

DIGIPEDAGOGIIKKA MUUTOSVOIMANA

– KORKEAKOULUT
KEHITTÄVÄT OPETUSTA
EUROOPPALAISISSA
YHTEISTYÖSSÄ

WEBINAARI

6.10.2025 KLO 14.00–15.45



OPETUSHALLITUS
UTBILDNINGSTYRELSEN

Erasmus+

Muuttaa elämäsi – avartaa maailmaasi.

Personalized project management learning with chatbots, ChatLearn

Hannele Lampela, Oulun yliopisto

International Education Cooperation Project

Personalized project management learning with chatbots - ChatLearn project 6.10.2025

Hannele Lampela, University of Oulu



Project context and aim



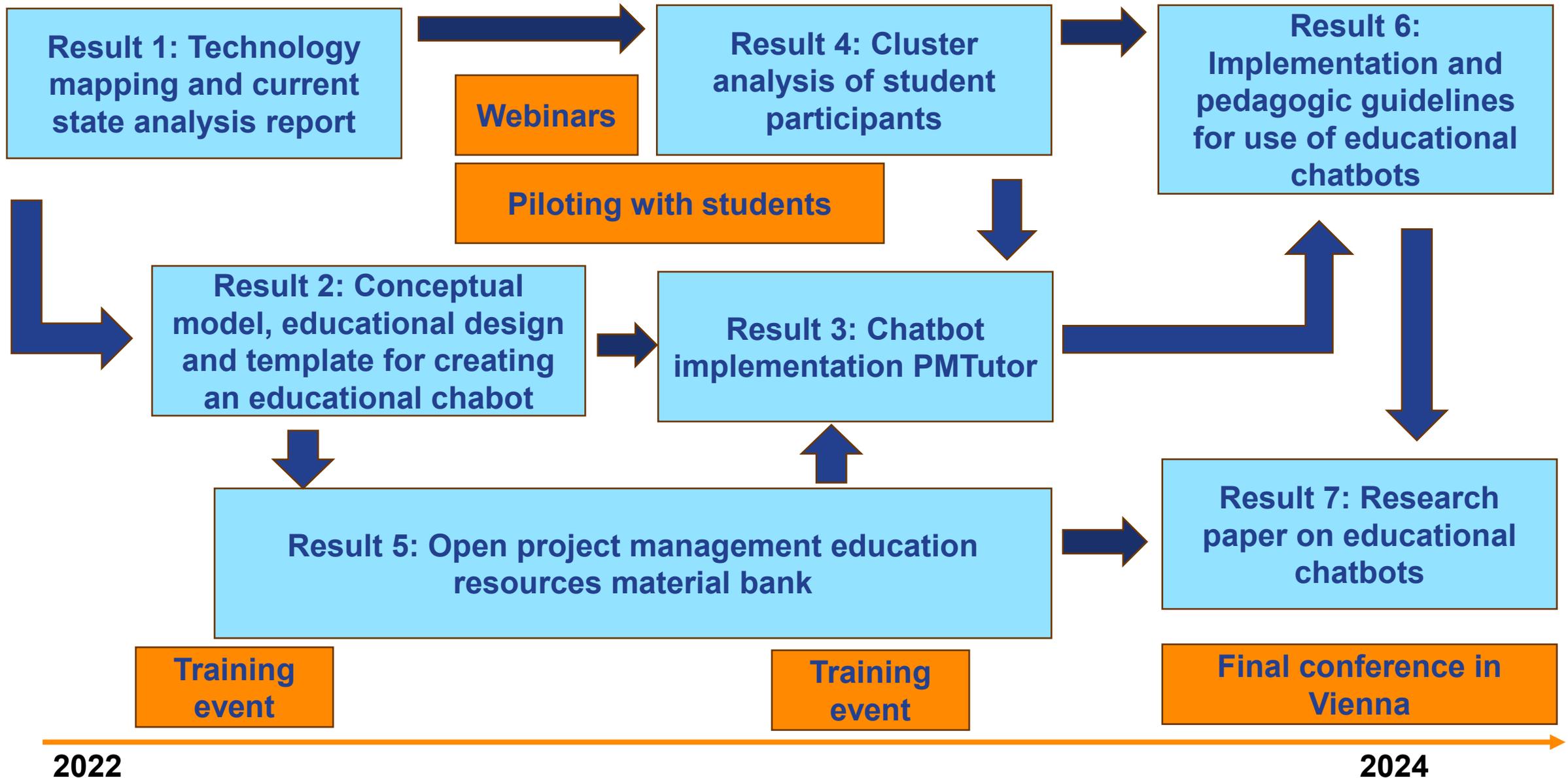
- Need for innovative teaching and learning solutions
- ChatLearn (Erasmus+ Cooperation Partnership, 2/2022–7/2024) aimed to enable a more personalized project management learning experience in higher education.
- Consortium: University of Oulu (coordinator), WU Vienna, Reykjavik University, and Politecnico di Milano + associated partners (IBM Finland, IPMA, Kinderuni Wien, Sorpa b.s., WiseUp Engineering).
- Build on earlier collaboration with IBM (PM Chatbot, 2019) – the first educational chatbot in Finnish higher education.
- Focus: linking AI-enhanced learning with project management pedagogy.



