SALTO DIGITAL

What makes Digital Education Ecosystem?

Pasi Silander

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TCA seminar

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Riga

Erasmus+
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Pasi Silander

HEAD OF SALTO DIGITAL

Educational futurist,
Computer scientist

History:

Digitalization strategy and program in Helsinki City Education Division (2016) involving 120 schools.

Head of ICT-development programs

-AI in Education

-Learning Analytics

-Smart School

Author and editor of nonfiction books, researcher in education and edtech lecturer, teacher educator.

FINNISH NATIONAL AGENCY FOR EDUCATION

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phenomenaleducation.info

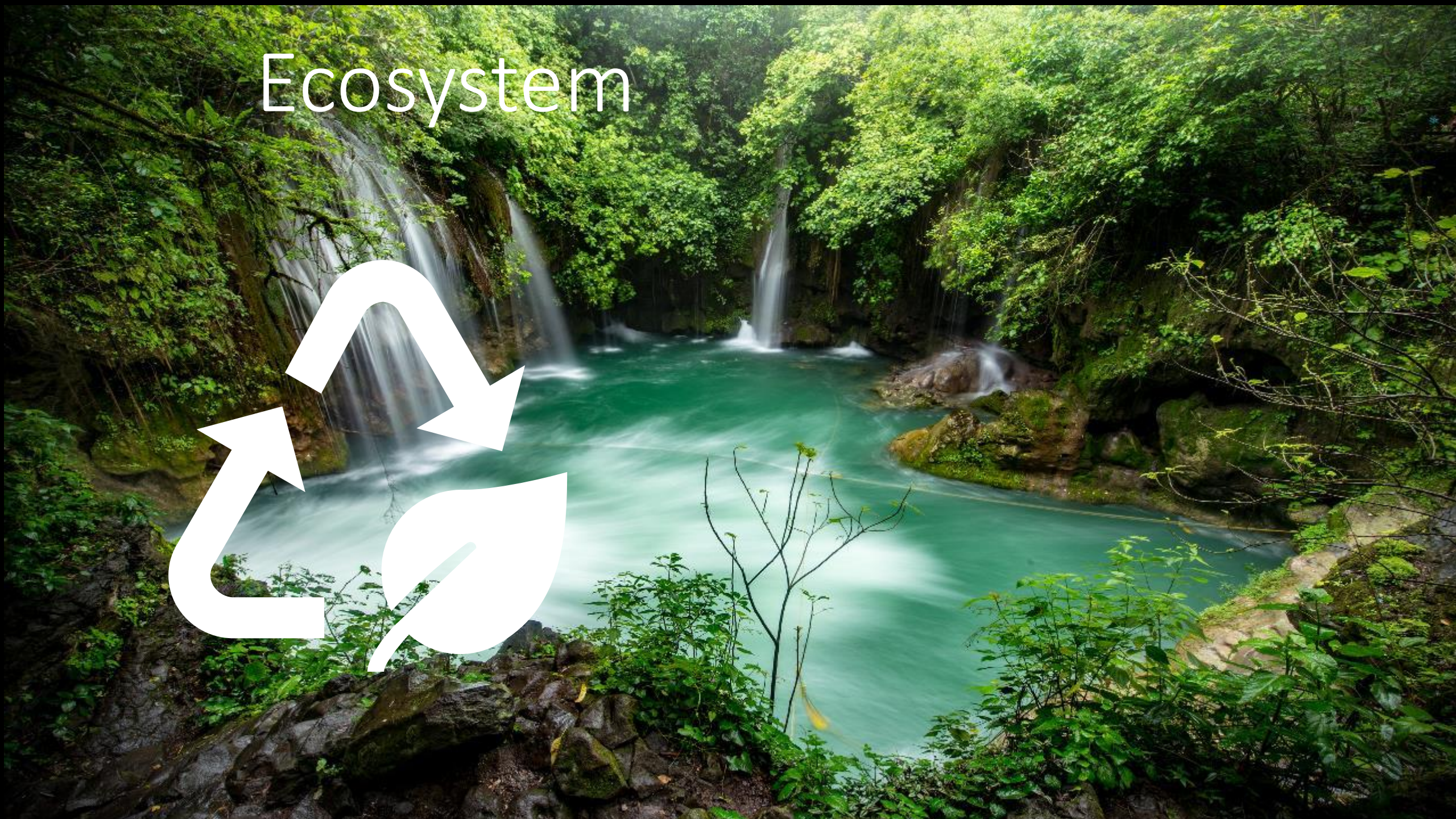
SALTO Digital Resource Centre

Knowledge Hub between Policy and Practice

- Supports implementation of the digital dimension as an overarching priority in the **Erasmus+** and **European Solidarity Corps Programmes**
- Focuses on raising the quality of **digital education and digital aspects in Youth**
- Acts as an **evidence-based** knowledge hub in the field of digital Education and Youth
- Channels knowledge in the area of its mandate into programme and policy development
- Works **cross-sectorally** with all 54 National Agencies in 33 countries

What is an Education Ecosystem?

Ecosystem



Interactions between living things and their environment.

How different components interact within a learning environment?

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Why Digital Education Ecosystem?

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A Change in Society

Yesterday	Today	Tomorrow
Memorizing	Knowledge construction	*Creation with AI?*
Content	Skills (21st century skills)	*Future skills?*
Information search	Information processing	*Conclusions?*
Routine cognitions	Higher level cognitions	*Hybrid cognitions?*
Calculation	*Computational thinking*	*AI thinking?*

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From a Device to Digitalization

Level	Focus	Outcomes
Digitalization (DIGI)	-Systemic change (system thinking) -Operational culture -Leadership	*Enabling new processes, that create added value* → Enabling totally new functions and activities
Information technology (IT)	-Computational information processing (computing) -Processes -Automation	*Automation of processes and information processing* → Making existing functions and activities more effective
Computers and technical devices (Hard ware, devices)	-Hard ware, devices -Procurements	*"Pressing buttons", usually just manual information processing (vs electric typewriter)* → Using another tool for existing functions and activities

(Silander 2015)

