

# Why should we foster creativity and critical thinking in education?

Szilvia Németh,  
managing director  
T-Tudok Inc.



creative  
learning  
& education  
foundation

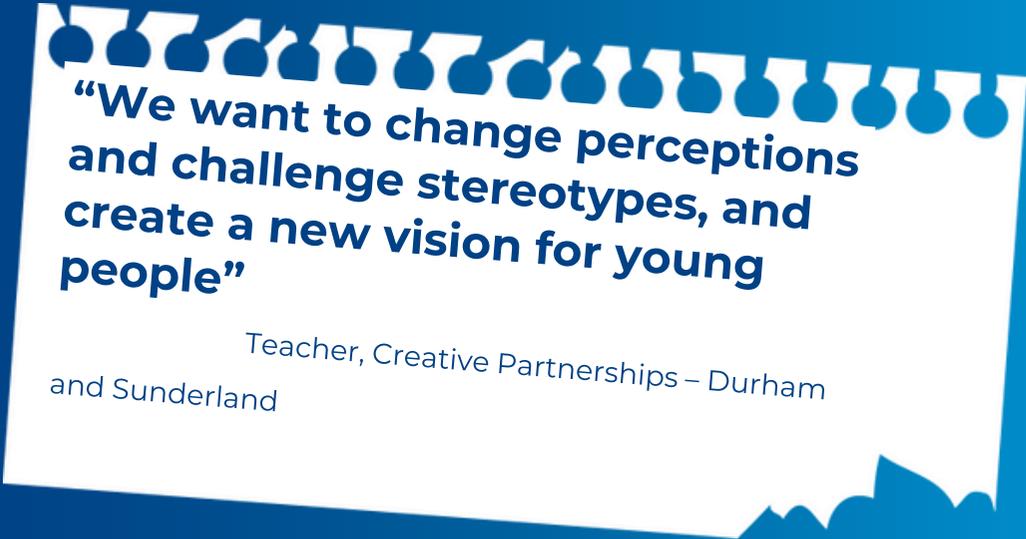
kreatív  
partnerség  
Magyarország



# UNESCO Framework for Culture and Arts Education

# 1

- Educational environments and settings should **fully leverage culture and the arts to nurture creativity, critical thinking** and innovation as fundamental competencies for addressing complex global challenges
- Educational approaches, pedagogies and tools should empower learners to **use art for social change, express freely**, and act with **social responsibility, collaboration, and creativity**.



**“We want to change perceptions  
and challenge stereotypes, and  
create a new vision for young  
people”**

Teacher, Creative Partnerships – Durham  
and Sunderland

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2

**Why do creativity and  
critical thinking matter?**

# Employment Prospects

60% of the jobs kids  
in school today will do  
have not yet been  
invented

Creative Partnerships London East  
Raw Skills Dance project  
Photographer: Dee Conway

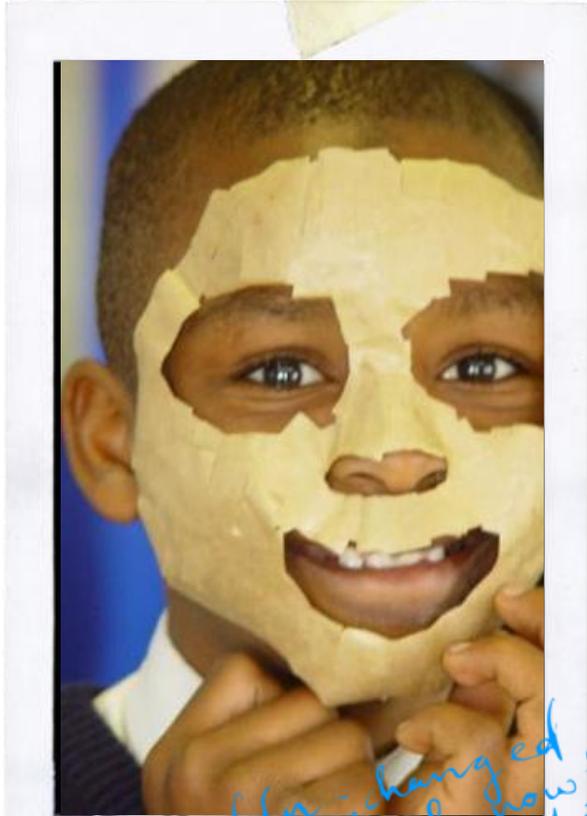


# Not job seekers but job creators

Creative Partnerships London South  
Drawing with Light  
Photographer: Robert Taylor



# What are the skills necessary to succeed in the 21<sup>st</sup> century?



*It has really changed parents perception of school, how they see it as a place where artists come in and work, there's always lots going on.*

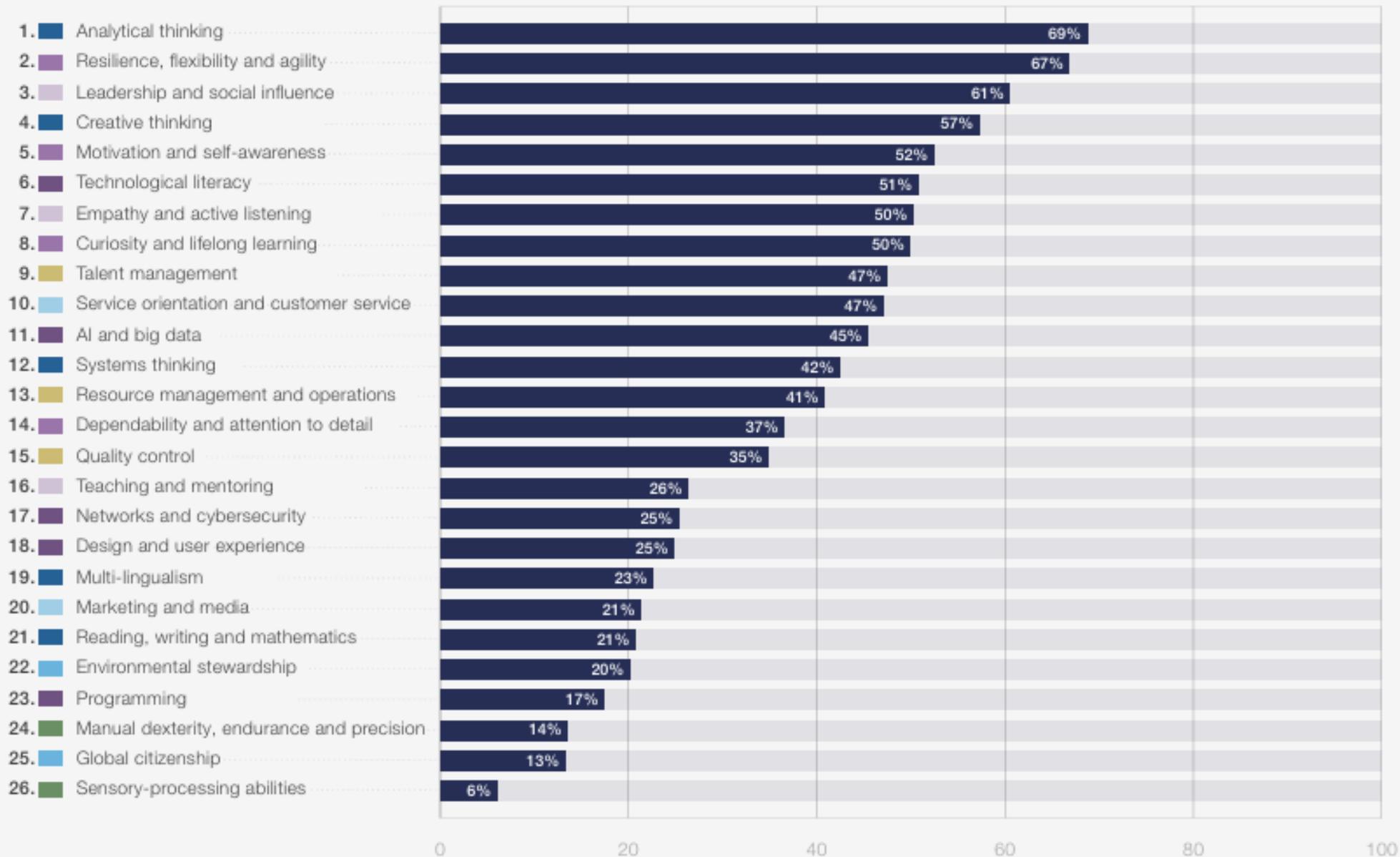
- Thinking imaginatively
- Developing lots of ideas
- Taking confident decisions
- Taking and managing risks
- Asking challenging questions
- Transferring knowledge/skills
- Being emotionally literate
- Working effectively in teams
- Spotting surprises
- Persistence/resilience
- Reflecting critically

