Staff development needs to fully benefit students using the blended learning

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Outline

What we know based on previous research?

Our own research at the University of Helsinki
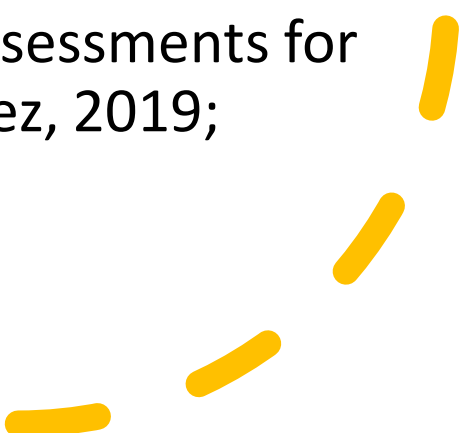
Viewpoints to staff development needs

Conclusions

What we know about students' needs?

According to the first-year (N=364) and third-year (N=284) science students in 2021, one of the main hindrances of studies was **decifiences of teachers pedagogical or digital skills**

Students reported that one study-related factor that has supported their well-being was **Flexibility in teaching** (online teaching, videos and assignments)

Teachers' blended learning skills (1/2)

- Technology-enhanced learning environments can be used for many purposes in teaching
  - collaborative learning and knowledge building (Häkkinen & Hämäläinen, 2012; Deng & Tavares, 2013)
  - facilitating students' understanding of the topic, for example through visualisation tools (e.g., Sorva et al., 2013; Guillén-Gámez et al., 2021)
  - giving students feedback and monitoring their learning progress (Jääskelä et al., 2017)
  - implementing online exams and assessments for learning (Marcelo & Yot-Dominiguez, 2019; Myyry & Joutsenvirta, 2015)

Teachers' blended learning skills (2/2)

- Recent studies have shown that despite universities' efforts to increase and improve digital teaching and learning
  - both teachers and students only use a limited number of digital tools
  - teachers use them mainly to **organise teaching**, not to promote student-centred learning or for pedagogical purposes (Tømte et al., 2015; Bond et al., 2018; Amhag et al., 2019)
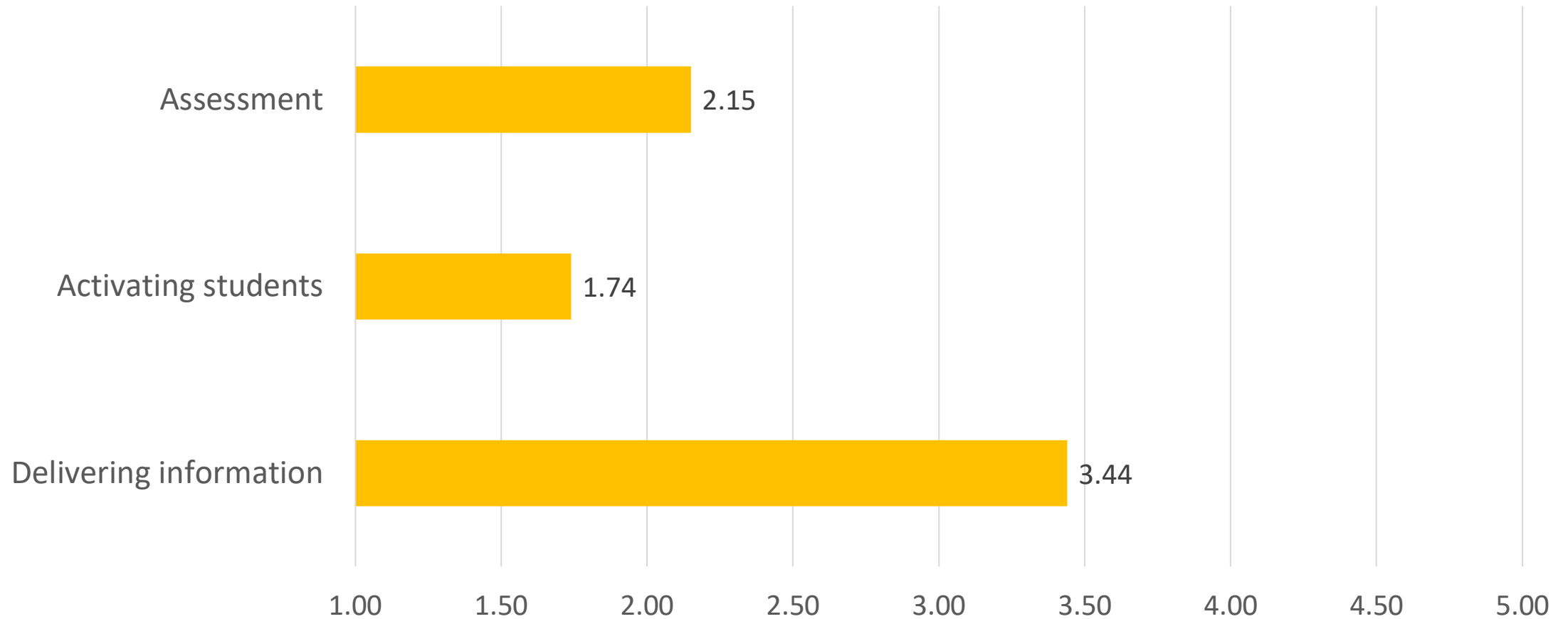
Research in UH