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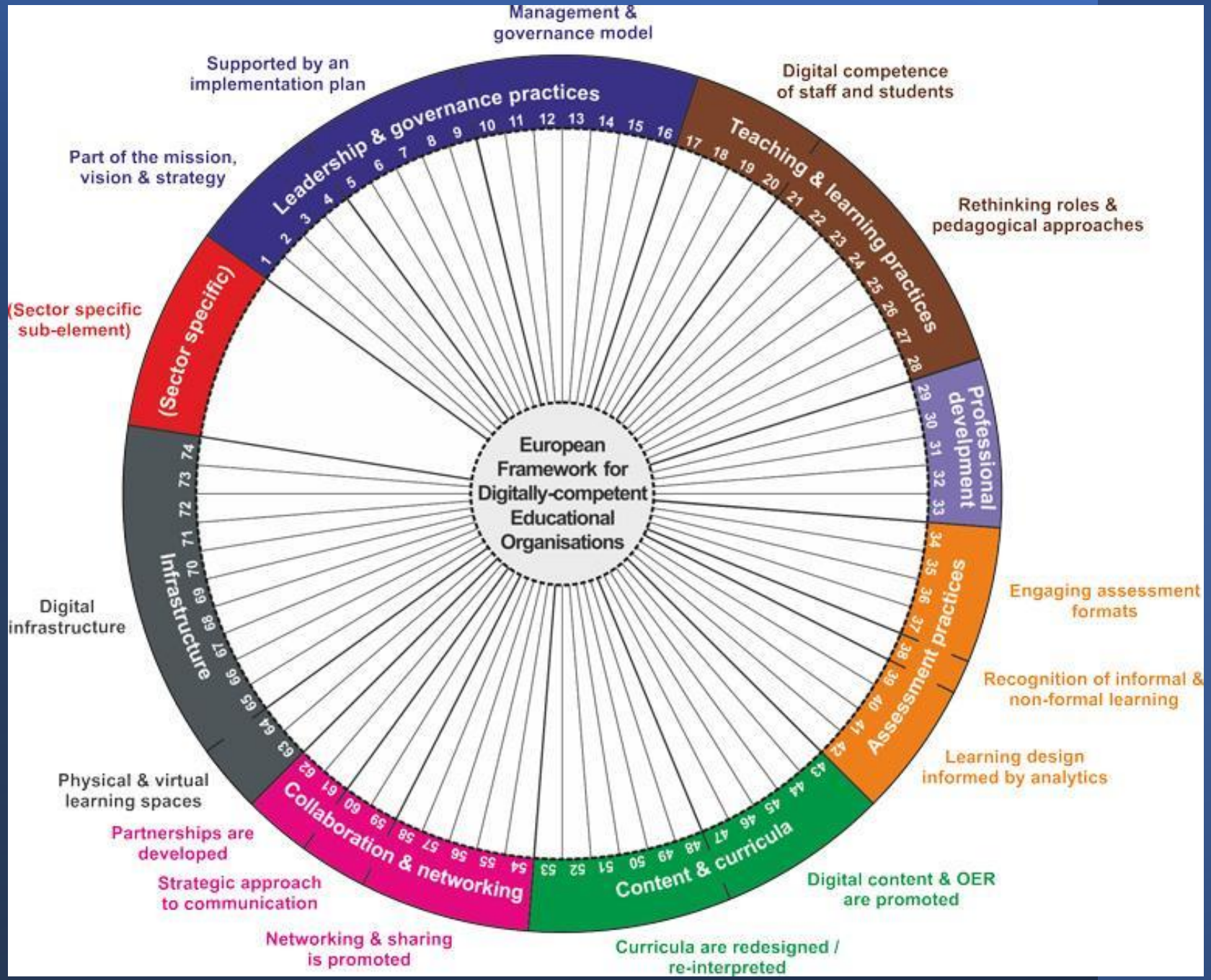
Artificial Intelligence

Digital Plumbing

(Silander 2015)

DigCompOrg


European Framework for Digitally-competent Educational Organisations
Leadership & governance practices
Management & governance model
Supported by an implementation plan
Part of the mission, vision & strategy
Teaching & learning practices
Digital competence of staff and students
Rethinking roles & pedagogical approaches
Professional development
Assessment practices
Engaging assessment formats
Recognition of informal & non-formal learning
Learning design informed by analytics
Content & curricula
Digital content & OER are promoted
Curricula are redesigned / re-interpreted
Collaboration & networking
Networking & sharing is promoted
Strategic approach to communication
Partnerships are developed
Infrastructure
Physical & virtual learning spaces
Digital infrastructure
(Sector specific)
(Sector specific sub-element)

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Digital Education Ecosystem

Educational Ecosystems consist of

- Educators
- Learners
- Learning materials
- Learning environments
- Tools and technology
- Pedagogy (learning and teaching methods)
- Curriculum, competencies & skills
- School leaders
- Operating culture, strategy, vision, policies
- Parents, educational stakeholders, community-members, companies, educational policy makers etc.
- Other school staff

