creatures evolved powerful instruments/systems for living **together and evolving our natural world.**
2. **Human systems** have emerged from this **vast evolutionary process**; *we are deeply embedded within the Web of Life.*
3. Humans also evolved new, **socio-cultural, political, and economic systems**, some of which drastically altered humanity's relationship with the older life-sustaining systems.
4. This **new development** was made possible, among others, by a **much larger brain**, but remember that **the brain already existed and that senses, and muscles extends the brain and connect it to the natural world.**

# Reminder

Learning and development already took place before children went to school. It enabled them to develop:

- Reaching, grasping, crawling, walking, talking, relating to other people
- a natural understanding of life, which is rich and vast.

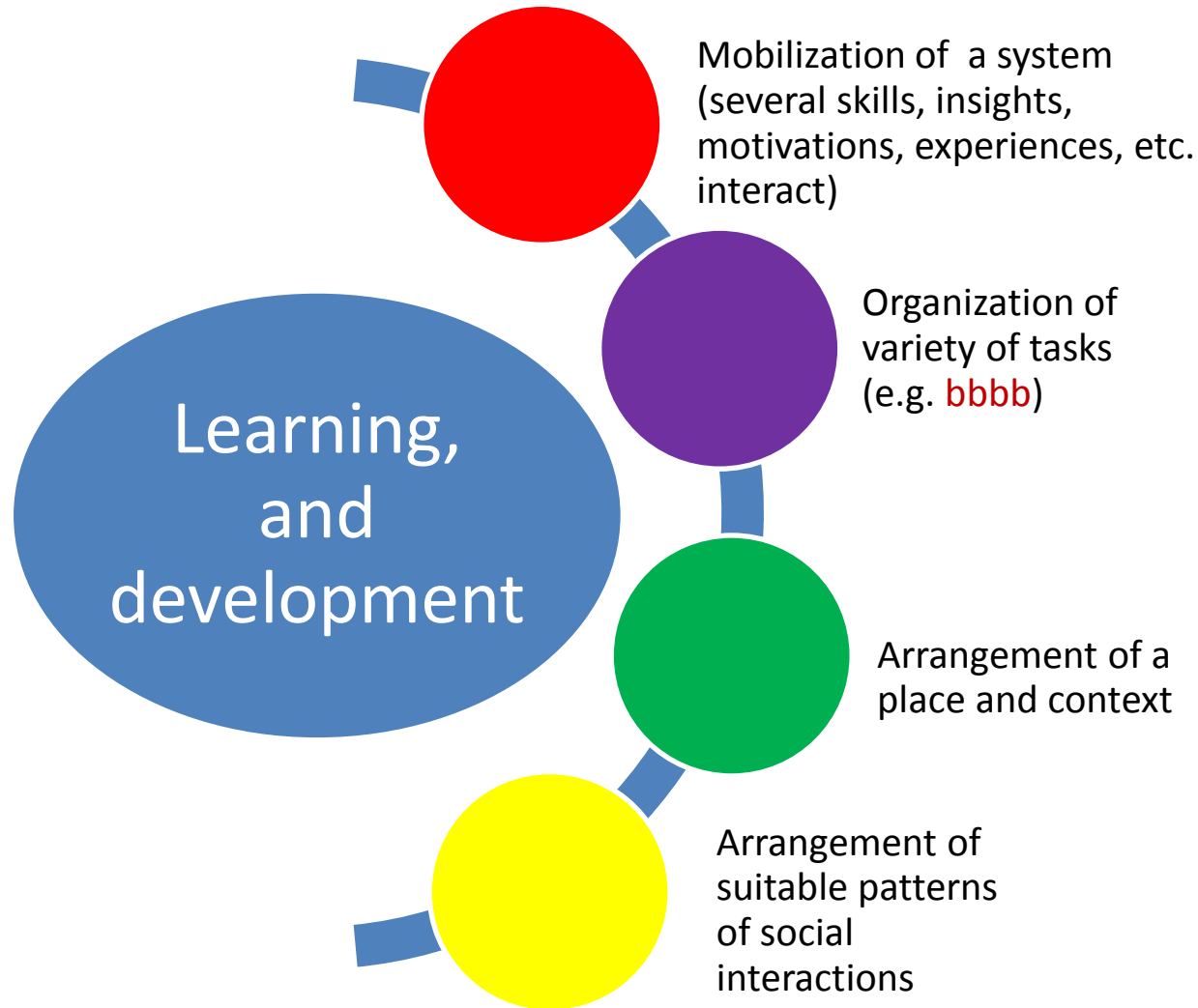
These capabilities developed experientially.