- Our study at the University of Helsinki (N= 265) in 2020
- University teachers from three academic fields: humanities and social sciences (47%), health sciences (26%) and natural sciences (27%)
- For what purposes teachers use digital tools in teaching?
- What benefits they identify in use of educational technology in teaching?

Myyry, L. et al. (2022). Covid-19 accelerating academic teachers' digital competence in distance teaching. Frontiers in Education, doi: 10.3389/feduc.2022.770094
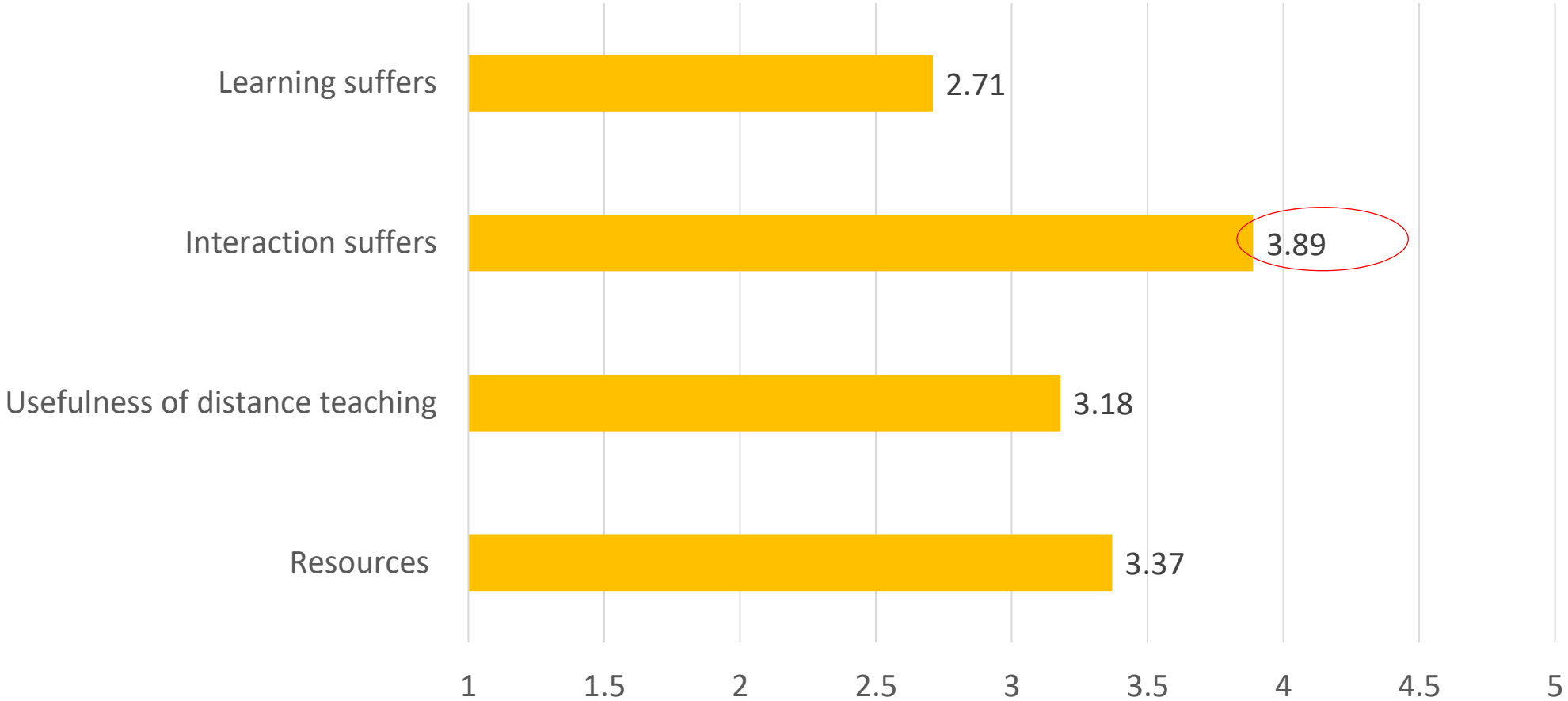Haarala-Muhonen, A. et al. (submitted). The impact of pedagogical training in teachers' approaches to online teaching and use of digital tools.