Creative Partnerships Slough

Montem School project

Photographer: Lesley Young

# Survey of CEOs and HRM Directors: Creative thinking in top 5 Skills Demand: 2025 (Future of Jobs report)



**“It has helped me  
because I  
now concentrate more  
than I used to. It’s been  
the best experience of  
my life”**

Student, Creative Partnerships –

Kent

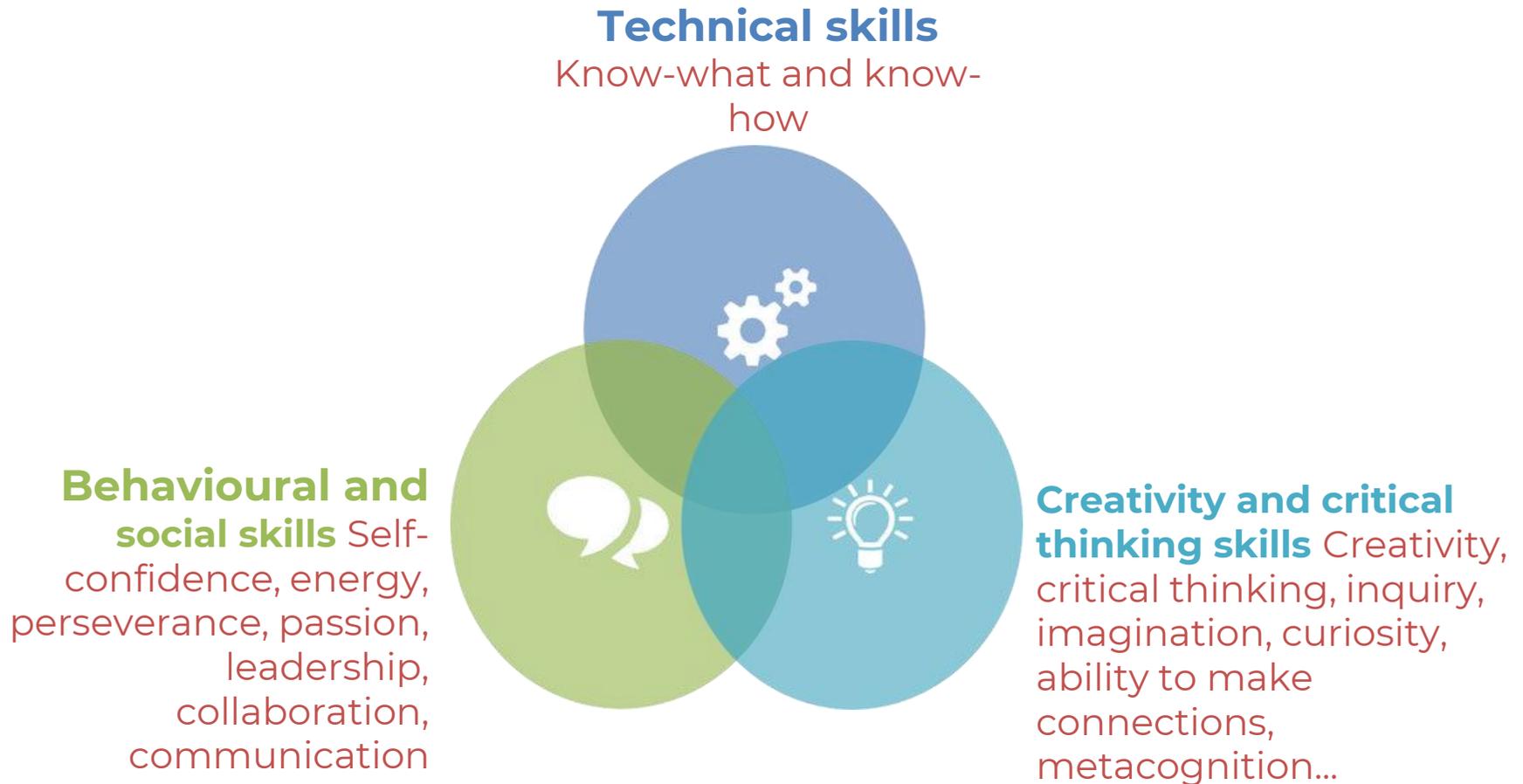
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**3**