The project's perspective on the use of generative AI in higher education

- 1) **We need to experiment as educators and students!**
 - This way we can learn how these tools can be used in most effective ways
- 2) **AI technologies are an opportunity that free resources for deeper interaction in classes and also support the productivity of educators**
 - E.g. content production and assessment
- 3) **AI tools offer totally new possibilities for teaching activities and assignments**
 - E.g. case-based teaching with AI enhanced features or use of AI coaches
- 4) **We have the responsibility to teach our students the skills to use these new technologies responsibly**

Results of the project





Technology mapping and current state analysis report



Conducted a systematic literature review and expert interviews in Iceland, Italy, Austria, and Finland.

Identified key elements: *learning paths, user profiling, personalized feedback, agent appearance.*

Chatbots as an example of personalized adaptive learning tools

Learning path of the student

- The chatbot adapts the content of the dialogue based on the progress and the actions performed by the students during the learning path.

Identification of user profiles

- The chatbot adapts the dialogue based on information gathered about students before the beginning of the learning path.

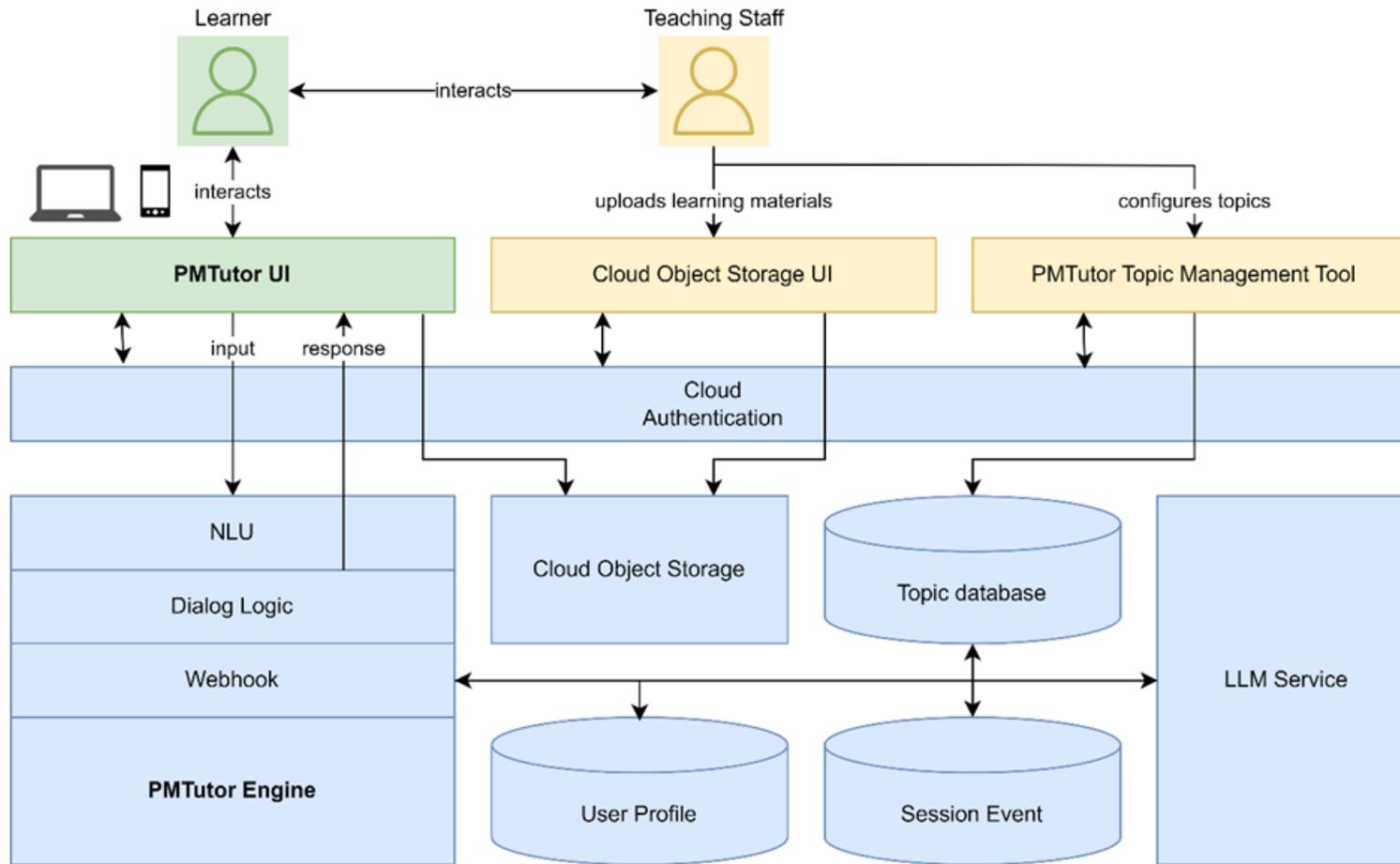
Providing customized feedbacks

- The chatbot provides personalised feedback to students based on the answers given and the interests shown by students about the subject.

Agents' appearance

- The agent shows different appearance based on the preferences expressed by students at the beginning of the learning path.

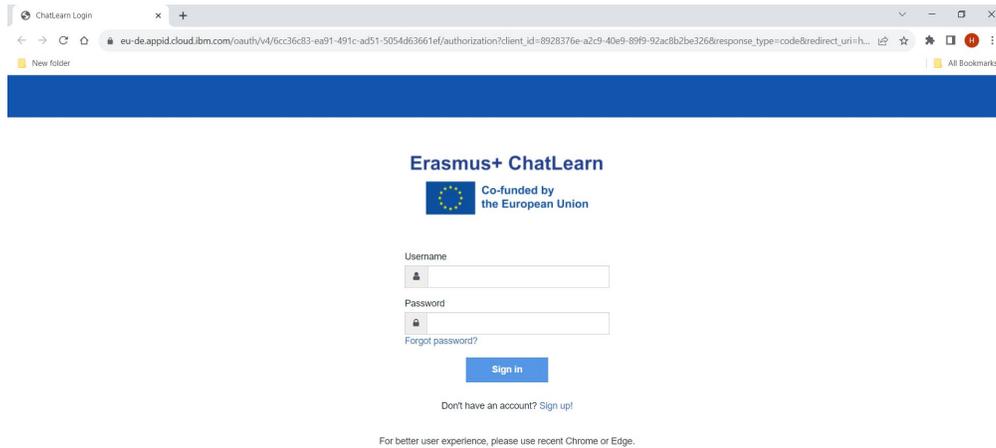
Conceptual model, educational design and template for creating an educational chatbot



Developed a general conceptual model and template for creating educational chatbots in higher education.

Defined dialog flow, personalization logic, and the learning process structure.

PMTutor



Erasmus+ ChatLearn

Co-funded by the European Union

Username

Password

[Forgot password?](#)

[Sign in](#)

[Don't have an account? Sign up!](#)

For better user experience, please use recent Chrome or Edge.