Kallunki, V. et al. (manucript in preparation). Voluntary or forced ditigal leap in higher education? Teachers' experiences of the added alue of using digital tools in teaching and learning.
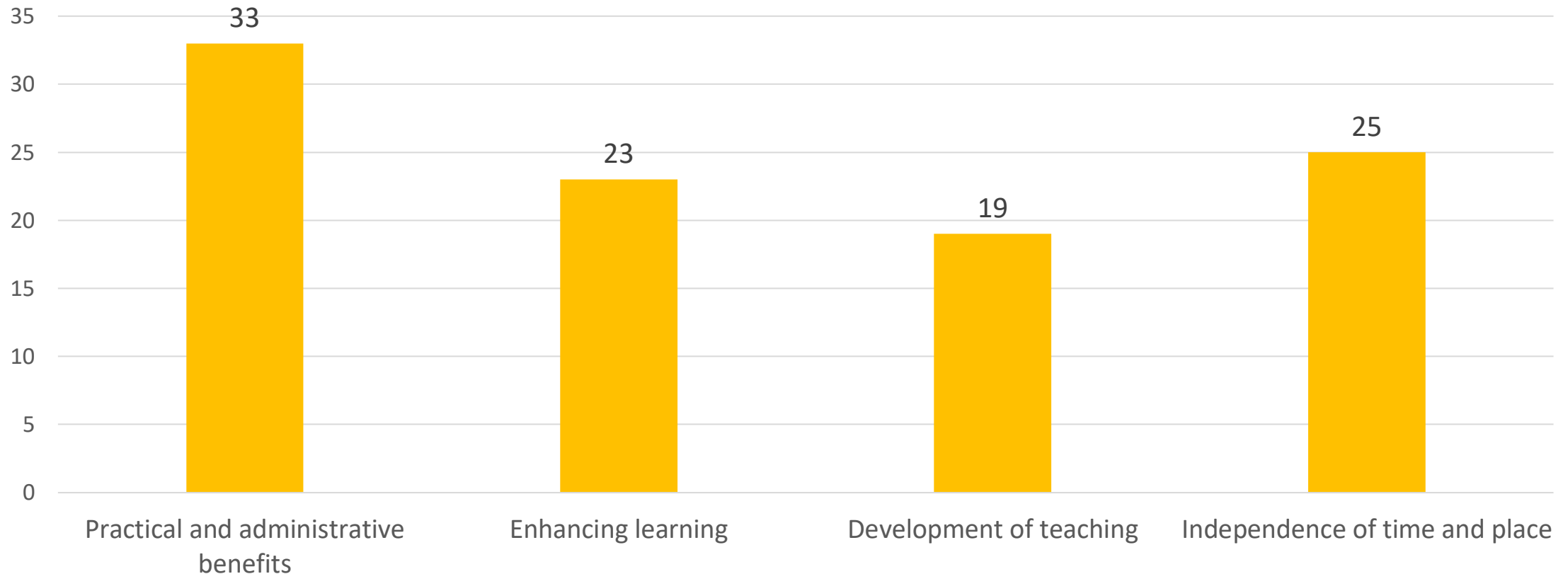
Purposes for using digital tools in teaching

Assessment	2.15
Activating students	1.74
Delivering information	3.44

1.00　1.50　2.00　2.50　3.00　3.50　4.00　4.50　5.00

Teacher beliefs about using educational technology

Benefits of using digital tools in teaching and learning in percentages

In the faculties of theology, medicine and law, **independence of time and place** was the top benefit; In the faculty of arts and science, **practical and admistrative benefits**