**What skills should  
education systems  
foster?**

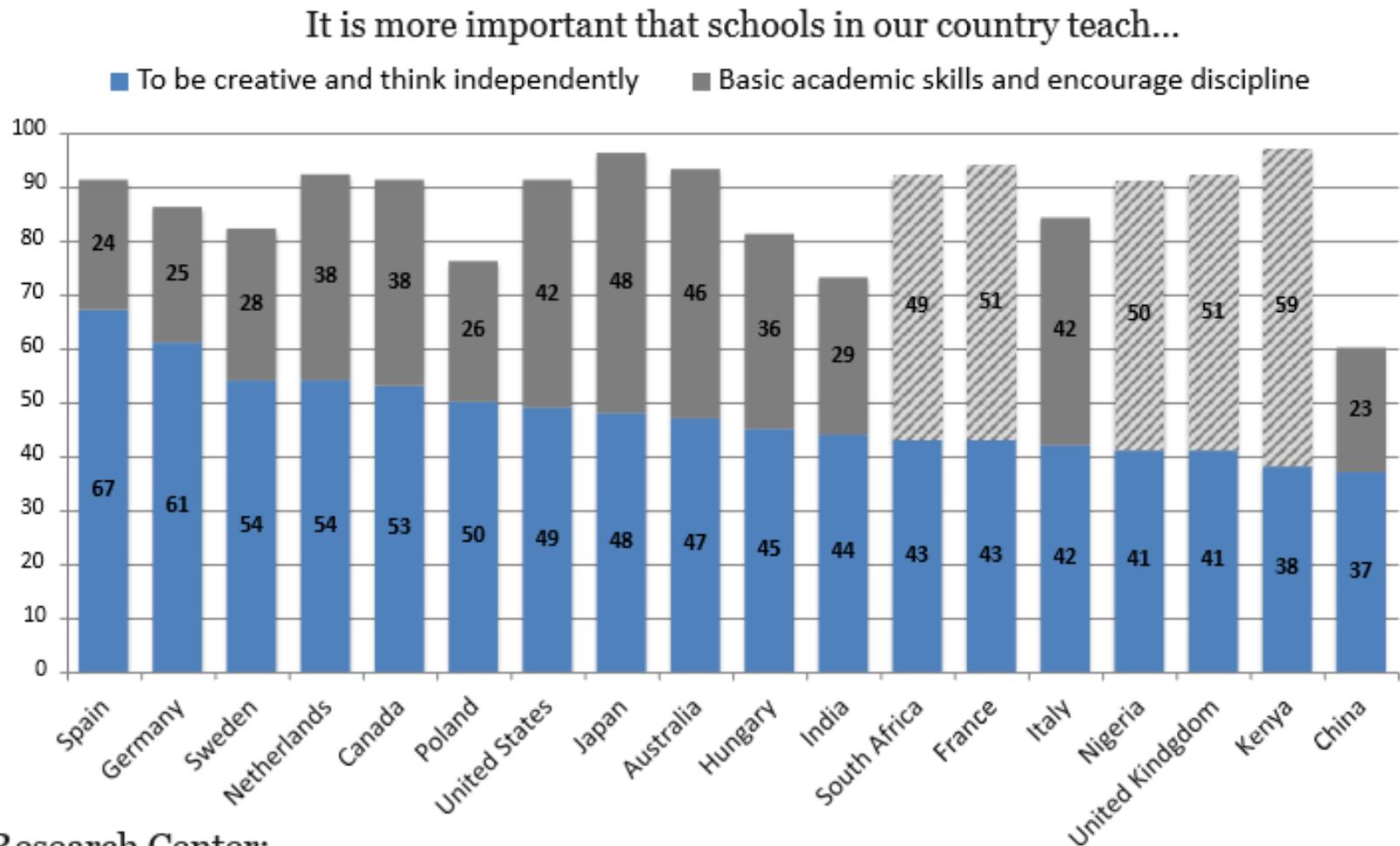


# What skills should education systems foster? (Vincent-Lancrin, 2024)



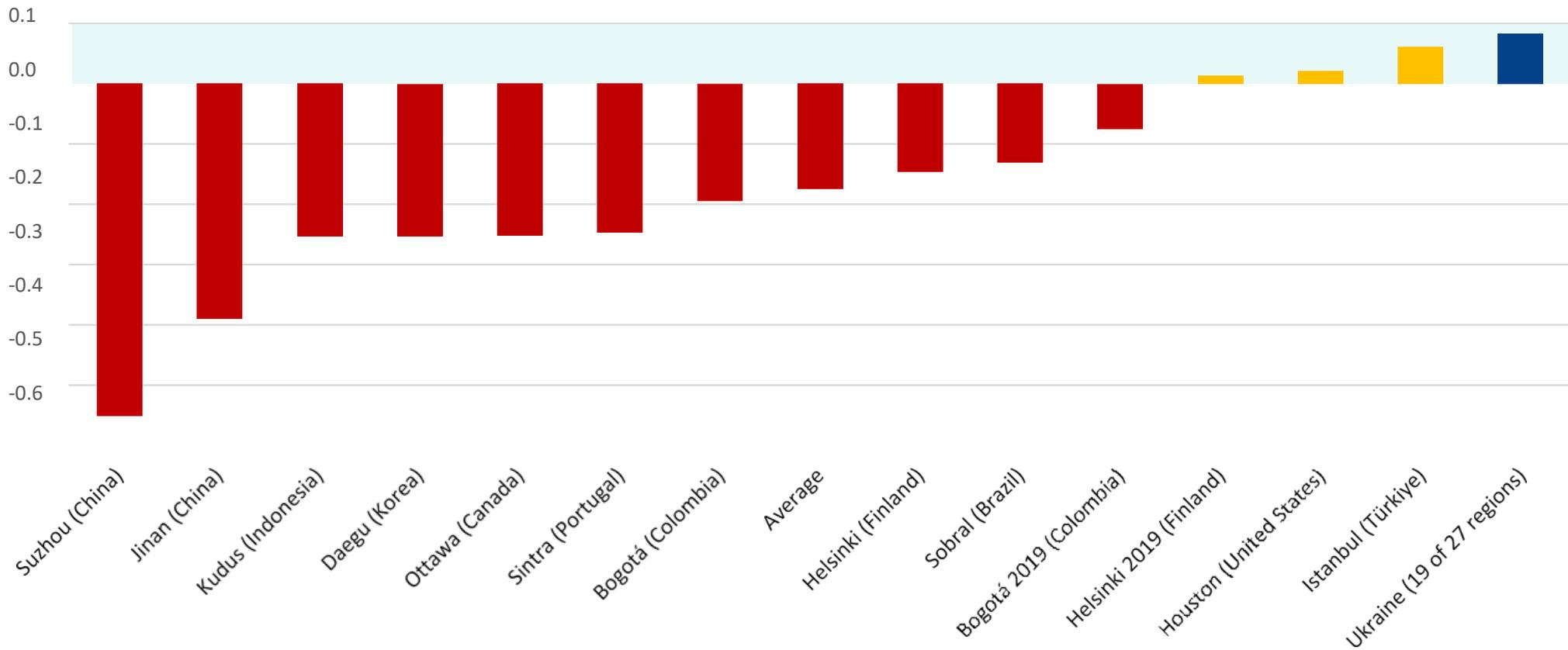


## Creative and independent thinking vs. basic academic skills (OECD, 2024)



Source: Pew Research Center;  
Percentages of the population.

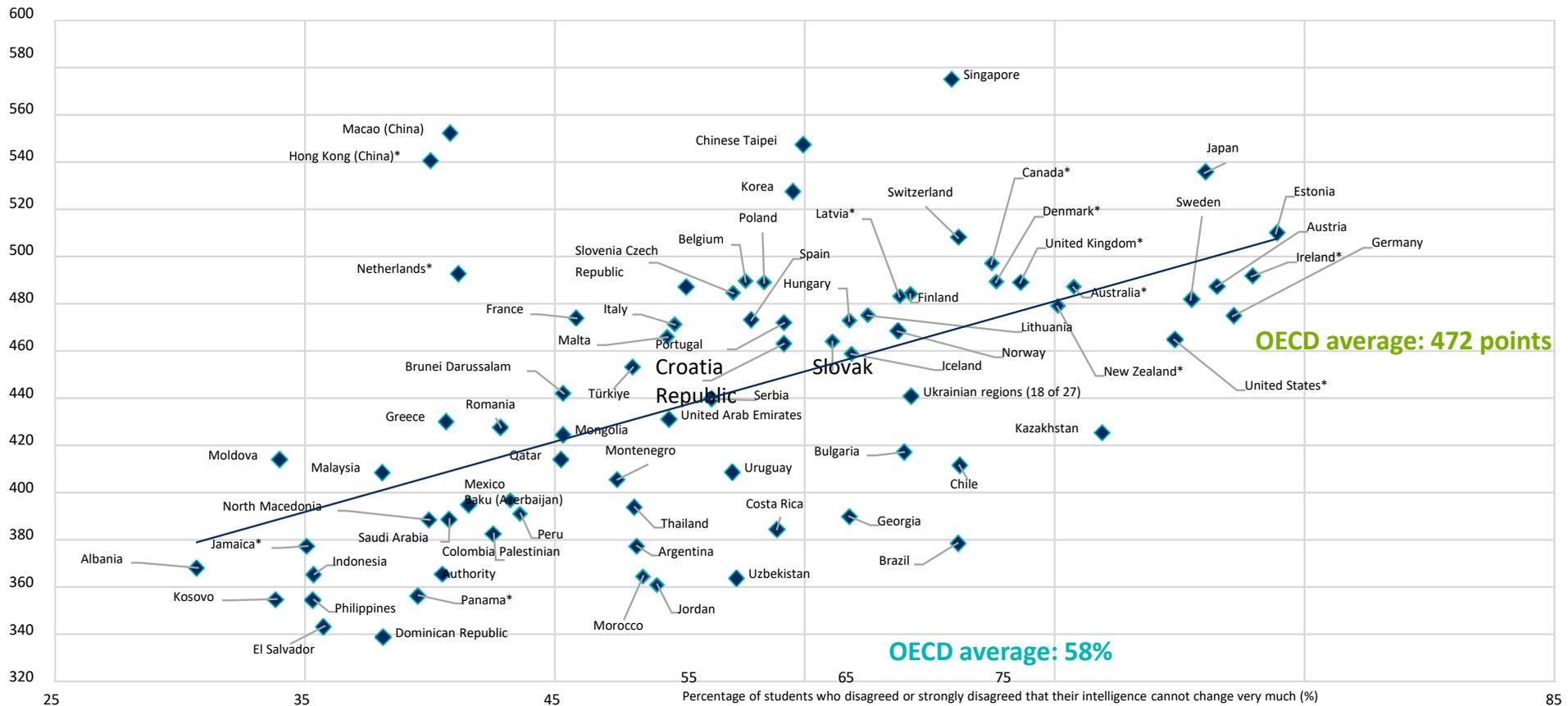
# 15-year-olds tend to report **lower** creativity than 10-year-olds (Schleicher, 2024)



