# Learning to create rubric tools.
A learning study with in-service physical education and health teachers in Western Athens

- How a group of in-service PEH teachers faced the challenge of learning the use of rubric tools.

- PEH teachers are reluctant to adopt technologically enhanced tools, due to risks associated with screen-based inactivity and sedentary behaviours.

- Evaluating, grading and documenting pupils´ learning in PEH is a complicated project.

- Notwithstanding, the potential of increasing the validity and reliability of grading procedures through digital tools is profound.
    - E.g. a group of PEH teachers might watch pupils´ performance in a recorded video and discuss appropriate grades and feedback.

- This project focus predominantly issues of administering and communicating grades through rubric tools
    - even if issues of validity and reliability are of importance when creating rubrics.

TPACK

- Content knowledge (CK)
  - the subject specific knowledge that teachers are expected to teach e.g. mathematics, while

- Pedagogical knowledge (PK)
  - the creation of optimal conditions for learning in specific circumstances e.g. to teach children.

- pedagogical content knowledge (PCK),
  - the essence of teachers´ competency

- The technological pedagogical content knowledge (TPACK)
  - Even if technological knowledge (TK) can be difficult to define, the idea of TPACK is connected to the integration of TC with PCK e.g. to teach children mathematics utilizing appropriate technologically enhanced (digital) tools.
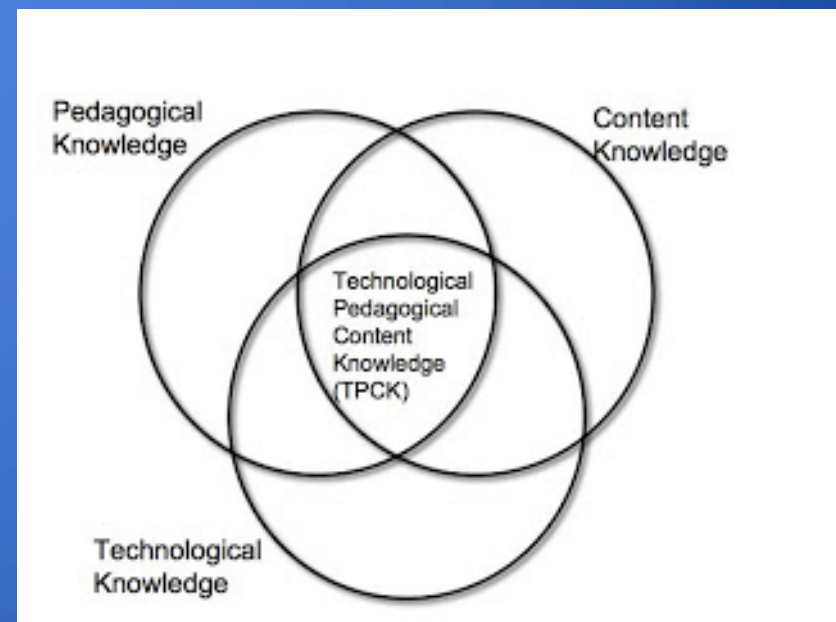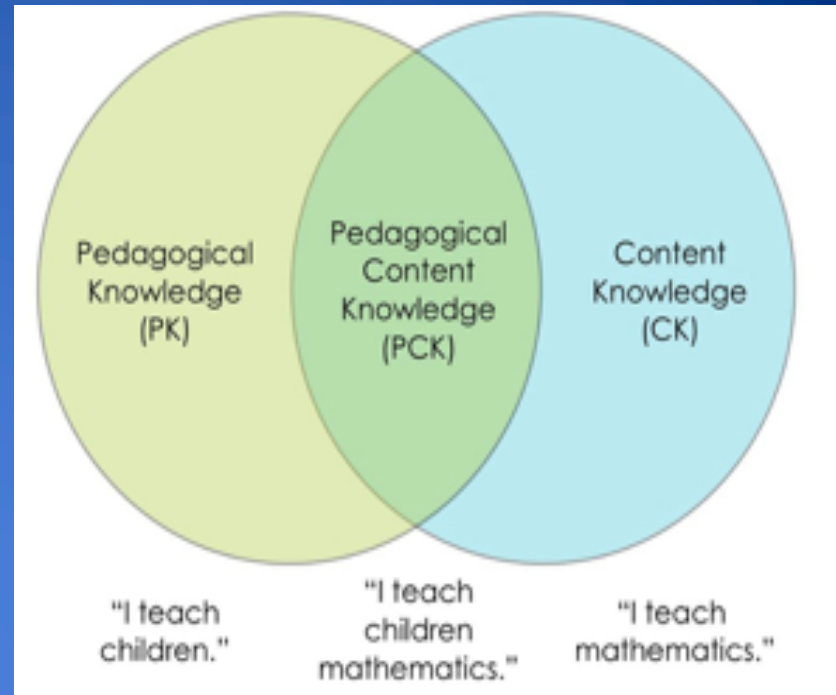
Aim

