



REPUBLIC OF ESTONIA
MINISTRY OF EDUCATION
AND RESEARCH



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What skills will be needed in the future?

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 NATIONAL CENTER FOR EDUCATIONAL
QUALITY ENHANCEMENT

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A story from AERA 2024 in Philadelphia

Linda Darling Hammond, one of the most influential educational researchers in the US

The system we inherited

- Ellen Condliffe Lagermann, *An Elusive Science: The Troubling History of Education Research*.

“One cannot understand the history of education in the US during the 20th century unless one realizes that E.L. Thorndyke won, and John Dewey lost.”



What is the basis of learning?

- **Thorndike** was the founder of educational psychology.

The law of effect: responses that produce a satisfying effect in a particular situation become more likely to occur again in that situation, and responses that produce a discomforting effect become less likely to occur again in that situation. **Learning through trial and error.**

- **Dewey** was one of the founders of functional psychology.

Functionalism: utility and purpose of behavior is modified over years of human existence. Practical emphasis on action and application.

Belief in democracy = ethical ideal of humanity. **The theory of inquiry.**

Discussions today

- Performativity and educational psychology based vs value-based social cultural approach
- Direct instruction vs inquiry-based learning
- Teacher-centred vs student centred approach emphasizing agency
- Future skills

Performativity

- A “theory of practices” that focuses on repetitive ways of expression.
- The theory is individual in nature and does not take into consideration such factors as the **space** within which the performance occurs, the **others** involved, and how others might see or interpret what they witness.
- Insufficient to fulfil the **agentic potential** of the (teaching) profession to promote **inclusion, equity, and social justice**.
- Reframing must seek to develop (teachers’) criticality, autonomy and agency, helping them to find their voice and to work as agents of change to create a more inclusive, equitable, and fair society for all.

Purdy, N., Hall, K., Khanolainen, D., & Galvin, C. (2023). Reframing teacher education around inclusion, equity, and social justice: towards an authentically value-centred approach to teacher education in Europe, *European Journal of Teacher Education*, 46(5), 755-771. <https://10.1080/02619768.2023.2288556>

Value-based approach

- A **sociocultural perspective** on learning and pedagogy directs attention to the extent to which people feel **empowered** to participate fully in their learning (agency) and directs attention to how best to extend the **agency of learners** based on knowledge of their understanding of the relevance and meaningfulness of the learning in question.



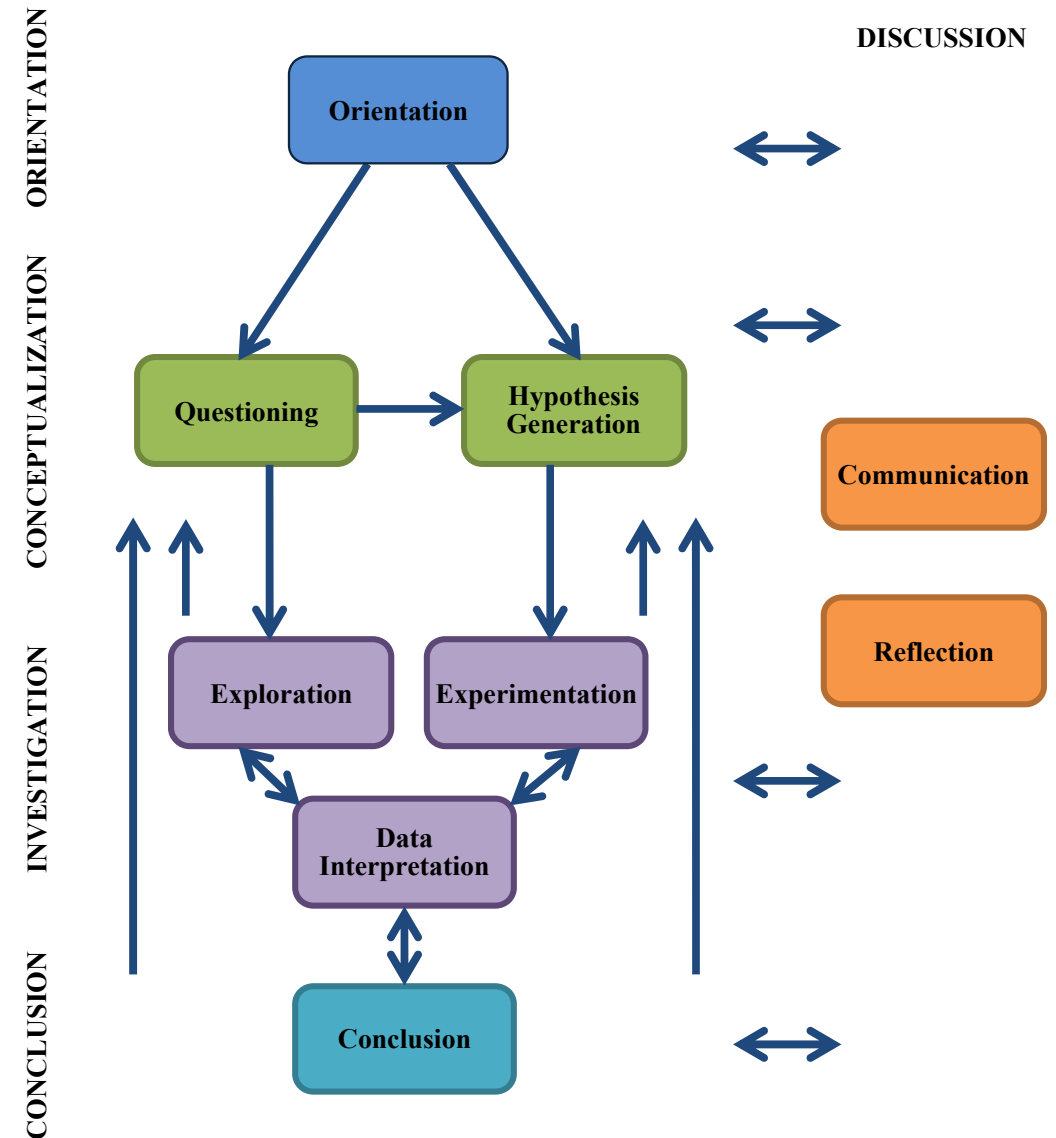
Purdy, N., Hall, K., Khanolainen, D., & Galvin, C. (2023).