Standardised differences between 10- and 15-year-olds,  
average across sites

# Growth mindset and mathematics performance (Schleicher, 2024)

Table I.B1.2.1 &  
Table I.B1.2.16



More students holding a growth mindset

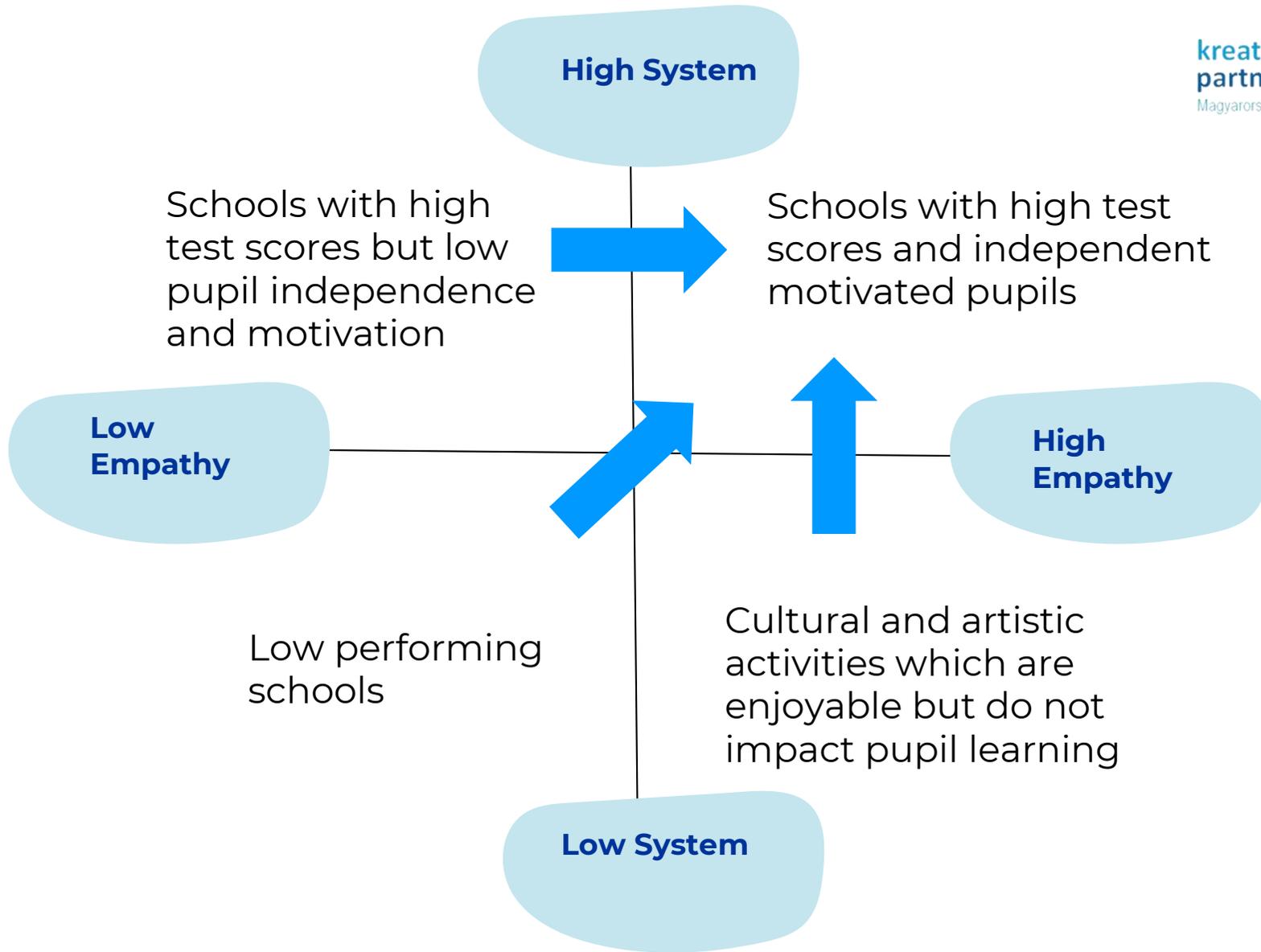
**“They have already displayed thinking and team working skills which are far beyond those of their peers; there is no question that they have a head start!”**

Teacher, – Kent

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**4**

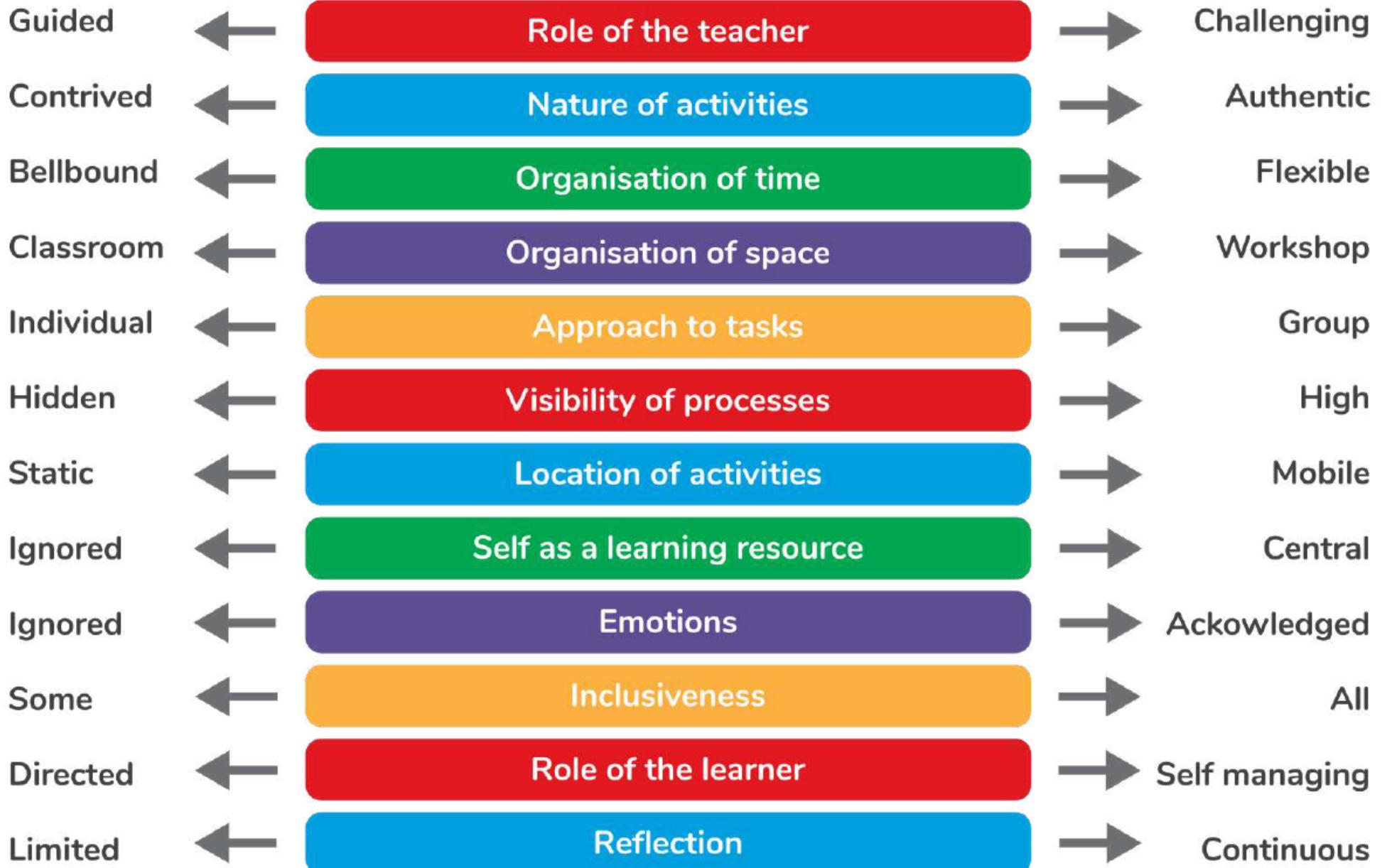
**What can we do?**



# The High Functioning Classroom

Low functioning

High functioning





# OECD practice-engaged research project on fostering and assessing students' creativity and critical thinking (OECD, 2016-2021)

Articulate a common **international language** on creativity and critical thinking in education

Develop an exemplary **bank of pedagogical resources** to teach and assess creativity and critical thinking as part of the countries' (current) curriculum

Develop **professional development plans**

Develop and pilot **evaluation instruments** to measure the effects of pedagogical practices on pedagogies, beliefs, social and behavioural skills, and standardised measures of creativity and academic achievement



# What is it really all about?

- the creativity of young people, raising their aspirations and achievements
  - supporting teachers to develop creative approaches to teaching – how they teach not what they teach
- supporting schools to deal with their real challenges and development needs
- partnership working
- the skills and abilities of artists to work in schools successfully



# Partnership Working

- **Between teachers, creative practitioners, pupils and parents**

## **Some quotes about this work**

- **'I've liked working in partnership. To do something which was completely new for both of us .... having equal input from the outset has been really good.'**
- **'Working with our creative partner showed us other avenues to try and new ways of working.'**
- **'Working collaboratively has extended my ideas and work experience.'**
- **'To work with teaching staff and observe their practice has been very important for me.'**

# Some examples of projects

- Literacy: speaking and listening or writing
- Mathematics: core science concepts
- IT/multi-media
- (Boys') motivation, engagement and behaviour
- Pupil voice
- Developing learning to learn skills
- Developing learning environments
- Staff development as enablers of creative learning
- Cross-curricular collaboration
- Engaging parents in school.