Pedagogical and technological training

- No pedagogical training 19% (n=50)

- 1-10 credits 22% (n=58)

- 11-24 credits 26% (n=69)

- 25 credits or more 33% (n=87)

At the UH, university pedagogy training consists of several five-ECTS (European Credit Transfer and Accumulation System) courses that can be completed for up to 60 credits
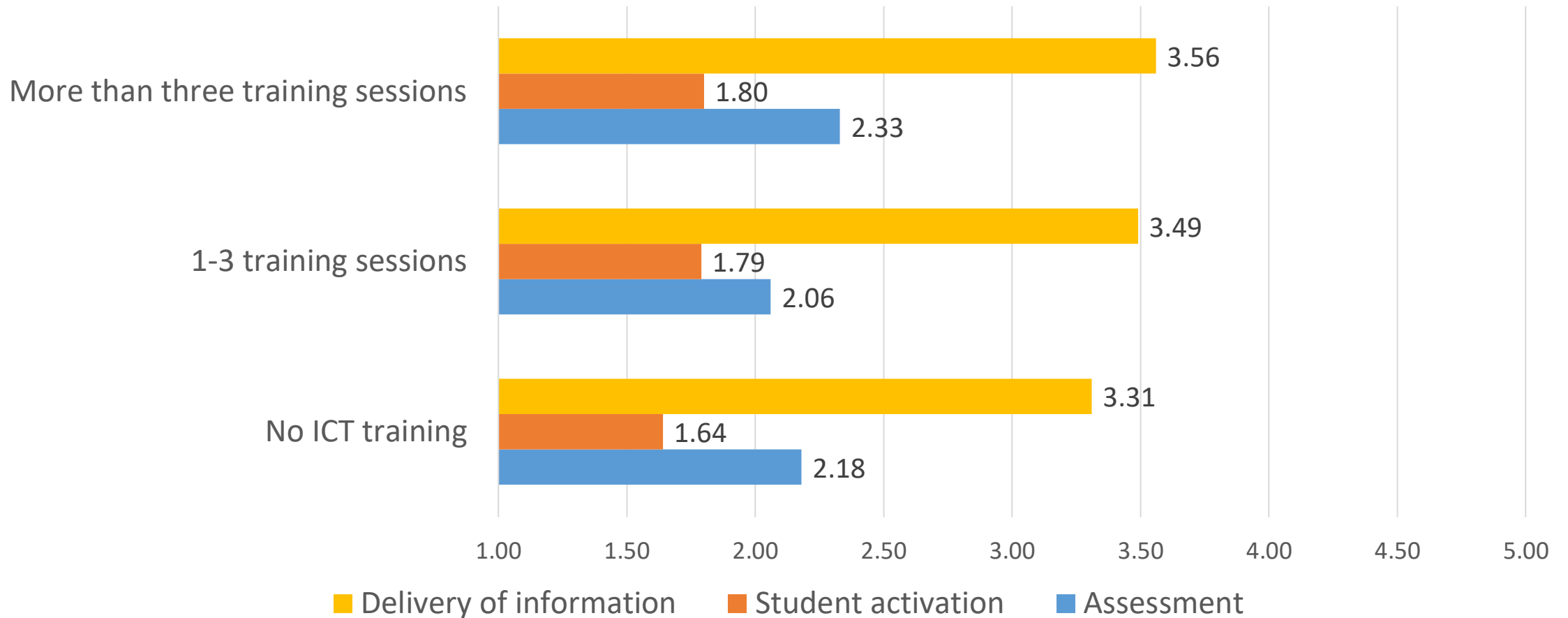
- No technology training 32 % (n=84) during the past three years

- 1-3 training sessions 47 % (n=126)

- Over 3 training sessions 20 % (n=53)