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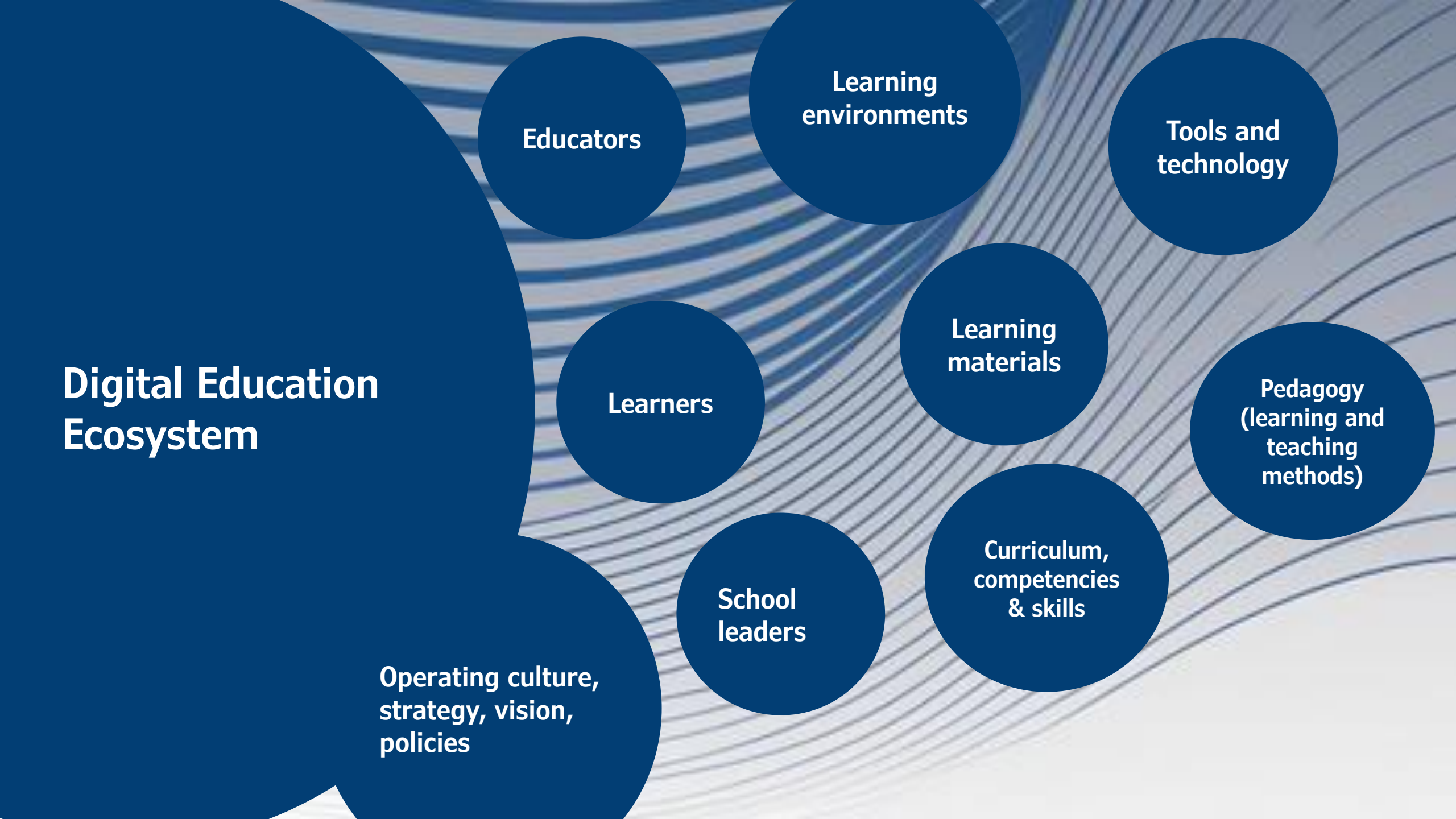
Interaction between the components of the digital education ecosystem!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