



---

# SoNetTE

## **TPACK course participants understandings about the teaching and teachers' role using pictures and metaphors.**

Piret Luik<sup>1</sup>, Liina Lepp<sup>1</sup>, Sini Kontkanen<sup>2</sup>

<sup>1</sup> University of Tartu (Estonia)

<sup>2</sup> University of Eastern Finland

# Acknowledgement

---

- This project has been funded with support from the European Commission. This presentation reflects the views only of the presenter, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

# SoNetTE project

---

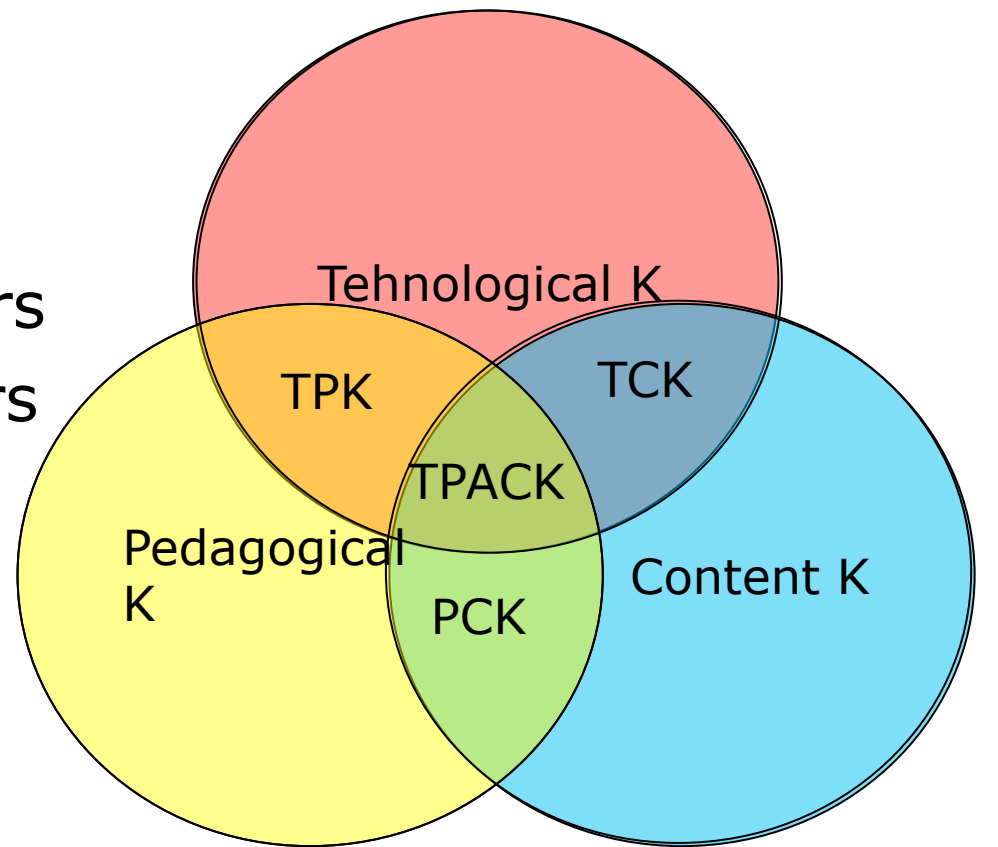
- ❑ 20 online courses/social networks in different fields (math, history, foreign languages, ICT in education etc).
- ❑ Guidelines for researchers how to support professional development of teachers and gather research data at the same time via online courses.
- ❑ Analysis of learning results of involved (student teachers).
- ❑ One of the courses: **TPACK framework**

# Theoretical framework

---

Changed role of teacher

- TPACK framework
- Teachers as researchers
- Metaphors as mediators



(Mishra & Koehler, 2006)

# Aim and Research questions

---

- to describe student teachers understandings about teaching and teachers' role using pictures and metaphors; and possible changes of these understandings during the TPACK online course.
  1. What metaphors and pictures student teachers use to describe teaching?
  2. Which knowledge areas of TPACK framework emerge in explanations of metaphors?
  3. What kind of differences emerge in these metaphors and explanations of metaphors at the beginning and at the end of the TPACK course?

# Method

---

- **Sample:** master level students in educational sciences
  - I data point November 2013: N=15 (1 male, 14 female)
  - II data point March 2014: N=12 (1 male, 11 female)
- **Instrument:** picture, metaphor, explanation
  - 1) Draw a picture or take a photo, which title is "Teaching is ..." (the picture should end the sentence) and add a metaphor.
  - 2) Write an essay as explanation to the picture and metaphor, where you explain, why did you choose this picture and metaphor and why did you decided that "Teaching is..." (and your metaphor).