**Taking risks – experimenting - discovering  
Dealing with real school challenges**



**High System**

**Curriculum**

**Issue/Problem**

**Creative Practice**

**Creative Skills**

**High Engagement**



### The High Functioning Classroom

	Low functioning		High functioning
Guided	←	Role of the teacher	→ Challenging
Contrived	←	Nature of activities	→ Authentic
Bellbound	←	Organisation of time	→ Flexible
Classroom	←	Organisation of space	→ Workshop
Individual	←	Approach to tasks	→ Group
Hidden	←	Visibility of processes	→ High
Static	←	Location of activities	→ Mobile
Ignored	←	Self as a learning resource	→ Central
Ignored	←	Emotions	→ Acknowledged
Some	←	Inclusiveness	→ All
Directed	←	Role of the learner	→ Self managing
Limited	←	Reflection	→ Continuous

## Definitions of Creativity

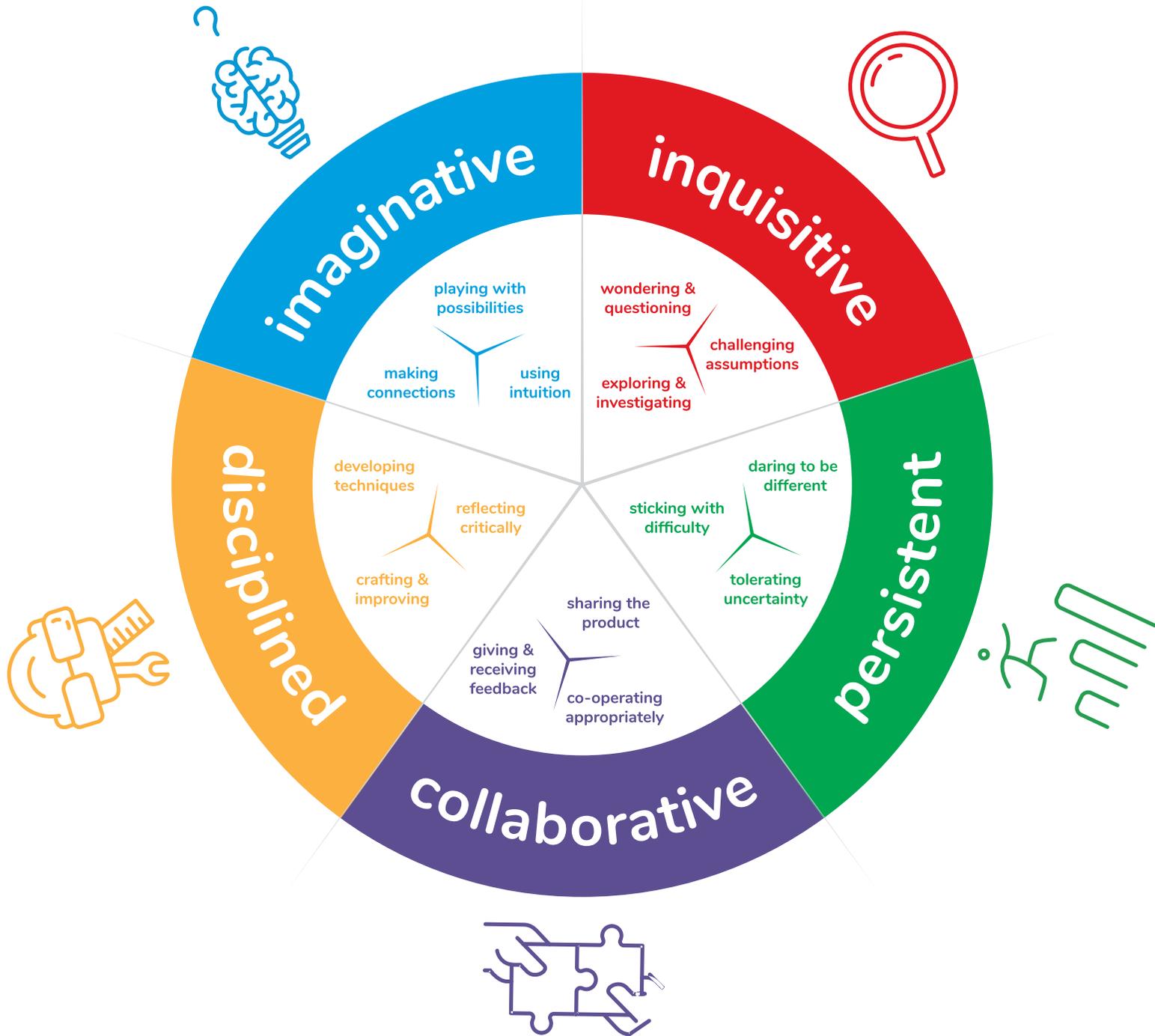
- Can be defined in many ways  
BIG C / small c
- Some people feel it is:
- a special gift
- about an end product only  
about the arts
- We believe it exists in all of us  
It's a habit of mind that can  
be developed
- Education through art  
programmes aim to unlock  
and nurture the creativity of  
pupils, teachers and creative  
professionals

AiCE

Karachi/Birmingham

Photographer: Emma Bowen





# Defining Creativity



Wondering and Questioning  
Exploring and Investigating  
Challenging assumptions



Managing uncertainty  
Sticking with difficulty  
Daring to be different  
(Managing risk)

# Defining Creativity



Playing with possibilities  
Making connections  
Using intuition



Crafting and Improving  
Developing techniques  
Reflecting critically

# Defining Creativity



Cooperating appropriately  
Giving and receiving feedback  
Sharing the 'product'  
(Emotionally literate)