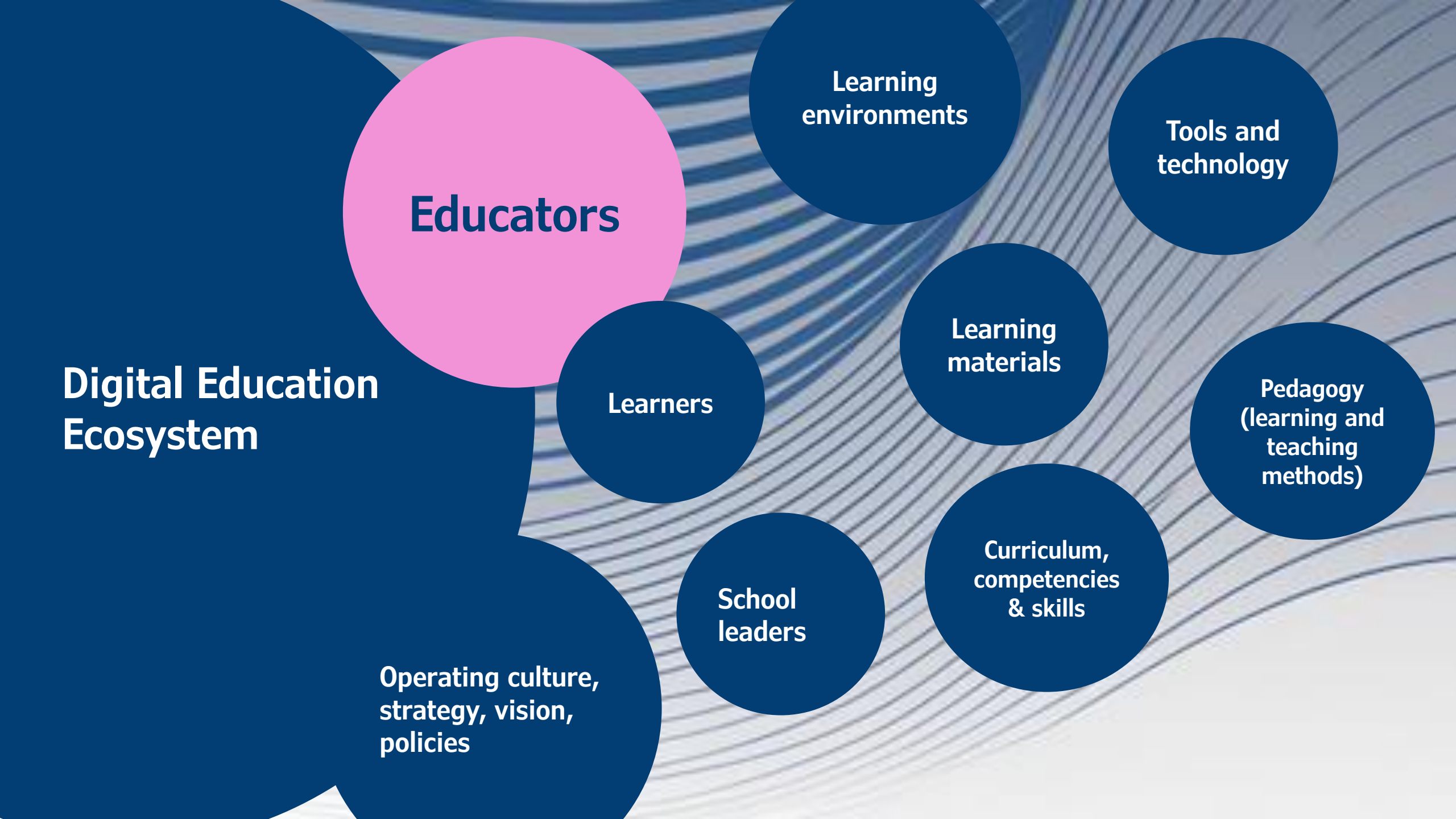
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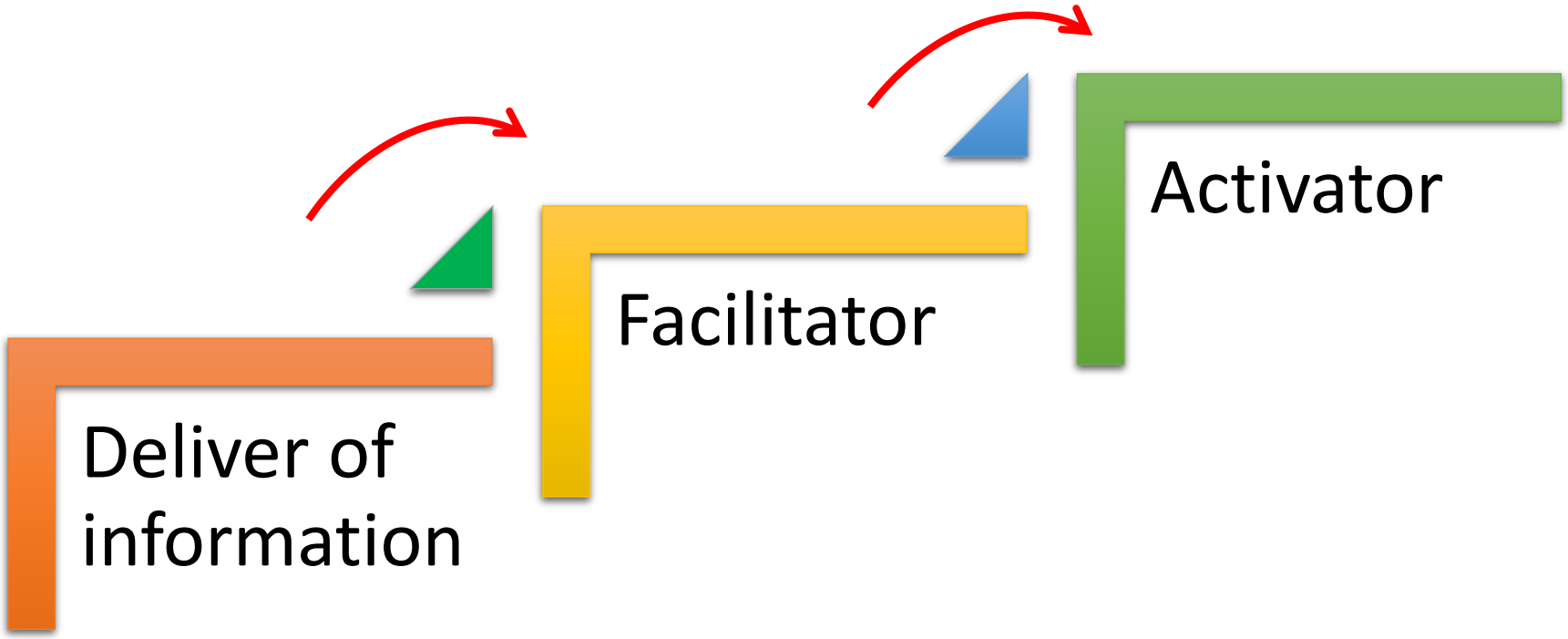
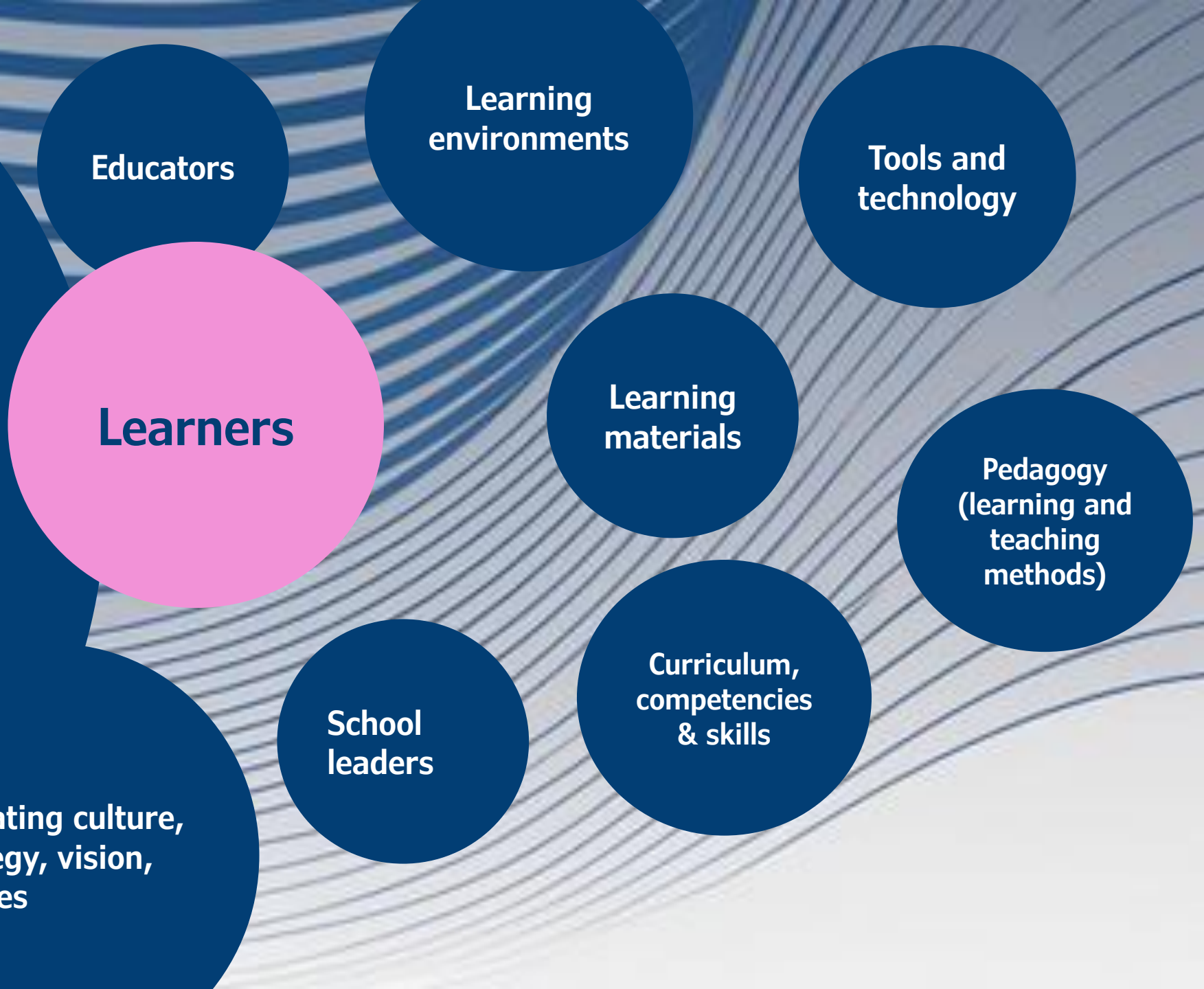
Transition in a Teacher's role:



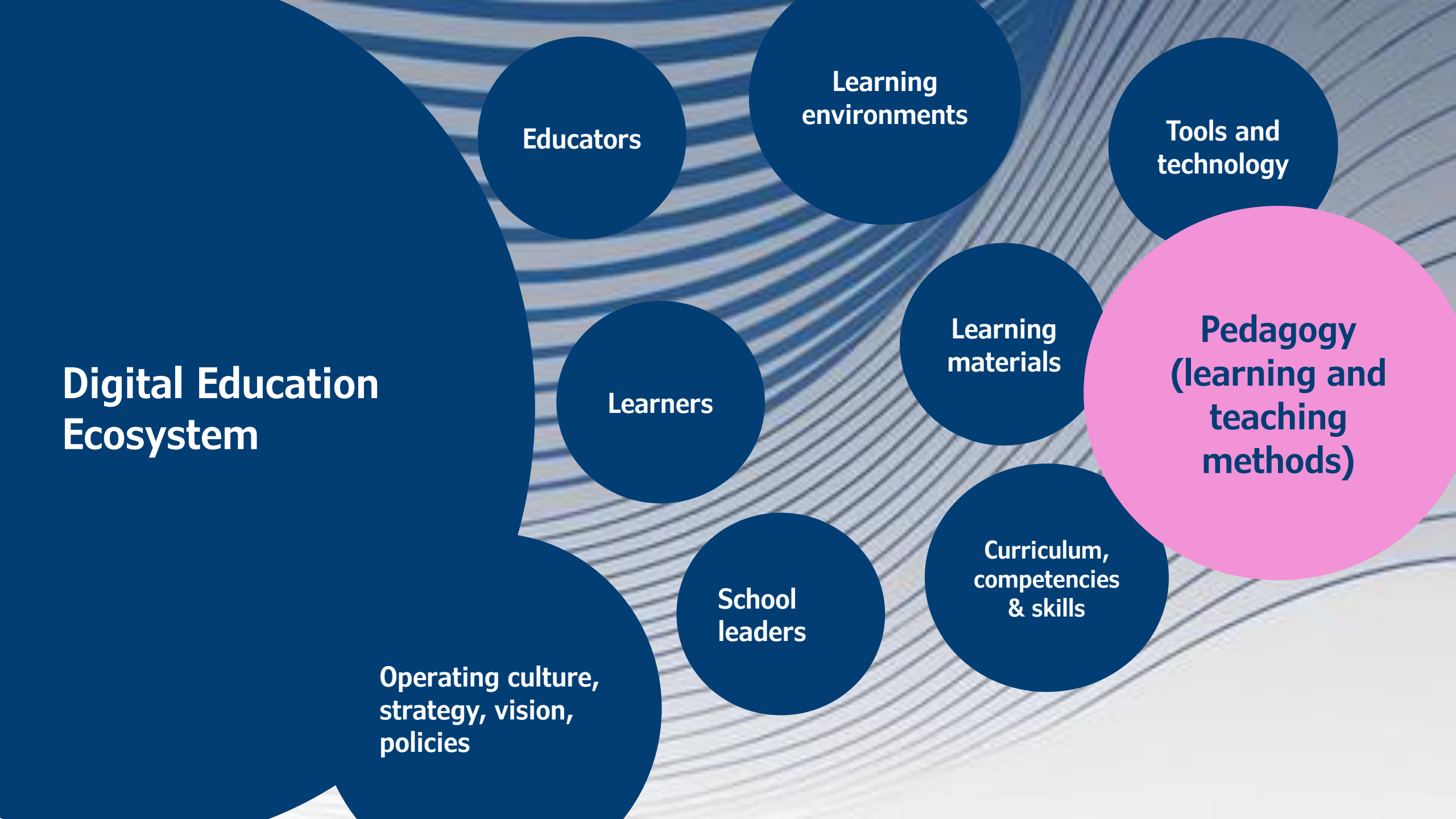
Digital Education Ecosystem



Teaching vs. learning

- Learning is not a direct reflection or a result of teaching!
- Students learn only by **processing information** by themselves
  - *Traditional teaching methods like lectures do not support optimally students' information processing (one's own thinking, problem solving, reasoning etc.)*

→ Something else is needed!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A Change in Learning

	Surface Learning	Deep Learning	21st Century Learning
Goal:	Recalling facts	Understanding	To create new solutions
Outcome:	Capability to apply information only in narrow context, if at all	Capability to apply knowledge in various situations	Capability to create new solutions for various situations
Methods:	Delivering information, repetition of information	Collaborative knowledge building	Co-Creation, Co-innovation
Focus:	Facts	Knowledge	Thinking strategies and thinking skills