Guided inquiry-based learning

Direct instruction: telling the students about the domain or demonstrating content

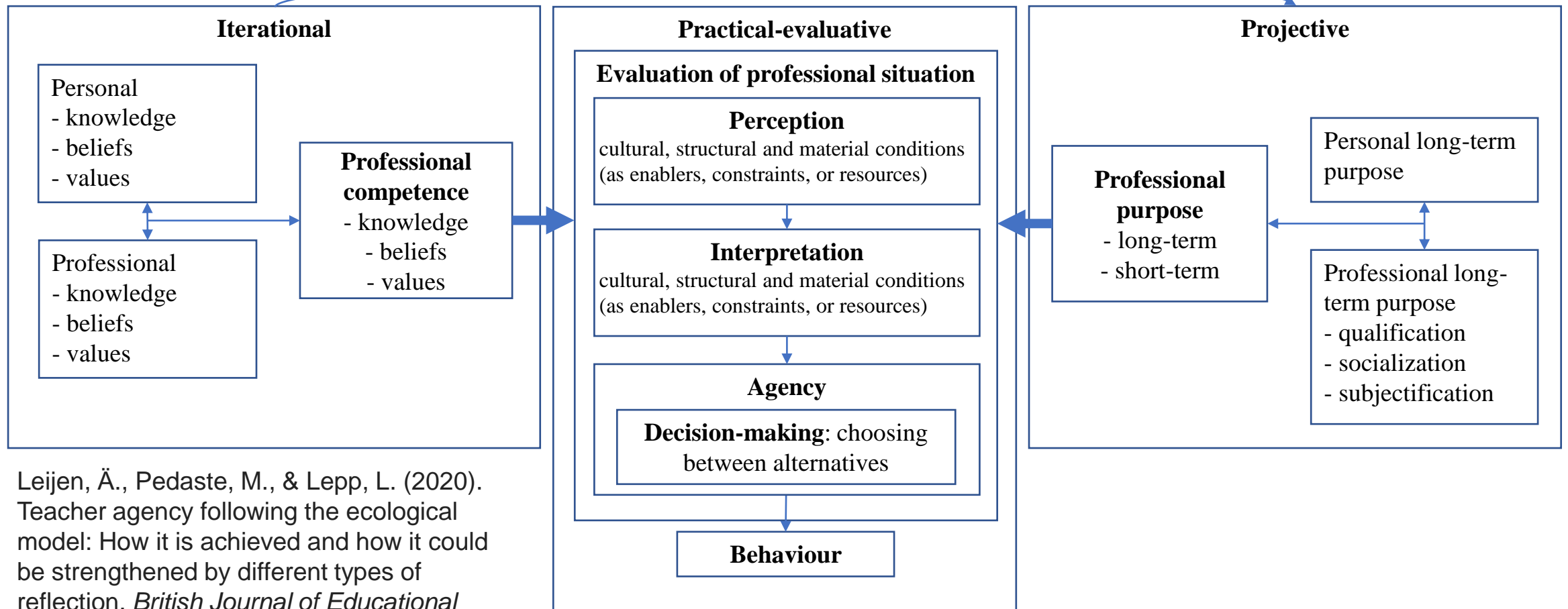
Guided inquiry-based learning:

- A generative constructive learning approach
- Student centered and collaborative
- A method to learn to solve problems



Pedaste, M., Mäeots, M., Siiman, L. A., De Jong, T., Van Riesen, S. A., Kamp, E. T., ... & Tsourlidaki, E. (2015). Phases of inquiry-based learning: Definitions and the inquiry cycle. *Educational Research Review*, 14, 47-61.