# Principles of learning and development

## Principles

- Active engagement: physically, and mentally
- Variation/diversity in activities, goals, and contexts.
- Flexibility
- Autonomy

# A closer look



# Learning and development: relationship?

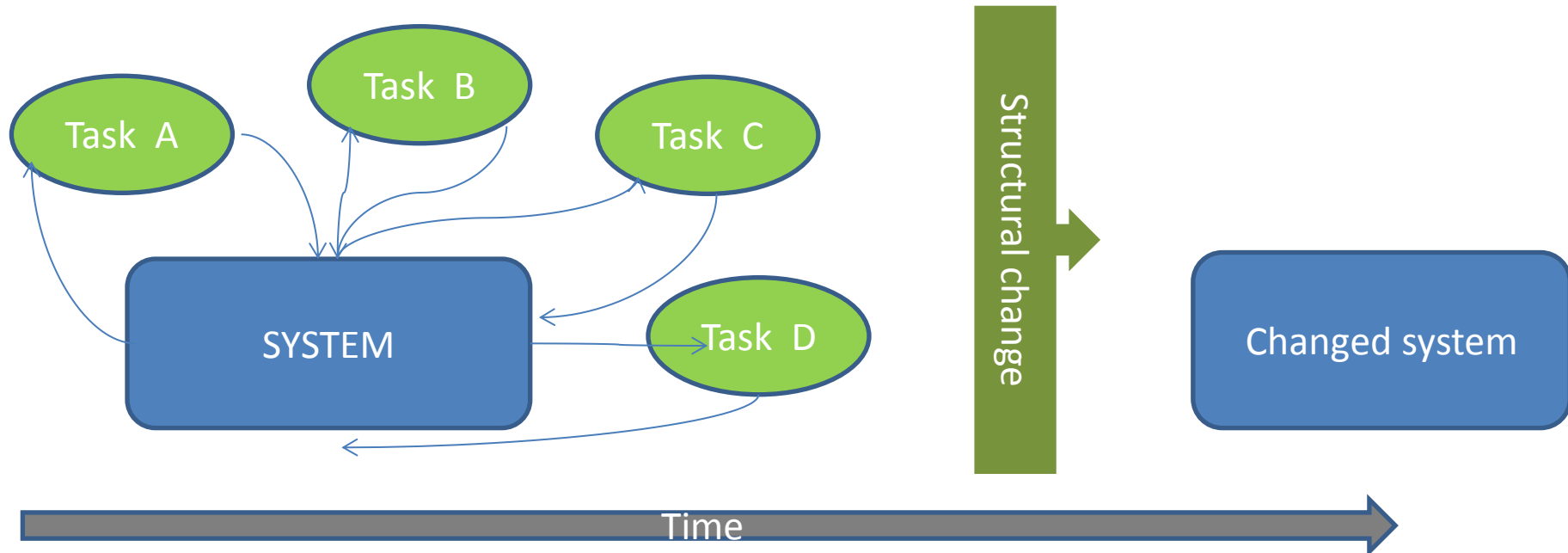
(Capra: development provokes learning)