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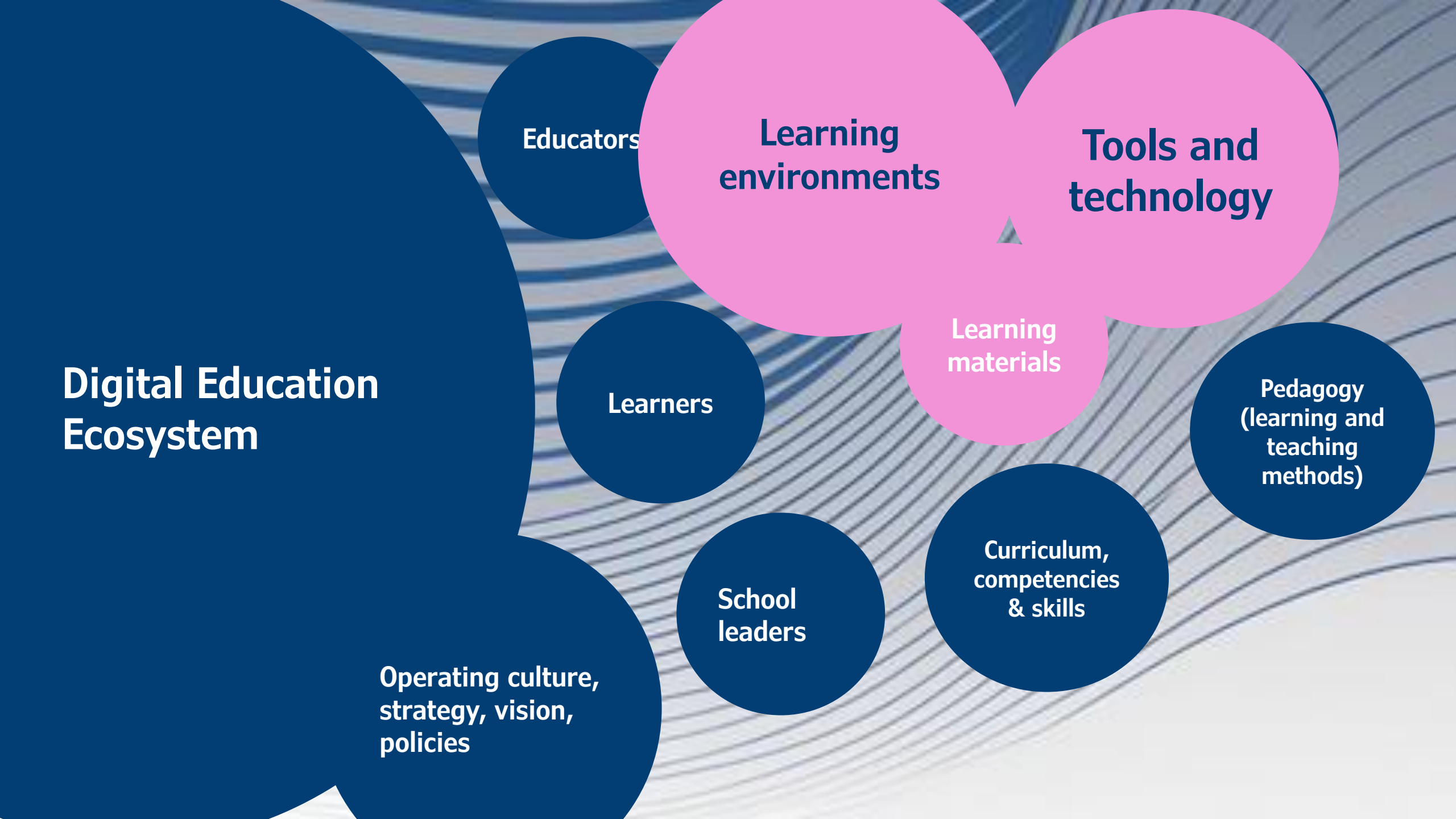
(Silander 2018)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Digital Learning Environment

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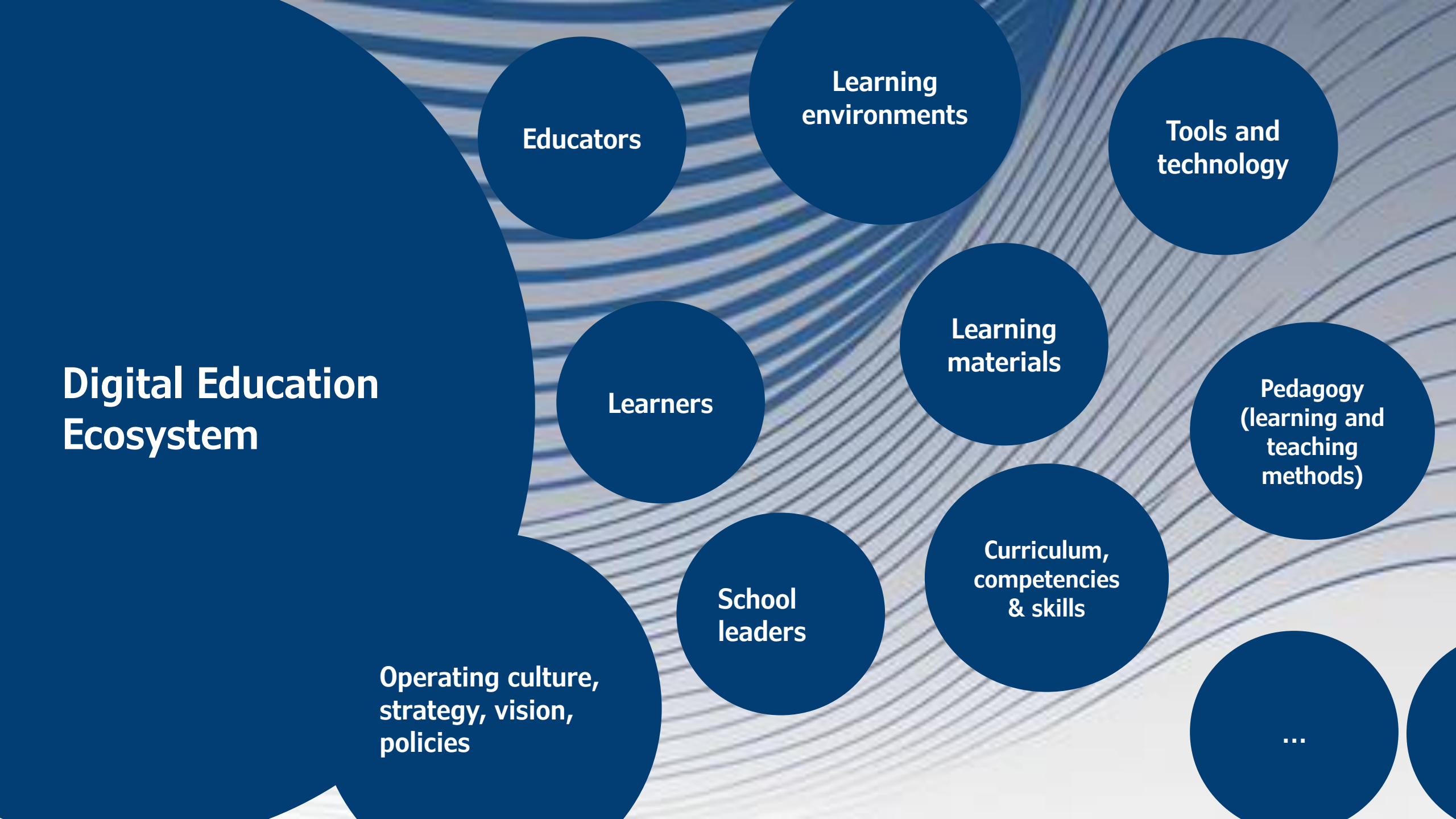
The role of the digital technology in learning and teaching?