One ICT-training is typically a half a day – one day event

Is pedagogical training related to educational technology use?
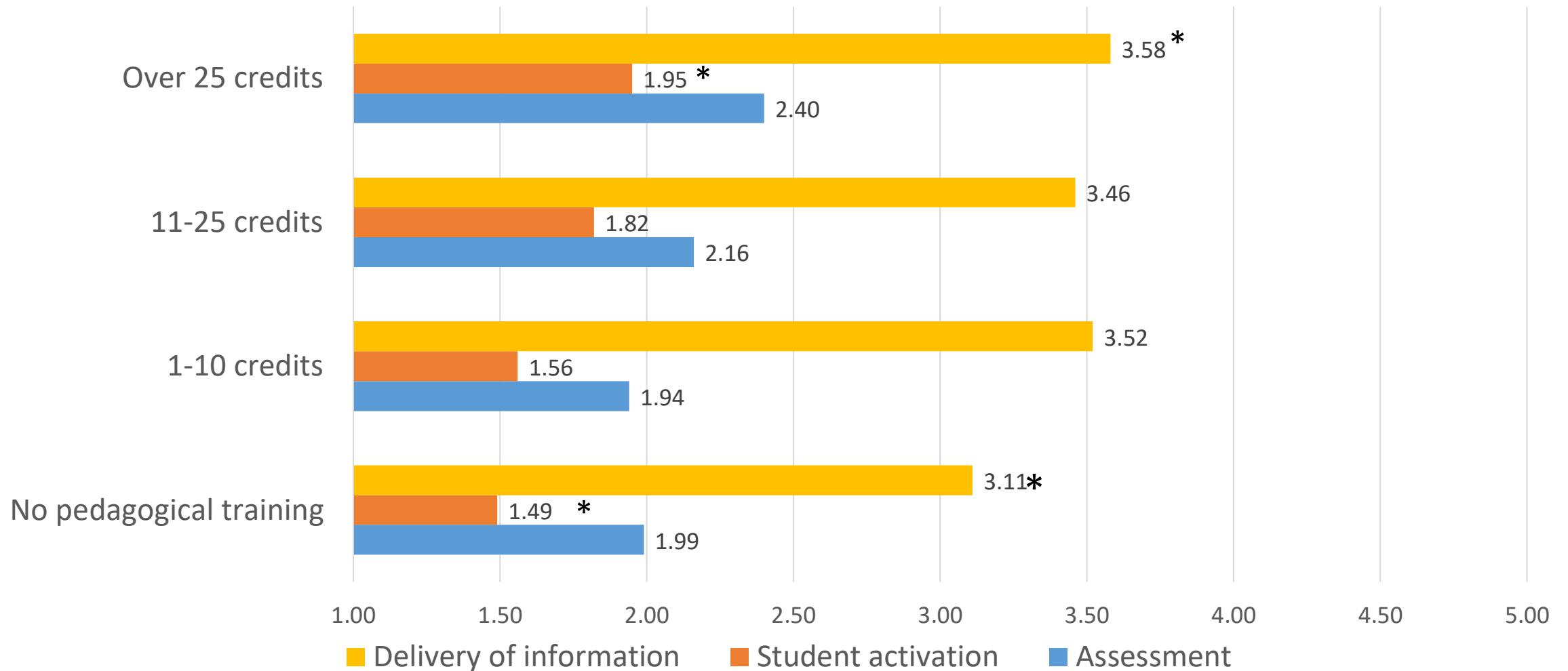
Is technology training related to educational technology use?

Technology training focuses mostly on the organization and infrastructure rather than emphasizing the implementation of technology in learning practices (Røkenes and Krumsvik, 2014), and it usually lack pedagogical bases (Fernández-Batanero et al., 2020)