# Creativity (OECD, Vincent-Lancrin, 2025)

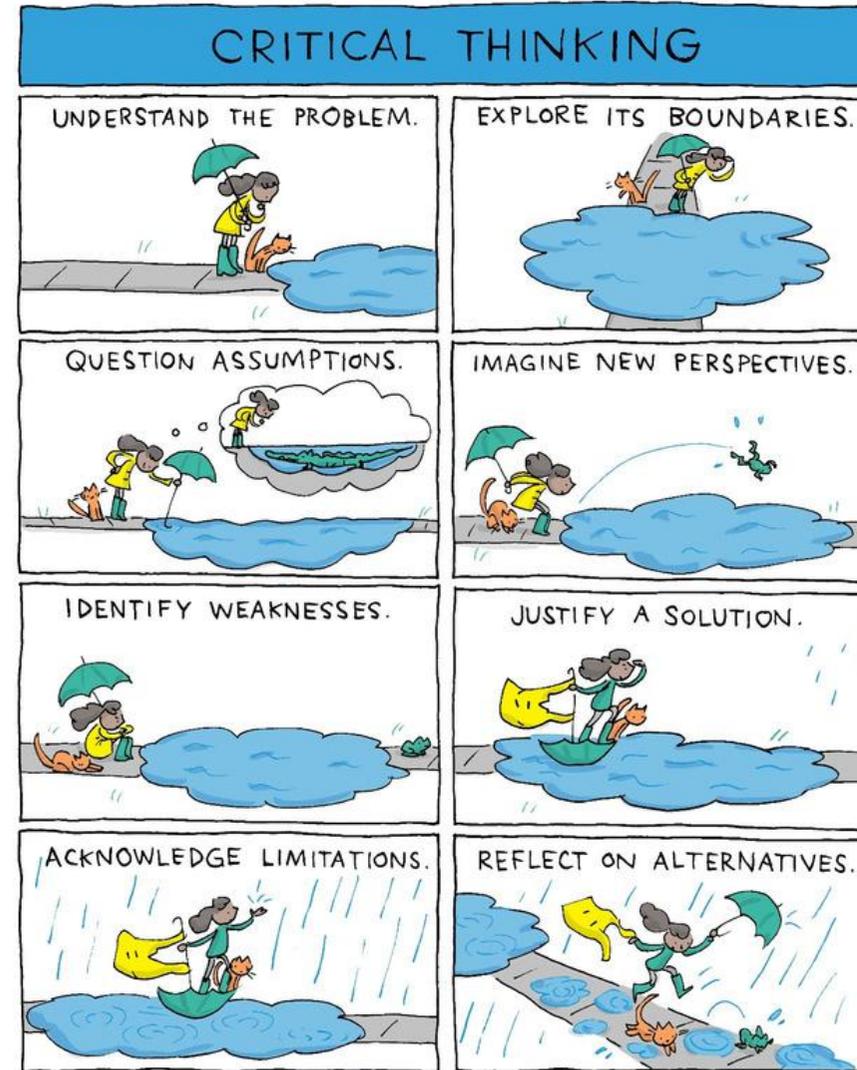
- **Creativity:** the ability to produce work that is both novel and appropriate
- It is about:
  - Ideation and exploration (divergent- exploratory)
  - New and interesting combinations (convergent-integrative)
  - Getting at ease with unusual and daring ideas
  - Not about « novel to the world » or « gifted » or « successful »



GRANT SNIDER for OECD/CERI

# Critical thinking (OECD, Vincent-Lancrin, 2025)

- **Critical thinking:** the ability to carefully evaluate and judge statements, ideas and theories relative to alternative explanations or solutions so as to reach a competent, independent position
- It is about:
  - Thinking rationally (slow) and in a certain disciplinary frame
  - Understanding the limitations of theories and conventions (including ours)
  - Challenging assumptions
  - Considering other theories and perspectives (possibly to then discard them)



GRANT SNIDER for OECD/CERI

# A means to improve the depth and quality of learning (Vincent-Lancrin, 2024)

## Creative thinking

- More engaging (and memorable) learning
- Connection of learning with a real problem (even if fictional)
- Develops problem solving skills
- Stronger intellectual experiences

## Critical thinking

- Develops inquiry and evaluation skills
- Makes students weight the strength of evidence and information
- Helps students understand the nature of scientific (or other type of) knowledge
- Develops (complex) problem solving skills



## OECD rubric on creativity and critical thinking (class-friendly version)

	<b>CREATIVITY</b> Coming up with ideas and solutions	<b>CRITICAL THINKING</b> Questioning and evaluating ideas and solutions
<b>INQUIRING</b>	Make connections to other concepts and knowledge from the same or from other disciplines	Identify and question assumptions and generally accepted ideas or practices
<b>IMAGINING</b>	Generate and play with unusual and radical ideas	Consider several perspectives on a problem based on different assumptions
<b>DOING</b>	Produce, perform or envision a meaningful output that is personally novel	Explain both strengths and limitations of a product, a solution or a theory justified on logical, ethical or aesthetic criteria
<b>REFLECTING</b>	Reflect on the novelty of solution and of its possible consequences	Reflect on the chosen solution/position relative to possible alternatives

# A series of domain-specific versions (OECD, 2019)

OECD CONCEPTUAL RUBRIC

CLASS-FRIENDLY RUBRIC

**MUSIC**

CREATIVITY & CRITICAL THINKING

This rubric identifies the main subskills related to creativity and critical thinking that students should develop as part of education. It can be used to foster students' creativity and design new activities to better fit specific contexts. It can be adapted to better fit specific contexts. Teachers/faculty can discuss it with students to build creativity and critical thinking and ensure these are learned explicitly. It is not meant to score students with a continuum of skill progression.

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OECD

OECD CONCEPTUAL RUBRIC

**MUSIC**

CLASS-FRIENDLY RUBRIC

**CREATIVITY**  
Coming up with new ideas and solutions

**CRITICAL THINKING**  
Questioning and evaluating ideas and solutions

<b>INQUIRING</b>	Make connections to other musical styles, concepts or conceptual ideas in other disciplines	Identify and question assumptions and conventional rules in a musical performance, composition or analysis
<b>IMAGINING</b>	Play with unusual and radical ideas when preparing to perform, compose, orchestrate, or analyse a music piece	Consider several perspectives on a musical performance, composition, interpretation or analysis
<b>DOING</b>	Perform, compose, or analyse music with expressive qualities or relating to personally meaningful subject matter	Explain both strengths and limitations of a performance, a composition or an analysis of a music piece
<b>REFLECTING</b>	Reflect on steps taken to create performances, compositions or analyses of a music piece	Reflect on the chosen way of performing, composing or analysing a music piece relative to possible alternatives

OECD CONCEPTUAL RUBRIC

**SCIENCE**

CLASS-FRIENDLY RUBRIC

**CREATIVITY**  
Coming up with new ideas and solutions

**CRITICAL THINKING**  
Questioning and evaluating ideas and solutions

<b>INQUIRING</b>	Make connections to other scientific concepts or conceptual ideas in other disciplines	Identify and question assumptions and generally accepted ideas of a scientific explanation or approach to a problem
<b>IMAGINING</b>	Generate and play with unusual and radical ideas when approaching or solving a scientific problem	Consider several perspectives on a scientific problem
<b>DOING</b>	Pose and propose how to solve a scientific problem in a personally novel way	Explain both strengths and limitations of a scientific solution based on logical and possibly other criteria (practical, ethical, etc.)
<b>REFLECTING</b>	Reflect on steps taken to pose and solve a scientific problem	Reflect on the chosen scientific approach on solution relative to possible alternatives