Technology, Knowledge and Learning (2025) 30:1047–1072
<https://doi.org/10.1007/s10758-024-09807-5>

ORIGINAL RESEARCH



The Design and Implementation of an Educational Chatbot with Personalized Adaptive Learning Features for Project Management Training

Da-Lun Chen¹  · Kirsi Aaltonen¹ · Hannele Lampela¹ · Jaakko Kujala¹

Accepted: 11 December 2024 / Published online: 31 December 2024
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PMTutor with 9 essential project management topics and 3 case studies, leveraging GPT-4 service, and offering 5 personalized adaptive learning (PAL) features:

- 1) self-assessment,
- 2) topic recommendation,
- 3) exercise feedback for correct and incorrect answers,
- 4) options for viewing a summary of exercises, selecting or resuming an incomplete exercise, and
- 5) answering any questions from the learner

Experiences from PMTutor use from the pilots



Piloted in four countries with highly positive student feedback: improved motivation and flexibility.

Feedback from students

- Students used PMTutor as an independent coach and trainer
- Many of them felt that their interest in learning content and motivation increased
- Students can use the coach flexibly independently on time and place
- Students assessment on their overall learning was very positive
- Students felt they had a memorable learning experience
- The user interface and navigation logic requires development

Feedback from teachers

- Easy to take into use and provides an additional, complementary element
- Possibility to tailor and contextualize the learning content is a plus
- Need more functionalities to control the learning process
- More understanding is needed on how educational chatbots can be integrated to teaching in an effective way

"I actually became addicted with the tutor and it helped me to learn Earned Value Management very well."

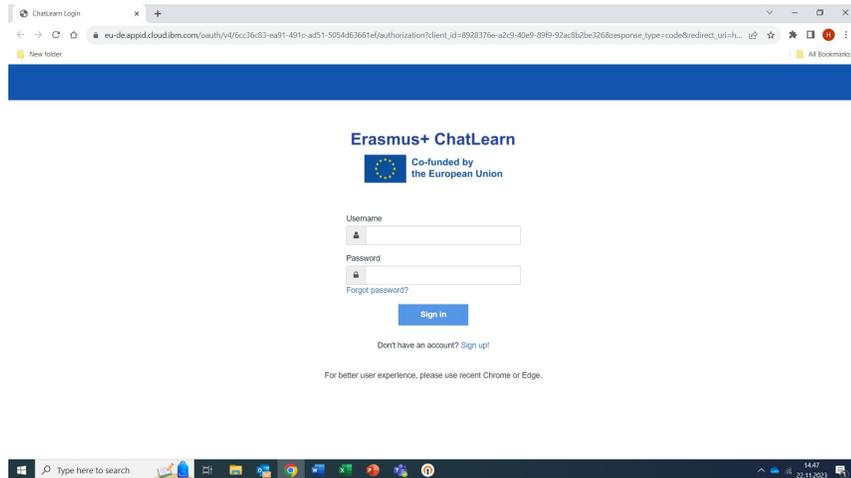
Open digital resource bank

Created an open digital resource bank containing videos, slides, open-access PM articles, and case materials.

Serves as the content base for PMTutor.

Open PM Resource Bank:

Designed to be reused by PM educators globally.



Implementation and pedagogical guidelines



Project Leadership and Society

Available online 23 September 2025, 100193

In Press, Journal Pre-proof [? What's this?](#)



Part of special issue [^](#)

[The Future of Learning: How Artificial Intelligence and other New Technologies revolutionize Project Management Education & Training](#)

Edited by Assoc. Professor Kirsi Aaltonen (University of Oulu Department of Industrial Engineering and Management, Oulu, , Finland), Professor Martina Huemann (University College London, London, , United Kingdom), Assoc. Professor Costanza Mariani (Polytechnic of Milan Department of Management Engineering, Milano, , Italy), Dr. Helgi Ingason (Reykjavik University, Reykjavik, , Iceland), Dr. Mauro Mancini (Polytechnic University of Milan, Milano, , Italy)

Personalised Learning in Project management Education: Insights from an Artificial Intelligence-Driven Chatbot