Where do teachers learn skills to use educational technology (in percentages)?
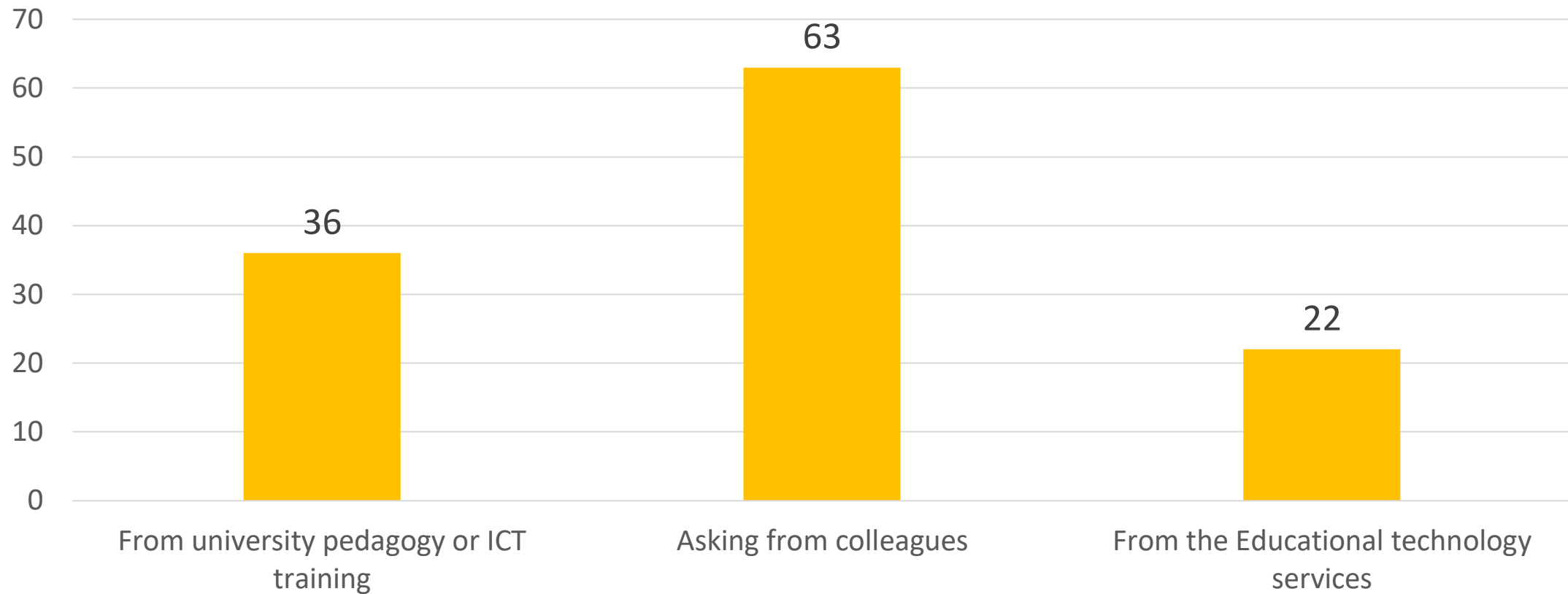
Only those who have taken part in training

- What needs to be done to improve staff development in blended learning?

- Competence consists of integrated knowledge, skills and attitudes that can be used to perform professional tasks successfully (Baartman and Ruijs, 2011; Janssen et al., 2013).
- Some viewpoints

Community of Inquiry (CoI; Garrison, Cleveland-Innes & Fung, 2010)

- Structural elements needed in the process of blended learning
- Reflects the dynamic nature of higher-order learning
- Based on the collaborative constructivism

The three main elements of CoI to create and sustain a purposeful learning community

Social presence
- Identifying with the community (e.g course)
- Communicate purposefully in an trusting environment

Cognitive presence
- Learning and inquiry process
- Eg. deep learning

Teaching presence
- **Structure and process**
- Constructive alignment
  - Moderating collaboration and reflection