OECD CONCEPTUAL RUBRIC

CLASS-FRIENDLY RUBRIC

**SCIENCE**

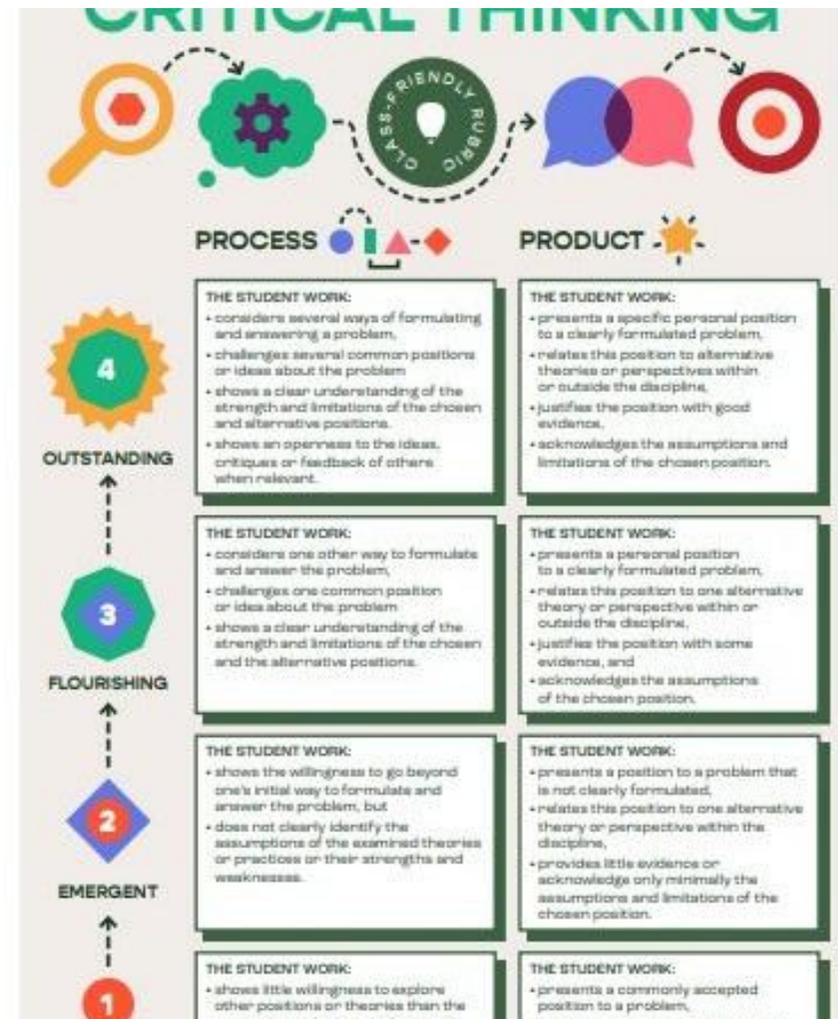
CREATIVITY & CRITICAL THINKING

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OECD

# Assessment rubrics that articulate levels of progression (OECD, 2020)



# OECD assessment rubric on creativity

## *product and process dimensions*

	<b>Level 4 Outstanding</b>	<b>Level 3 Excellent</b>	<b>Level 2 Emergent</b>	<b>Level 1 Dormant</b>
<b>Product</b>	<p>The student work</p> <ul style="list-style-type: none"> <li>is highly imaginative, showing many instances of personal features and risk taking (formulation, technique, composition or content),</li> <li>fully meets the requirements of the task,</li> <li>goes beyond the knowledge and rules expected to be mastered by the student in more than one aspect.</li> </ul>	<p>The student work</p> <ul style="list-style-type: none"> <li>is imaginative, showing some examples of personal features (formulation, technique, composition or content),</li> <li>meets the requirements of the task</li> <li>goes beyond the knowledge and rules expected to be mastered by the student in one aspect.</li> </ul>	<p>The student work</p> <ul style="list-style-type: none"> <li>is personal in some of its features (formulation, technique, composition or content),</li> <li>meets some but possibly not all the requirements of the task</li> <li>is in line with the knowledge and rules expected to be mastered by the student</li> </ul>	<p>The student work:</p> <ul style="list-style-type: none"> <li>meets the requirements of the task but</li> <li>reproduces existing examples, with little personal perspective on formulation, content, technique or composition</li> </ul>
<b>Process</b>	<p>The work process:</p> <ul style="list-style-type: none"> <li>shows a willingness to examine carefully a variety of ideas as well the ability to make meaningful connections with other ideas or domains.</li> <li>generated several unusual or radical ideas and pushed some to their limits before making the final choices.</li> <li>shows a clear awareness of the areas of personal novelty and risk that were pursued, and of why the final choices were made.</li> </ul>	<p>The work process:</p> <ul style="list-style-type: none"> <li>shows a willingness to brainstorm ideas and examines carefully the chosen idea.</li> <li>generated one unusual or radical idea and pushed it to its limit before making the final choices.</li> <li>shows a clear awareness of the areas of personal novelty or risk that were pursued.</li> </ul>	<p>The work process:</p> <ul style="list-style-type: none"> <li>shows a willingness to think or act beyond one's first idea, but connections made between ideas or domains lack consistency or remain superficial.</li> <li>fails to explore selected ideas with depth.</li> <li>shows little awareness of the areas of personal novelty or risk that were pursued.</li> </ul>	<p>The work process:</p> <ul style="list-style-type: none"> <li>is limited to the exploration of imitative patterns or to the examples presented by the teacher or expected to be familiar.</li> </ul>

# Balancing structure and openness (Vincent-Lancrin, 2025)



Fostering creativity or critical thinking requires appropriate tasks and assignments

It can be learnt in any discipline alongside technical subject- related skills

Teachers have to prepare courses with a strong structure and learning architecture but allow for some student agency

**“We want to change perceptions and challenge stereotypes, and create a new vision for young people”**

Teacher, Creative Partnerships – Durham and Sunderland

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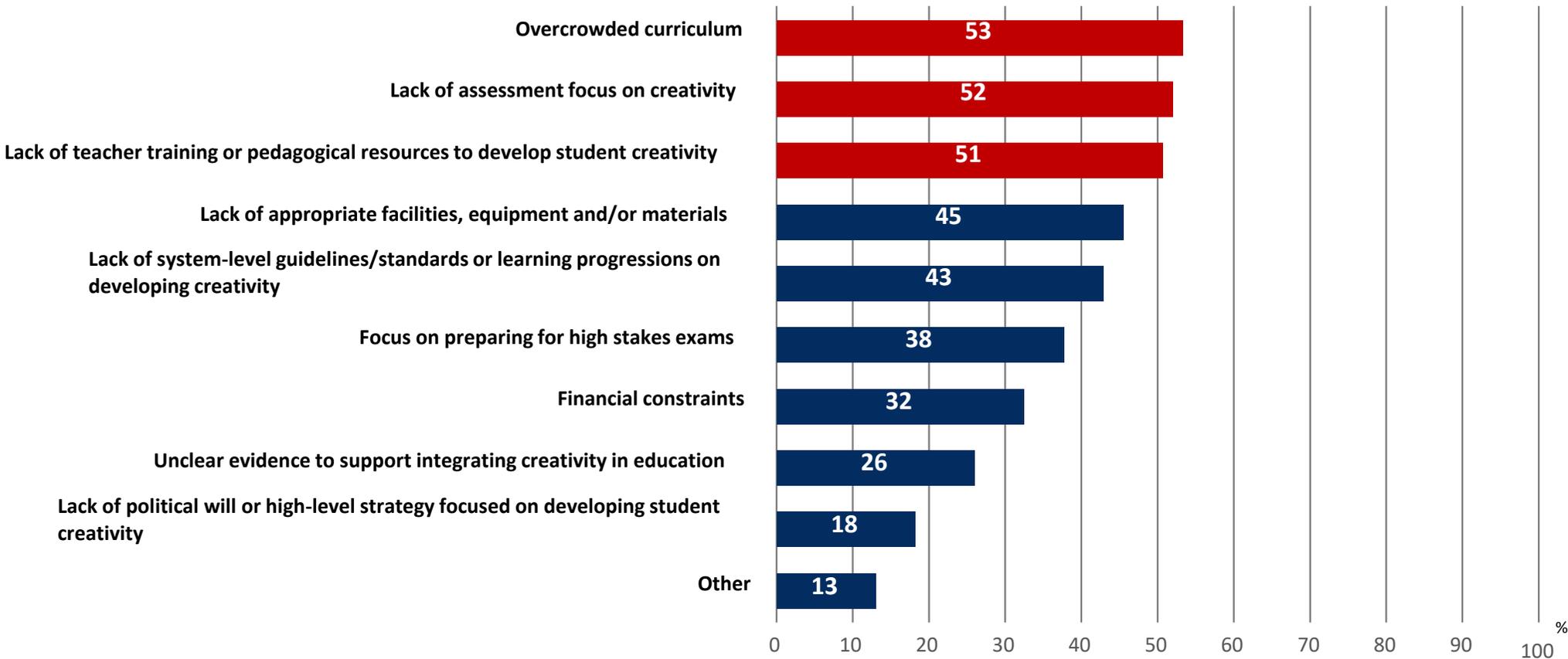
**What implications does it have for policy?**

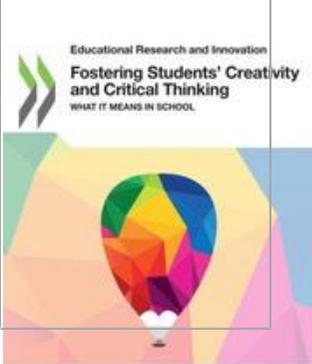


# Challenges to integration of creative thinking in education: policymakers' perspective (Schleicher, 2024)

Figure III.3.3

Percentage of jurisdictions reporting the following challenges to integrate creative thinking in their education system