[Helgi Thor Ingason](#)¹ , [Kirsi Aaltonen](#)², [Atli Snaer Asmundarson](#)¹, [Thordur Vikingur Fridgeirsson](#)¹, [Daniel Huemann](#)³, [Martina Huemann](#)³, [Jaakko Kujala](#)², [Hannele Lampela](#)², [Mauro Mancini](#)⁴, [Costanza Mariani](#)⁴, [Claudia Ringhofer](#)³

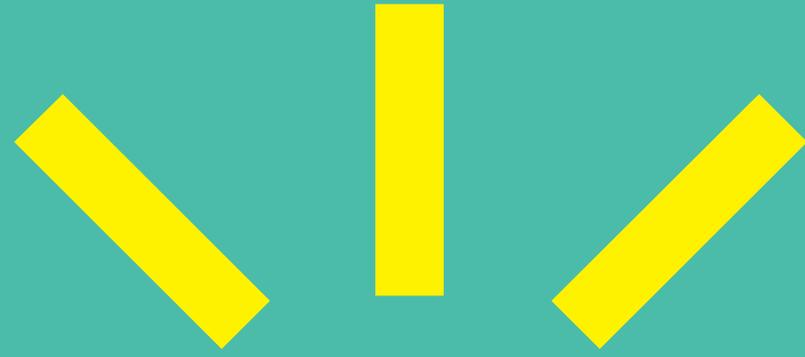
[Show more](#)

- Produced guidelines for integrating chatbots into higher education courses, based on pilot experiences:
- Integrate early in course design
- Use as a *coach or trainer*
- Combine with individual and group learning
- Plan timing (pre-, during-, post-class)
- Teachers should understand chatbot logic and ethical use

Impact and learnings



- Enhanced digital competences and AI literacy among partner universities.
- Created new understanding of how AI supports personalized, autonomous learning.
- Demonstrated how AI tools can free time for deeper human interaction in class.
- Strengthened collaboration between educational researchers and practitioners.
- Next steps: ChatLearn has built a strong foundation for AI-enhanced, case-based learning approaches
- Emphasis on developing responsible AI skills among students and educators.