- the overall purpose of this project
  - to study how PEH teachers learn to use technologically enhanced tools to administrate and communicate grades (rubric tools).
- The specific aims:
  - a) What challenges are connected to the creation of rubrics in PEH? and
  - b) What challenges PEH teachers face when learning to use rubric tools?
- The first aim: the non-digital part of the project and a dimension of PCK necessary condition for constructing rubrics to import in the digital rubric tools.
- The second aim: the technologically enhanced (digital) part and a dimension of TPACK.
- To answer the scientific questions of the study, the following material has been used:
  - a) notes from discussions with teachers during online (BBB) meetings
  - b) texts from the discussion forums in Moodle,
  - c) uploaded grading matrices as well as links to rubric tools.

Method

- 1st step
  - three learning study groups with in-service PEH teachers were built.
- 2nd step
  - collaborative work to create rubrics
- 3rd step
  - collaborative work import the rubrics into various digital rubric tools.
- The author of the present report
  - mentor for the three groups
  - asynchronous digital tools (www.Moodle.com)
  - synchronous digital tools (http://bigbluebutton.org)

- **Ethical considerations**:

  - all the ethical requirements for conducting socio-behavioural research (e.g. Voluntary participation, insured anonymity/confidentiality, non-commercial data usage

1st step, Building learning study groups

- 15 PEH teachers from the area of Western Athens have been sampled randomly from a population of almost 600 professionals.

- Final sample consisted of 11 PEH

  - 5 teachers teaching in year 1-6 (Group 1),

  - 3 teachers in year 7-9 (Group2)

  - 3 gymnasium teachers (Group 3).

- None former experience with digital rubric tools, while a couple of them had previously used rubrics.

- All teachers 1 ICT certified by the Educational Authorities.

- The majority of Greek teachers are level 1 ICT certified, which means familiarity to work with browsers, word, excel and power point.

- Introductory meeting via Skype

  - basic Moodle and BBB functions were introduced to teachers by the mentor

2nd step, PCK-phase: Creating "in-print" rubrics

Table 2. Basic rubric grid format			
Task description			
Dimensions	Scale or Performance levels		
	Level 1, Excellent	Level 2, Competent	Level 3, Needs work
Dimension 1: Physical domain	criteria A criteria B criteria C	criteria A criteria B criteria C	criteria A criteria B criteria C
Dimension 2: Affective domain	criteria A criteria B criteria C	criteria A criteria B criteria C	criteria A criteria B criteria C
Dimension 3: Cognitive domain:	criteria A criteria B criteria C	criteria A criteria B criteria C	criteria A criteria B criteria C

Step 3, TPACK-phase: Working with rubric tools

- Information about available digital rubric tools.
  - only non-LMS integrated and without charge. (e.g. Quick Rubric, Rubistar etc
- Advantages and disadvantages with each rubric tool.
- Each teacher imported the grading matrix constructed in Step 2 into the rubric tool and uploaded the link to Moodle.
- Using a Moodle discussion, teachers provided feedback to each other as well as wrote own reflections on using rubric tools.
- As several free of charge rubric tools are available in the internet (Kappa, 2012), some of them were presented briefly during a BBB meeting.
- To evaluate a rubric tool with systematic framework,
  - the rubrics of this project ought to be tested with pupils. However, time restrictions,
- Grounded theoretical considerations: a less systematic approach has been adopted to capture PEH teachers´ initial experiences and reflections

Results PCK-phase: Creating "in-print" rubrics

Table 3. Teachers´ work with rubrics											
	Group 1					Group 2			Group 3		
	Nick	Paul	Anton	George	Teresa	Nigel	Samuel	John	Victor	Alex	Vicky
Task description	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
Dimensions	☺	☺	?	☺	☺	?	☺	☺	☺	☺	☺
Scale	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
Criteria	☺	?	?	☺	☺	?	☺	?	?	☺	☺
Overall	☺	☺	?	☺	☺	?	☺	☺	☺	☺	☺
Note: ☺ = easy to do, ? = faced difficulties											

- "It is difficult to create perfect criteria within the limited time available. Let us use working versions of criteria and try to import these in the rubric tools" Alex .