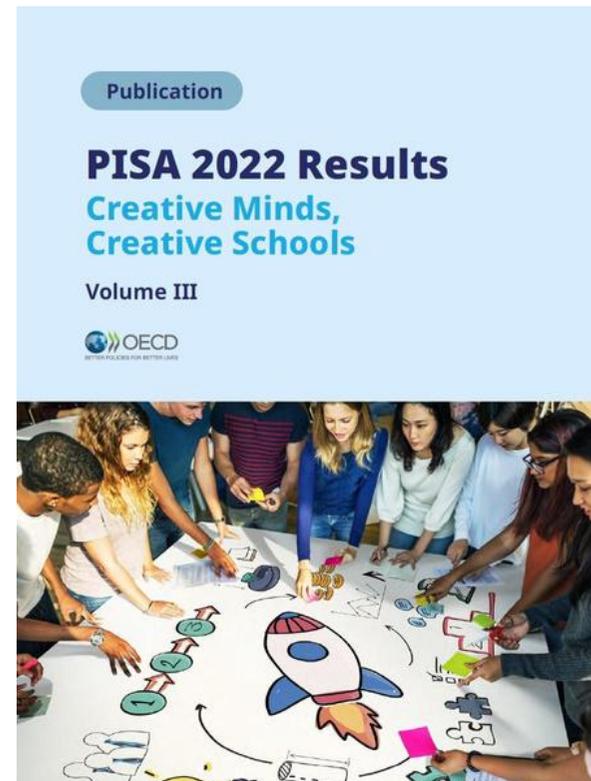
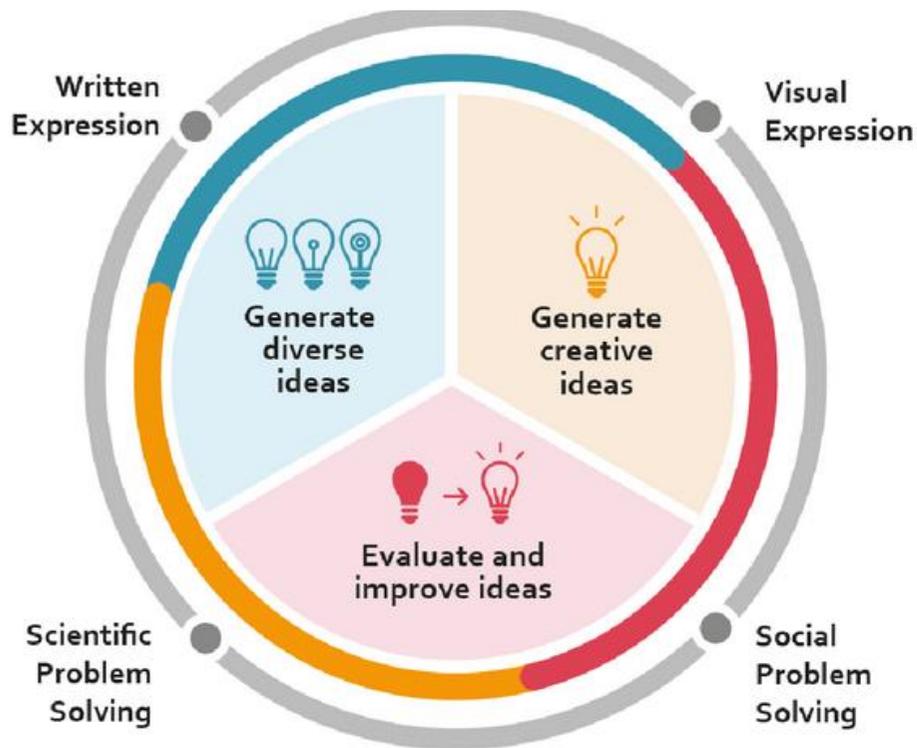




# 10 policy lessons to support change and improvement through fostering creativity (Vincent-Lancrin, 2024)

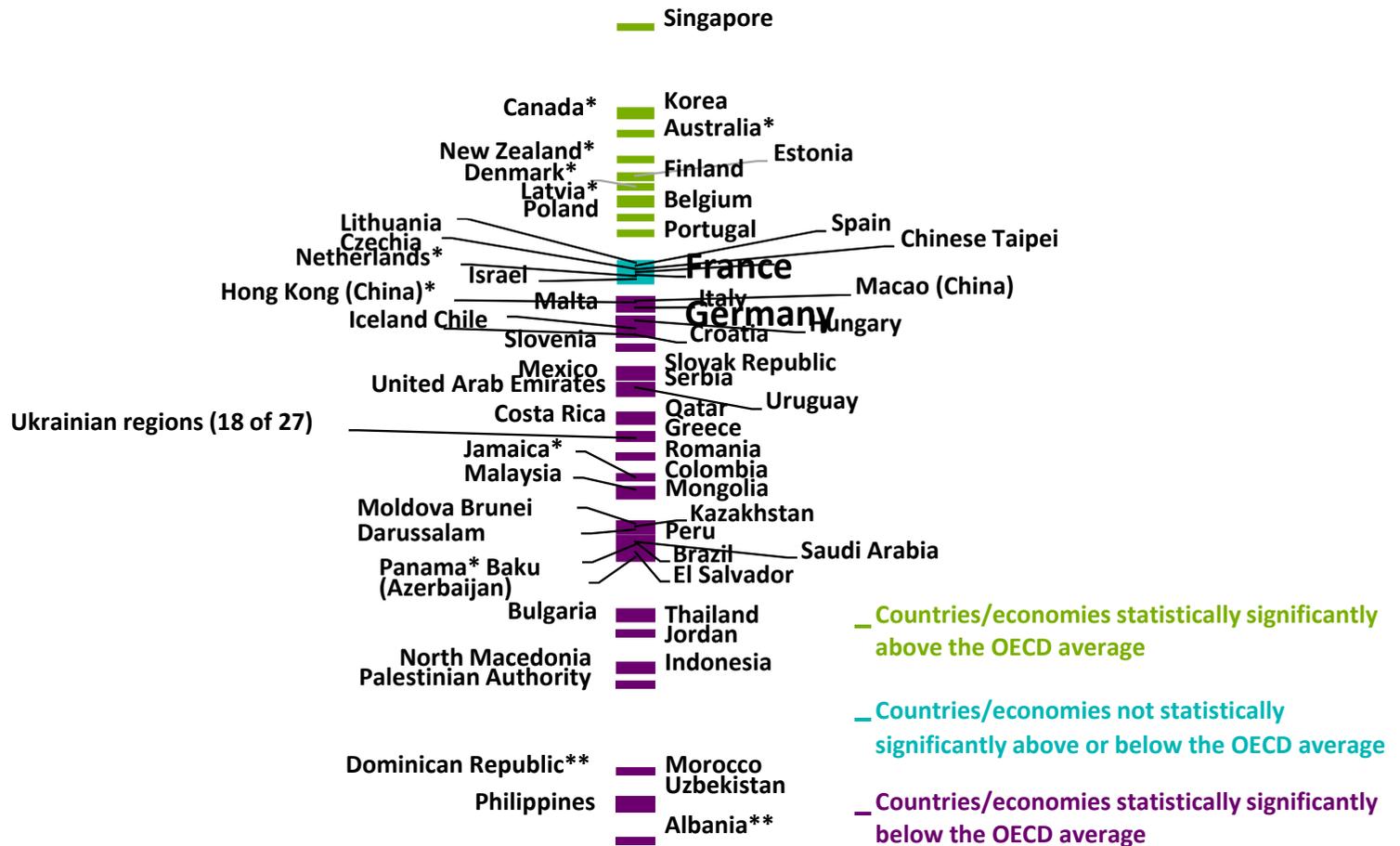
1. Be explicit in your education policy
2. Define what you are talking about
3. Integrate it into the regular disciplinary curriculum
4. Make it part of formal assessments and evaluations
5. Create alignment and incentives at all levels of education
6. Make sure school principals support it
7. Provide teachers with professional learning opportunities
8. Provide teachers with scaffolding tools
9. Create and support international and domestic communities of practice
10. Monitor and evaluate the effects and impacts

# PISA assessment of creative thinking



# Overall country performance in creative thinking

Student performance





**I had no idea  
my children  
could do that**



T-TUDOK

Centre for Knowledge Management  
and Educational Research Inc.

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**Thank you very much  
for your attention!**

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