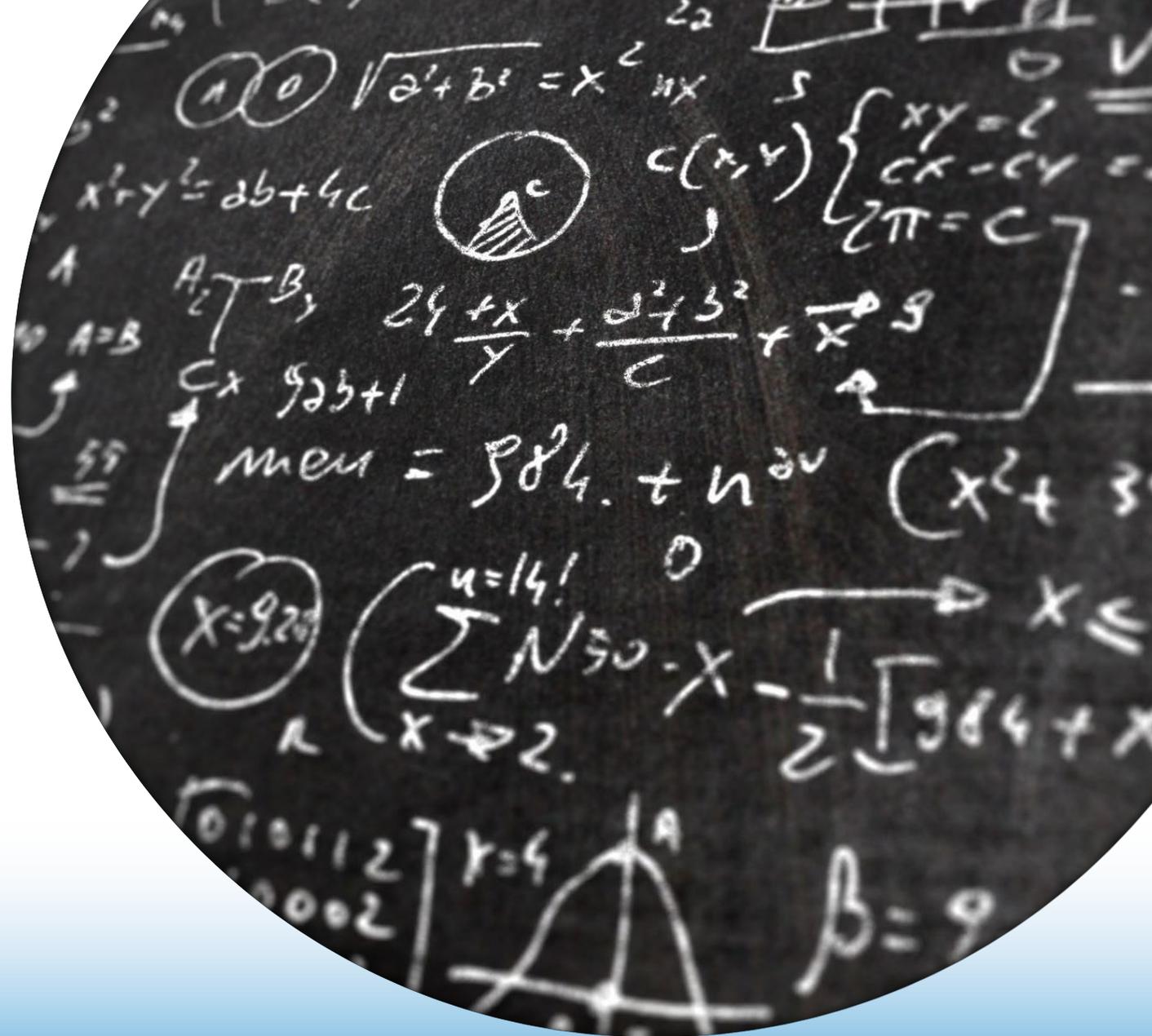


Thank you

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Keskustelu

- Promoting Digital Learning in STEM Subjects, DigiSTEM
Kirsi-Maria Rinneheimo, Tampereen ammattikorkeakoulu
- Virtual Materials Chemistry Laboratories for Sustainable Energy Solutions, VISUENERGY
Antti Karttunen, Aalto-yliopisto
- Personalized project management learning with chatbots, ChatLearn
Hannele Lampela, Oulun yliopisto



Kommenttipuheenvuoro Eurooppalainen SALTO Digital - resurssikeskus

Pasi Silander, opetusneuvos

**SALTO
DIGITAL**



Digital Priority

European SALTO Digital
Resource Centre

Pasi Silander
pasi.silander@oph.fi

6.10.2025



FINNISH NATIONAL
AGENCY FOR EDUCATION

Erasmus+
Enriching lives, opening minds.



SALTO Digital Resource Centre

- 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 work
- **Channels knowledge** in the area of its mandate into programme and policy development
- Works **cross-sectorally** with all 54 National Agencies in 33 countries