Results TPACK-phase: Working with rubric tools

**Table 4. Teachers´ work with rubric tools**

	Group 1					Group 2			Group 3		
	Nick	Paul	Anton	George	Teresa	Nigel	Samuel	John	Victor	Alex	Vicky
Registration	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
Rubric construction	☺	☺	?	☺	☺	?	☺	☺	?	☺	☺
Feedback	☺	?	?	?	?	?	☺	☺	?	☺	☺
Sharing	☺	?	?	☺	☺	?	☺	?	?	☺	☺
Overall	☺	?	?	☺	☺	?	☺	☺	?	☺	☺

Note: ☺ = easy to do, ? = faced difficulties

- "I couldn´t find or maybe there weren´t any upgraded process to give detailed feedback to pupils as I use to do without rubric tools" (Teresa)

- "The rubric tool has the possibility to summarize and overview pupils´ results, which is very useful for planning my lessons" (Paul)

Discussion

- rubric creation
  - was less challenging than the usage of rubric tools.
  - good PCK & CK.
- Rubric tools
  - challenges connected to feedback to students
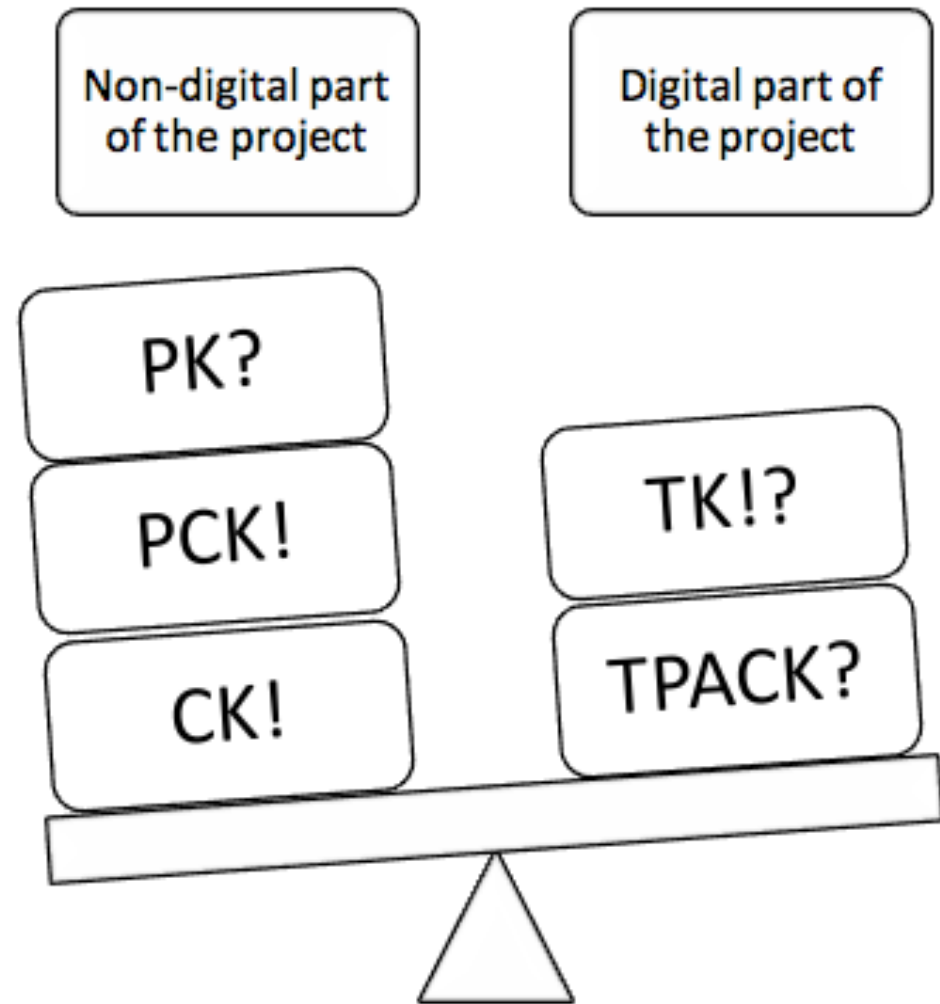
Suggestion

- in-service teachers´ CPD connected to ICT/digital literacy should target the TPACK area and not only the TK area

THANK YOU!