# Method

---

## □ **Data analysis:**

- qualitative thematic data analysis techniques (Braun and Clarke, 2006).
- deductive content analysis (Elo and Kyngäs, 2008) according TPACK framework.

# Results and Discussion

---

1. What metaphors and pictures student teachers use to describe teaching?



2. Which knowledge areas of TPACK framework emerge in explanations of metaphors?



3. What kind of differences emerge in these metaphors and explanations of metaphors at the beginning and at the end of the TPACK course?



# 1. What metaphors and pictures student teachers use to describe teaching?

---

- 19 different metaphors
  
- Activity
  - Long-term or short-term
  - With final goal or continuity
  - In cooperation or individual
  - Special skills are needed or comes naturally
  - Following rules and free-going
  
- Artifacts

# 1. What metaphors and pictures student teachers use to describe teaching?



Teaching is **as cooking**

*Final goal, Short term,  
Following rules, Special  
skills are needed*



I think that teaching  
is **as building a  
house**

*Final goal, Long-term,  
Following rules, Special  
skills are needed,  
In cooperation*



Teaching is **as  
travelling**

*(the road, we invite students to travel  
with us)*

*Long-term, Continuity,  
In cooperation, Comes  
naturally, Free-going*

# 1. What metaphors and pictures student teachers use to describe teaching?

---

## Artifact metaphor



Teaching is **a mirror picture of your knowledge and skills.**



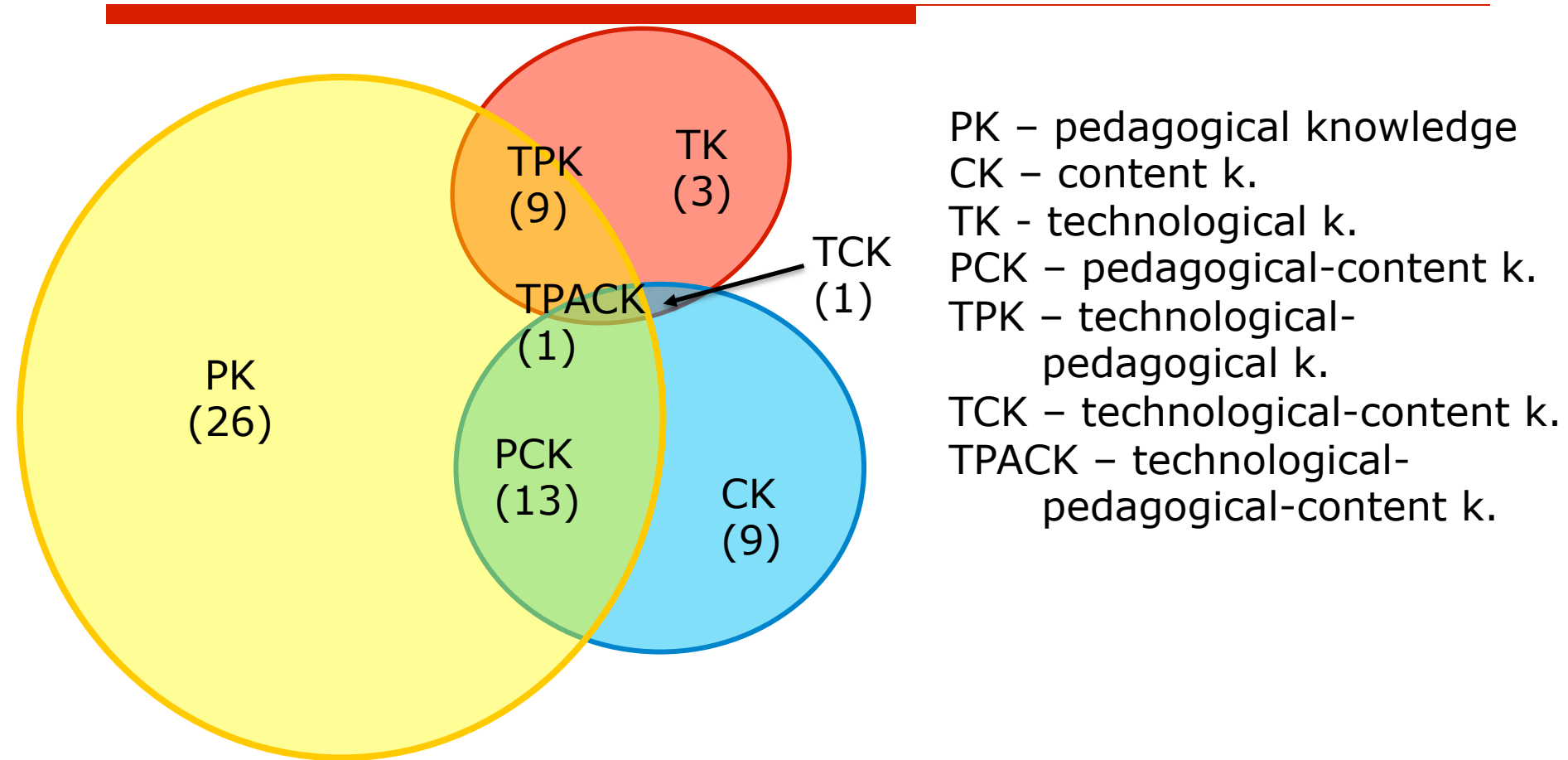
It was really hard to find any kind of picture for this task. I decided to take picture from **my old camera** because it somehow describes my idea what teaching is.