## Learning

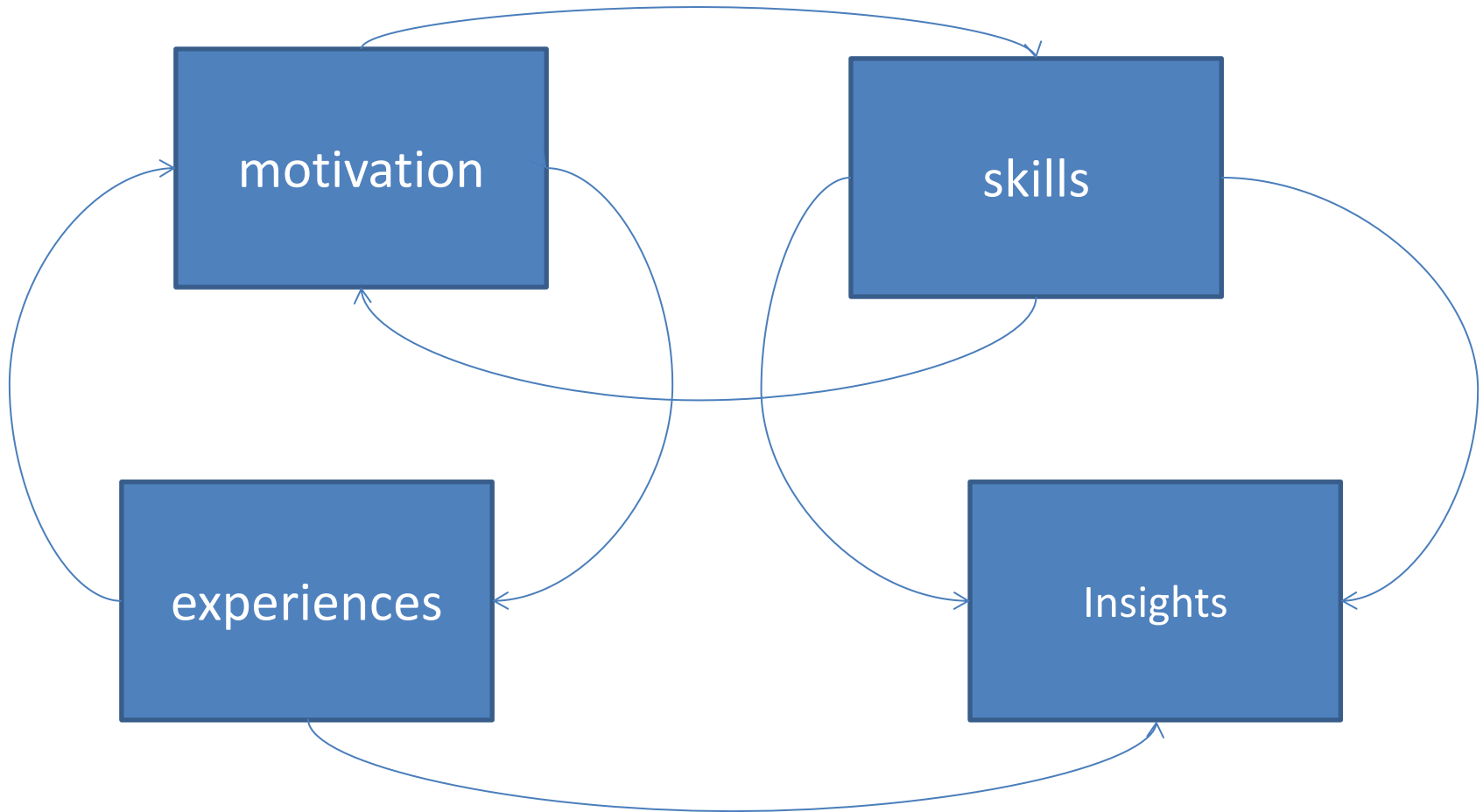
Systems learn continuously by being active in varying contexts and tasks  
Learning stretches the capacity of a system to its limits and paves the road for structural changes that involve development

## Development:

structural changes that result from continuous learning over extended periods of time.