European SALTO Digital Resource Centre

OBJECTIVES

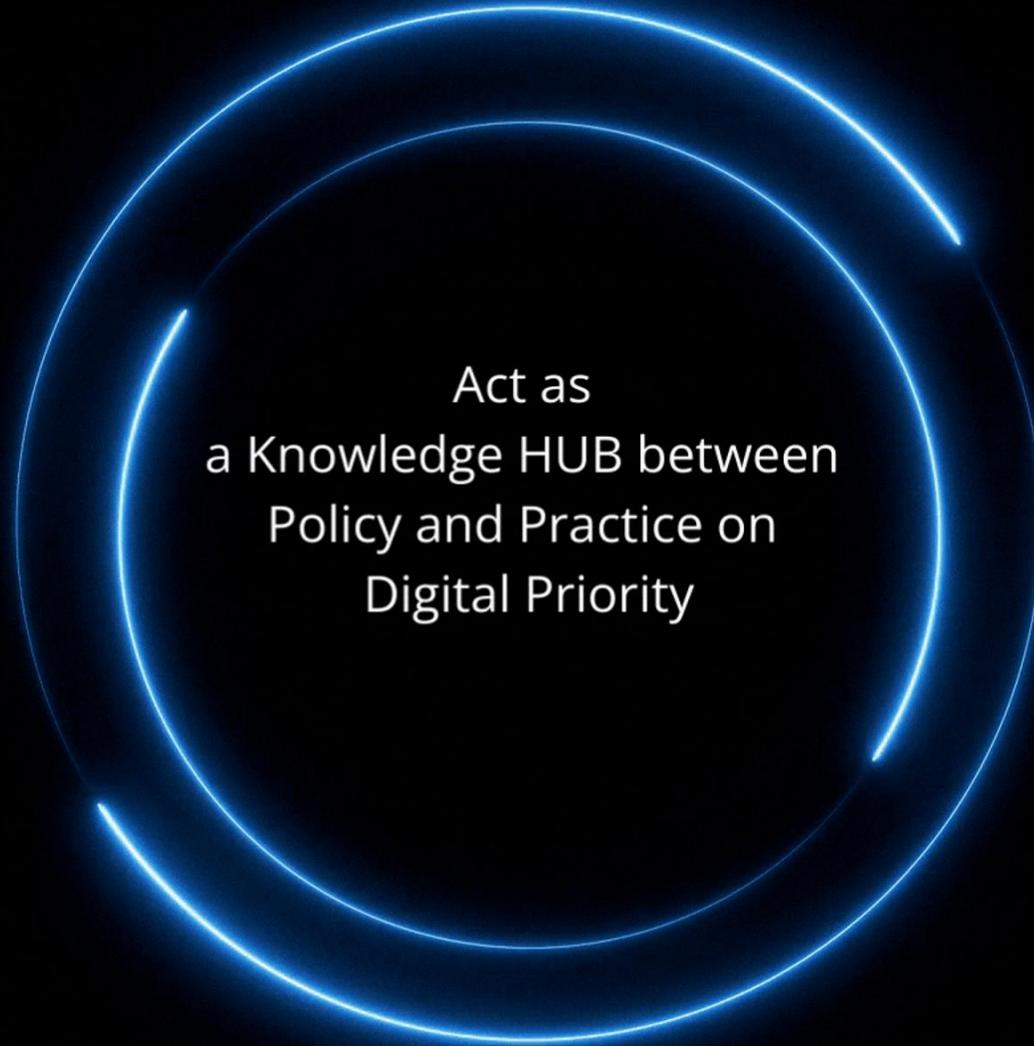
Support the development, implementation, and quality of the horizontal Digital Priority



Support National Agencies in translating the horizontal Digital Priority into measures and activities



Create knowledge and share resources on the Digital Priority



ACTIVITIES

Support NAs' capacity on the Digital Priority through trainings and materials



Share the results of projects, good practices, and learning materials



Support NAs in implementing the Digital Strategy



Horizontal Digital Priority

The Erasmus+ Programme will support

- A. development of a **high-performing digital education ecosystem** by
 - building capacity and critical understanding on how to exploit the opportunities offered by digital technologies for teaching and learning
 - To develop and implement digital transformation plans for educational institutions

- B. enhancing **digital skills and competence** development for all by fostering both basic and advanced digital skills as well as digital literacy

“The Programme should reach out to a larger target group both within and beyond the Union by a greater use of information, communication and technology tools, combined use of physical mobility and virtual learning and virtual cooperation.”

Horizontal Digital Priority

- To support the digital transformation in a **human-centric** manner
- To address societal challenges such as **AI** or **disinformation** more effectively
- Europe needs **education and training systems that are fit for the digital age**

In line with the strategic priorities of the [Digital Education Action Plan \(2021-2027\)](#).



Horizontal Priorities synergize each other

- Inclusion + Digital → Digital Inclusion**
- Green + Digital → Twin Transition**
- Participation + Digital → Digital Participation**

→ contributing to more inclusive and cohesive, greener, and digitally fit societies

Latest policy background

- ✓ Council Recommendation on the key enabling factors for successful digital education and training 15741/23
- ✓ Council Recommendation on improving the provision of digital skills and competences in education and training 15740/23
- ✓ Union of Skills

.....and EU AI ACT (EU) 2024/1689 😊



Implementation guidelines - Erasmus+ and European Solidarity Corps programmes Digital Strategy

Strategy for implementing the Digital Priority in the Erasmus+ and European Solidarity Corps programmes