3a. What kind of differences emerge in these metaphors at the beginning and at the end of the TPACK course?

---

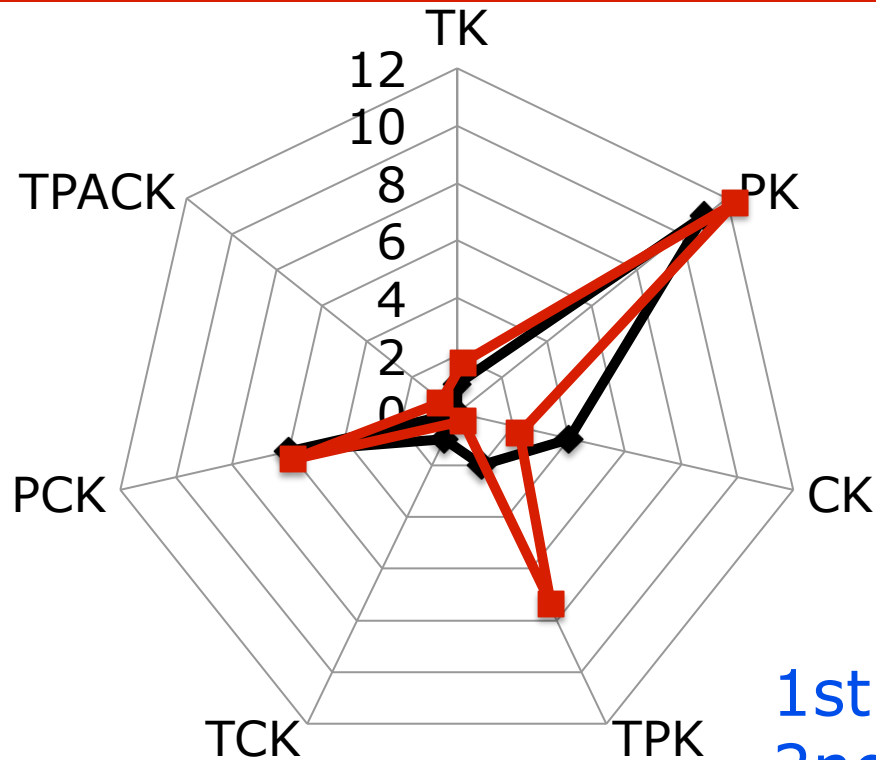
- (Only) four metaphors had changed
  
- Students wrote in their explanations that the metaphors are now deeper

## 2. Which knowledge areas of TPACK framework emerge in explanations of metaphors?



Note. The size of a circle describes app. the frequency of a knowledge<sup>3</sup> area, numbers in parentheses are frequencies of knowledge areas

### 3b. What kind of differences emerge in these explanations at the beginning and at the end of the TPACK course?



PK – pedagogical knowledge  
CK – content k.  
TK - technological k.  
PCK – pedagogical-content k.  
TPK – technological-pedagogical k.  
TCK – technological-content k.  
TPACK – technological-pedagogical-content k.

1st metaphor 1-3 areas (2.1)  
2nd metaphor 1-6 areas (2.5)

◆ 1st metaphor

■ 2nd metaphor

# Conclusion

---

- ❑ More emphasis need to integration of the pedagogy, content and technology!
- ❑ Some influencing factors (mother's illness).
- ❑ The task was compulsory for the students.
- ❑ Metaphors weren't changed so much, but the descriptions were.
- ❑ It's just not enough to use the metaphor, you need also description.
- ❑ English is limitation.

# Thanks

---

- Further Information:
  - [www.sonette.org](http://www.sonette.org)
- Comments, Questions
- [piret.luik@ut.ee](mailto:piret.luik@ut.ee), [liina.lepp@ut.ee](mailto:liina.lepp@ut.ee),  
[sini.kontkanen@uef.fi](mailto:sini.kontkanen@uef.fi)

This project has been funded with support from the European Commission. This presentation reflects the views only of the presenters, and the Commission cannot be held responsible for any use which may be made of the information contained therein.