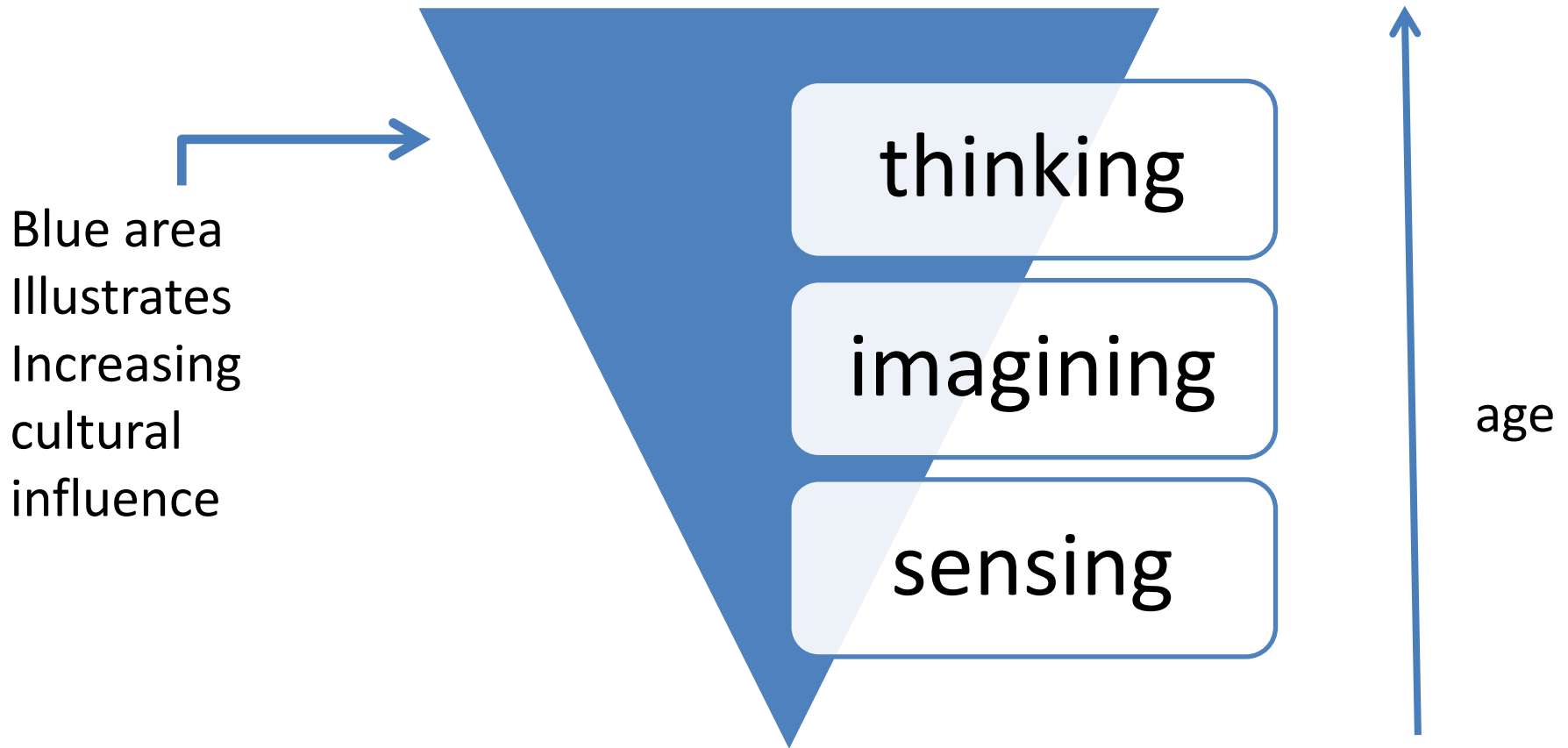


# Mobilization of a system



NB. Each of the above change over learning time, they may increase or decay, under influence of each other and other components of the task

# Systems children develop to understand the world and their cultural embedding





# Characteristics

**Sensing** (from birth onwards)

Simultaneously directed at an ambient world and the body:

Holistic, patterns of relationships embedded in patterns

**Imagining** (from 1 year onwards)

Sensing based: envisioning

Holistic, creative

**Thinking** (from 2 years onwards)

Guided by cultural models language, and other symbolic systems

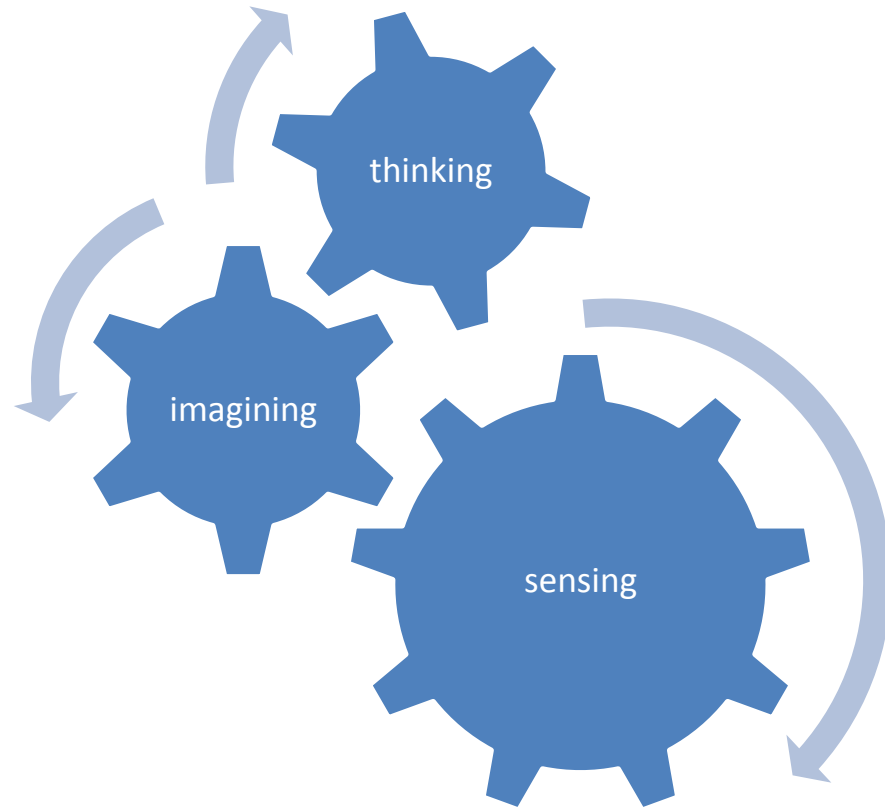
Analytical: dissecting patterns into elements.

# Cooperation of systems

## Examples:

Writing a story

Scientific enquiry



# Application of these principles in this program

## Curriculum

- Interconnectedness of subjects
- Inclusion of enquiry-based learning (context & experience)
- Evaluation reflects the learning and development progress of the students (multiple capabilities)

## Collaboration & co-learning

- among students
- among teachers
- among teachers students

## Teacher Training

- students
- quality program
- quality cooperation

**Use feedbacks to enhance learning & development for sustainability**

# For discussions .....

- Experience based values vs. rule based values.
- Learning to read
- Early math
- Skilled labor: manufacturing
- Artistic activities
- Any other?

# Thank you !



For information about the ELIA **Education for Sustainability Programme**

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