Educational experience
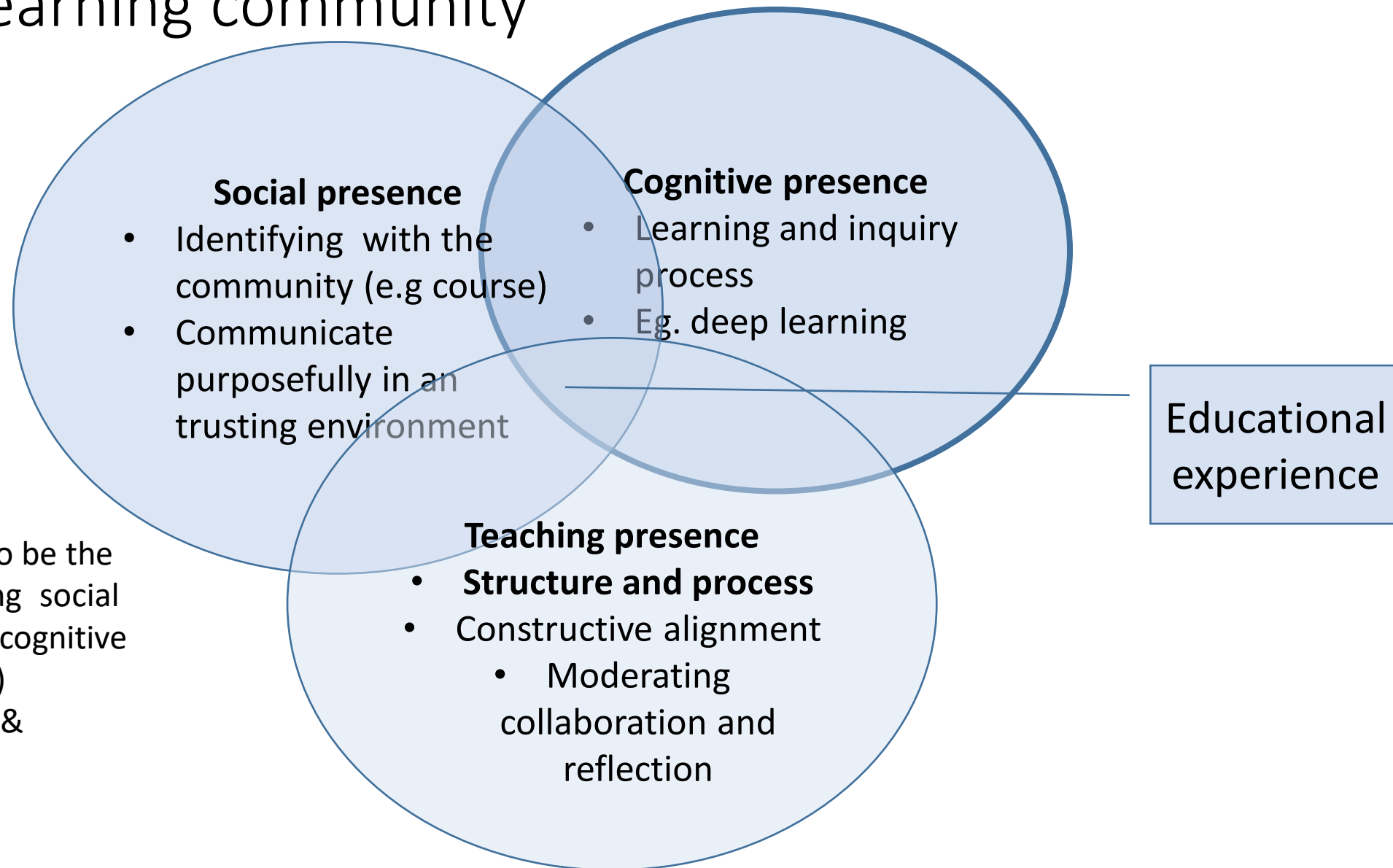
Teaching presence seems to be the core element in maintaining social presence (interaction) and cognitive presence (learning process) (Garrison et al. 2009; Shea & Bidjerano, 2009)

Technological and Pedacogigal content knowledge (TPACK; Mishra & Koehler, 2006))