- Media (information delivery)
- Information resource (information acquisition)
- Communication
- Tool for content creation
- Too for publishing own ideas, pics etc.
- Tool for presenting and developing one's own (conceptual) artifacts
- Collaboration / Knowledge Building
- Thinking tool (Cognitive tools)
- Simulating, modelling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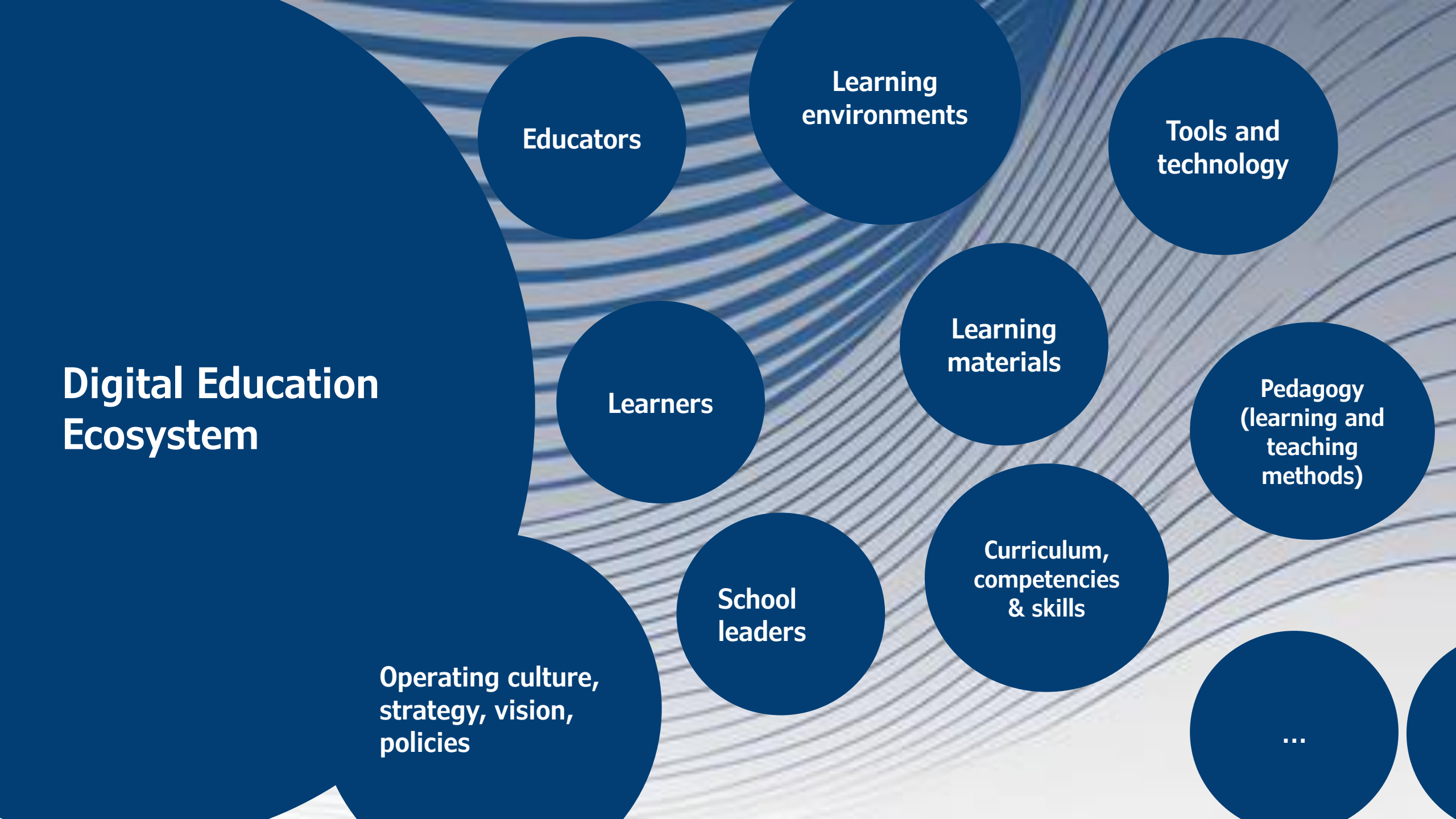
Group work in tables