- To provide guidance on how to implement the horizontal digital priority at all levels of the Erasmus+ and European Solidarity Corps programmes
- To address the programmes' activities, the projects funded and how the programmes prepare and engage participants and institutions to actively contribute to the digital transition
- Link: <https://op.europa.eu/s/z9f6>

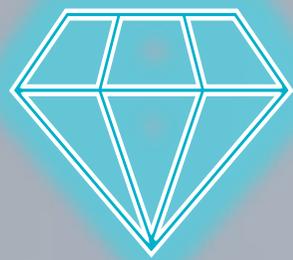


Meaningful and purposeful digital transformation of education and training?

Digital transformation entails **raising the quality** and **inclusiveness** of education and training, through the use of digital and other emerging technologies and methods, while **enabling participants to acquire digital skills and competences and increase their digital capacity and readiness.**



Best Practices in Erasmus+ Projects on Digital Education and Training



Digital transformation is multidimensional with many facets in the Erasmus+ projects (KA1&2)

Framework for identifying best practices on the Digital Priority – the Rubric

1. **Digitalisation:** Digital technology is used purposeful and meaningful to enable new processes and methods
2. Enhancing **basic digital skills**
3. Enhancing **advanced digital skills**
4. Developing **digital education ecosystem**
5. **Digital Pedagogy and methods**
6. Digital transformation **supporting other programme priorities**

1. Digitalisation: Digital technology is used purposeful and meaningful to enable new processes and methods



Limited evidence

Emerging

Developing

Advanced

Digital technology is used **without explicit focus on enabling new processes and methods**. However, initial thoughts on the use of digital tools for educational purposes or youth work may be presented.

Intentional use of digital tools **enabling new processes and methods** in learning and teaching or youth work.

Integrating new digital methods and processes for **developing new learning and teaching approaches / methods** for youth work.

Developing new digital education pedagogies and processes for **innovative learning and teaching approaches / methods of youth work**.

ONE PAGER

How can you make use of the SELFIE tool in your projects?

ONE PAGER

How can you make use of SELFIEforTEACHERS in your projects?

ONE PAGER

How can you make use of DigComp in your projects?

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What is DigComp?

The DigComp framework (Digital Competence Framework for Citizens) and its derivatives such as [DigCompOrg](#) (for organisations) or [DigCompEd](#) (for education) are reference frameworks developed by the European Commission to describe digital competence levels.

They can be used in various contexts, including Erasmus projects, to assess and improve digital competence among participants and consortiums.

Read more about DigComp at https://ec.europa.eu/digital-comp/digcomp-framework_en

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How can you make use of DigComp in your projects?

What is SELFIEforTEACHERS?

SELFIEforTEACHERS is a self-assessment tool designed to help teachers assess their own digital skills and identify areas for improvement. It is a derivative of the SELFIE tool.

SELFIEforTEACHERS is available in multiple languages and can be used by individual teachers or groups of teachers. It provides a clear overview of digital skills and offers suggestions on how to further improve.

SELFIEforTEACHERS is developed by the European Commission and is available for free use. It is a derivative of the SELFIE tool.

You may also want to see [SELFIEforTEACHERS](#) together with [SELFIEforTEACHERS](#) to get a better overview of the digital skills of your teachers. See the SELFIE tool at https://ec.europa.eu/digital-comp/selfie_en

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ENSURE THE CAPACITIES PROJECT CONSORTIUM

Before implementing your Digital Competence Framework DigCompOrg for organisator tasks to make sure your co necessary competences to ru are applying for. Can also be communicate your capacities phase.

ENSURE ALIGNMENT TO INCREASE IMPAI

If your project deals with can use the Council Reg in education and learn aligned with European higher.

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SALTO Digital One Pagers and other materials at:

saltodigital.eu

Thank you!

pasi.silander@oph.fi
SALTO Digital | saltodigital.eu



Kiitos!

Tutustu muihin korkeakoulutuksen kumppanuus hankkeisiin:
<https://www.oph.fi/fi/ohjelmat/kumppanuushankkeet-korkeakoulutukselle>

Ole yhteydessä: erasmus.korkeakoulutus@oph.fi