Combines teachers' conent knowledge, pedagogical knowledge and technological knowldge
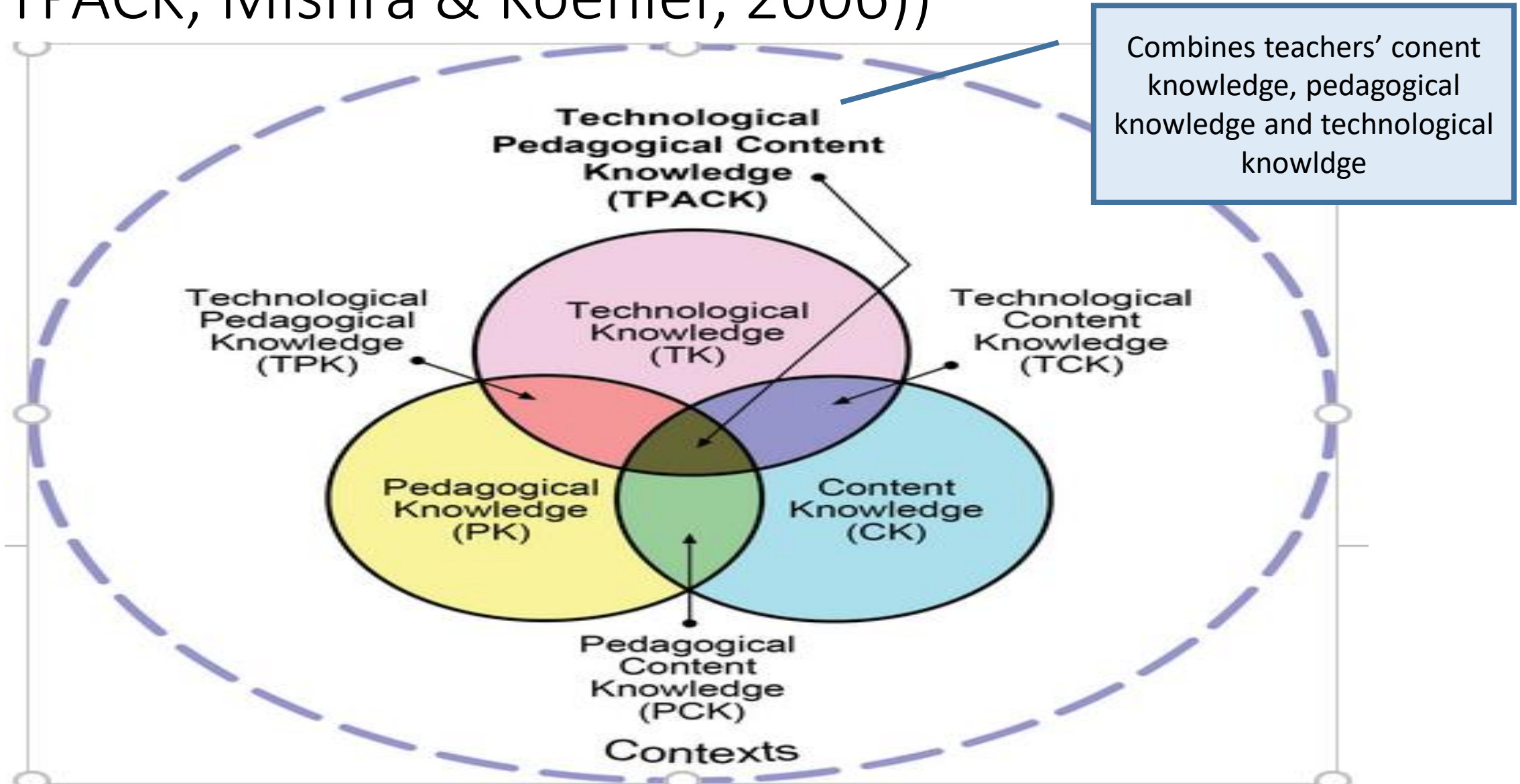
TPACK

- The more the three areas overlap
  - the more aware teachers are of the complex interactions between them
  - the more effective teaching becomes when using digital tools

   pedagogical methods that make use of technologies can be used constructively to teach content (Koehler and Mishra, 2009).

Staff development

How to shape and support cognitive presence in blended learning

Formal staff training typically focuses on pedagogical knowledge (students' motivation, approaches to learning, constructive alignment, forms of assessment)

Some technological knowledge is provided (how to activate students with educational technology)

Lack of integrative training

How to integrate?

- Organizational level
  - Curriculum design together with different service providers – pedagogical and technological trainers
  - Not one size fits all, but take into account the needs of different academic fields – co-creation of training

How to integrate?

- Training modules that combine both knowledge and skill aspects
  - Pedagogical knowldege should be taught along with technological knowledge
  - Skills to use the digital tools in pedagogically meaningful way
  - Why to use them to create a purposeful learning comminity
    - Understanding the importance of social presence and interaction is the educational experience

- Training modules with teaching practice

How to improve students' educational experience in blended learning?

- In the pedagogical training in the UH the elements of CoI are often taught separately

- We try to model integration (clear course structures, activating assignments, online collaboration) ➡ how to transfer this to teachers' own teaching?

  - More practical training combined with pedagogical and technological knowledge

How to improve students' educational experience in blended learning?

- Peer review/support of teaching (Johnston, Baik & Chester, 2022; Fileborn, Wood & Loughnan, 2022)
  - Feedback from peers as well as observing peer's teaching might be more effective than formal training
- Collaborative teaching communities – discussions and sharing experiences with colleagues

Conclusions - Staff development needs to fully benefit students using the blended learning

- More integrated training with pedagogical knowledge and technological knowledge
  - Co-creation with pedagogical and educational technology trainers
  - Co-creation with staff
- More concrete teaching practice and reflection

Conclusions

- Focusing on teacher presence in order to maintain social and cognitive presence
- Improving and practicing interaction as an intended learning outcome in staff development training
  - Constructing a bigger picture of how different elements are integrated
- Take advantage of life-long and informal learning
  - Peer review of teaching
  - Collaborative teaching community
  - Knowledge management and pedagogical leadership

Thank you for your attention!

Any questions?

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