Map your institution's digital education ecosystem

1. Identify the main components of your institution's digital education ecosystem (individually)

2. Discussion on the table what are the common components of the digital education ecosystems? (draw on the flip paper)

3. Try to identify and label the interactions between the key components of the ecosystem (draw on the flip paper)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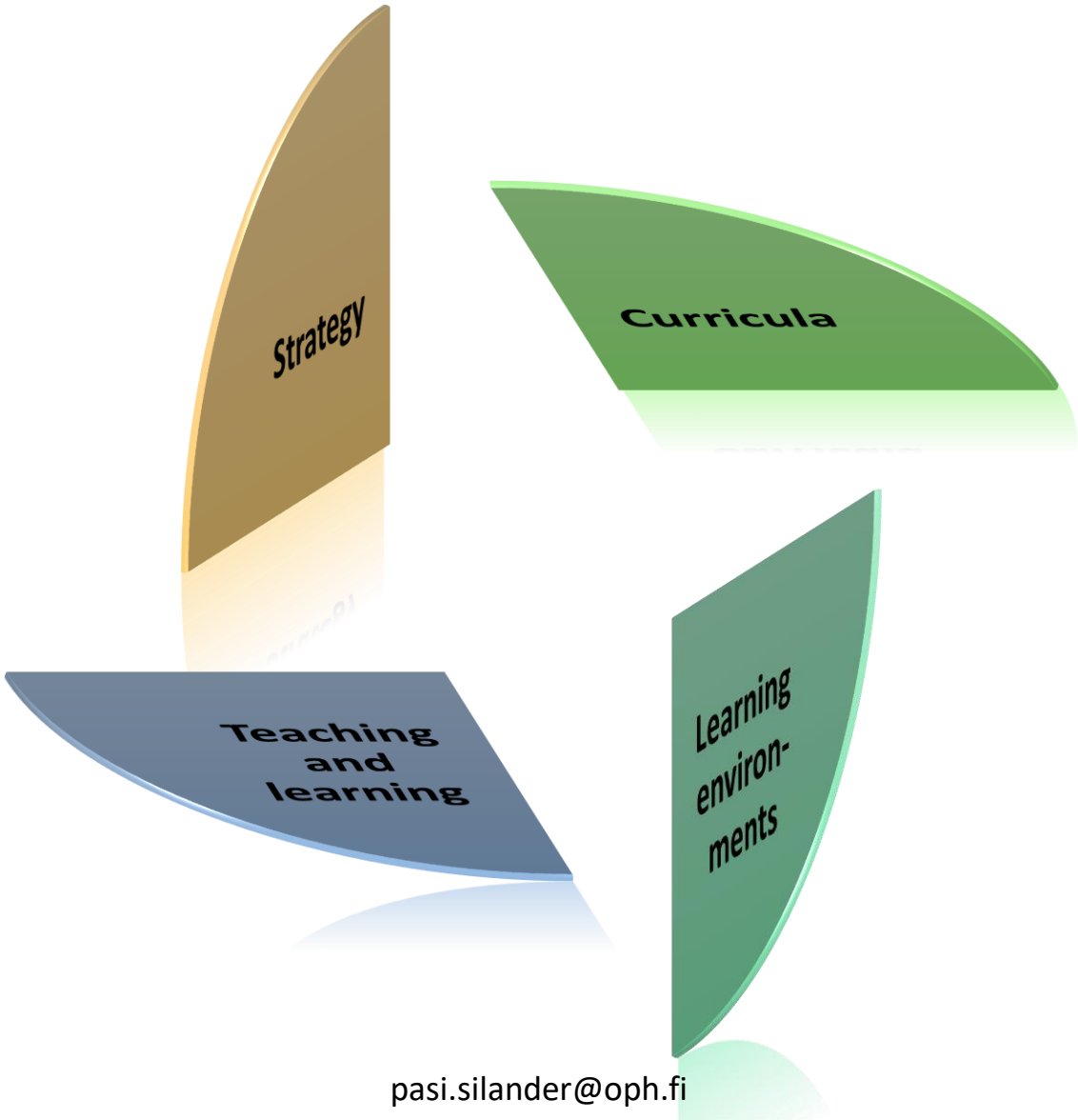
Transforming Digital Education Ecosystem – Systemic Change



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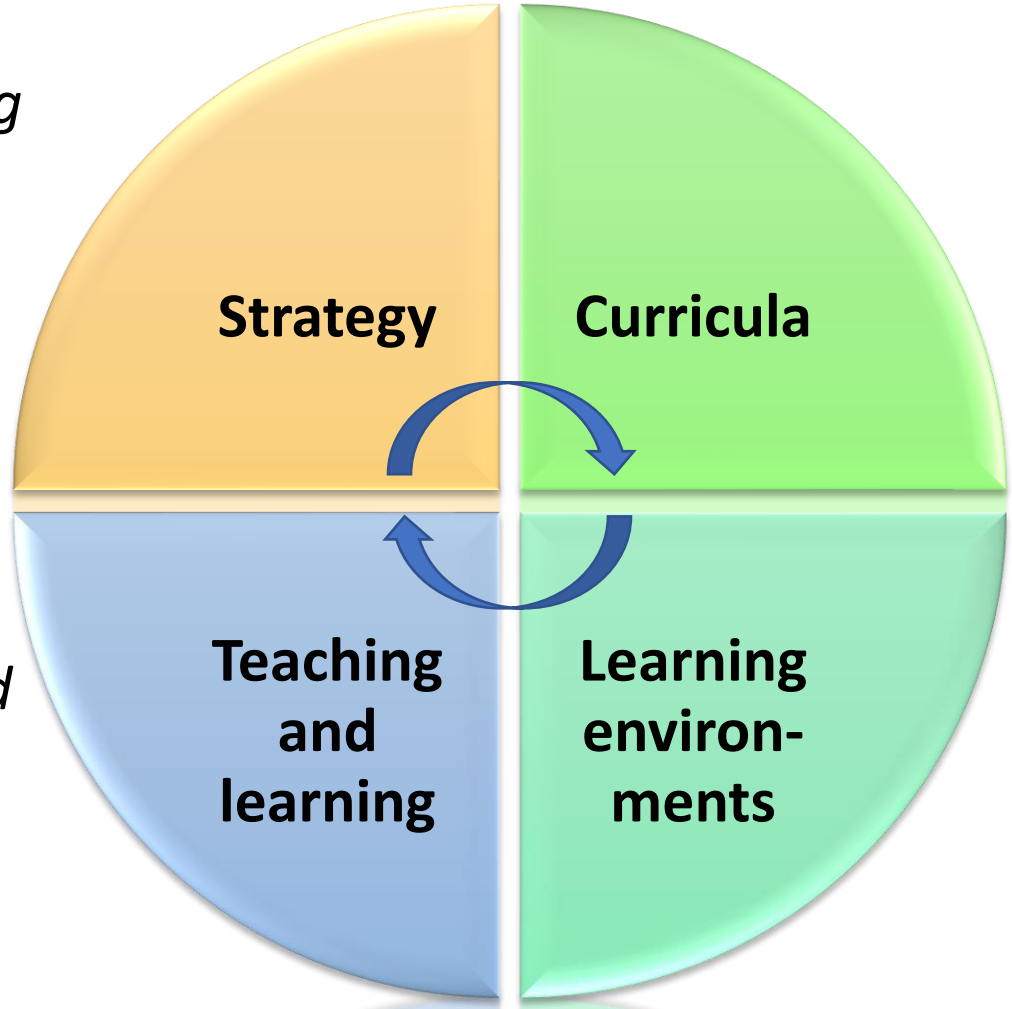
Transforming Digital Education Ecosystem – Systemic Change

- *Vision*
- *Capacity building*
- *Pedagogical leadership*
- *Research*



- *Dynamic curriculum*
- *Competencies*
- *+21st century skills*

- *Phenomenon based learning*
- *Multiprofessional teams*
- *New assessment*

- *Physical learning environments*
- *Virtual learning environments*
- *Digital tools*

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Thank you!

Questions?

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