Agency – ecological model



Leijen, Ä., Pedaste, M., & Lepp, L. (2020). Teacher agency following the ecological model: How it is achieved and how it could be strengthened by different types of reflection. *British Journal of Educational Studies*, 68(3), 295-310.

Future skills

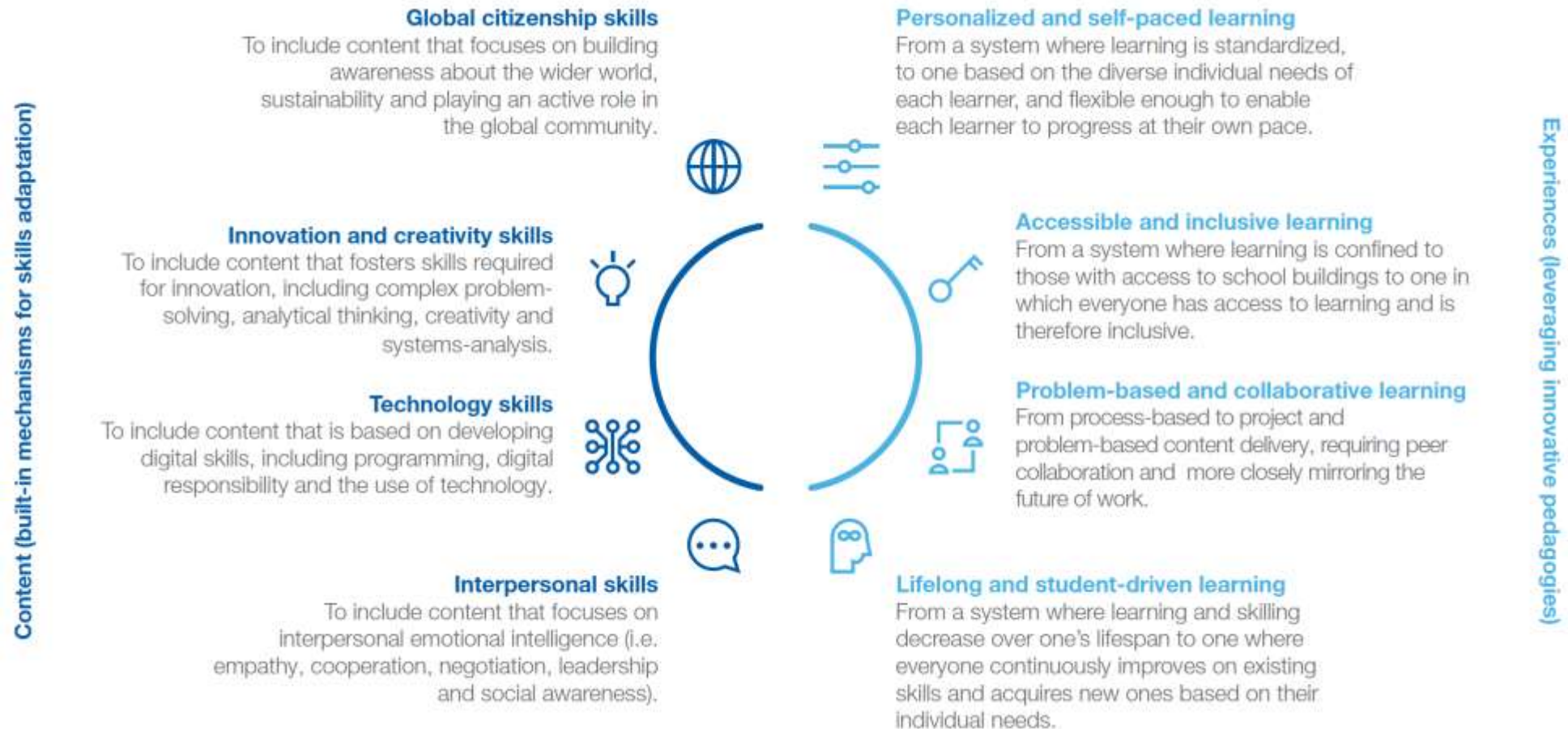
Types of skills

- PS – problem–solving (5)
- SM – self–management (2)
- WP – working with people (1)
- TD – technology use and development (2)

<https://www.weforum.org/agenda/2020/10/top-10-work-skills-of-tomorrow-how-long-it-takes-to-learn-them/>

2015	2020	2025
Complex problem solving	Complex problem solving	Analytical thinking and innovation (PS)
Coordinating with others	Critical thinking	Active learning and learning strategies (SM)
People management	Creativity	Complex problem solving (PS)
Critical thinking	People management	Critical thinking and analysis (PS)
Negotiation	Coordinating with others	Creativity, originality and initiative (PS)
Quality control	Emotional intelligence	Leadership and social influence (WP)
Service orientation	Judgement and decision making	Technology use, monitoring and control (TD)
Judgement and decision making	Service orientation	Technology design and programming (TD)
Active listening	Negotiation	Resilience, stress tolerance and flexibility (SM)
Creativity	Cognitive flexibility	Reasoning, problem–solving and ideation (PS)

Education 4.0 taxonomy (World Economic Forum)





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Thank you!

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