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STEM Continuous Professional Development at European Universities

01.09.2020-31.08.2023

ERASMUS PLUS

Strategic Partnership/ Higher Education/Innovation

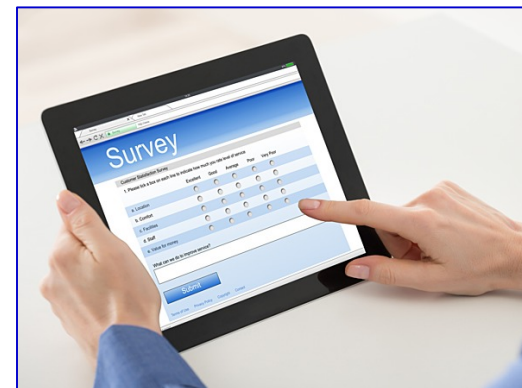
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Present situation

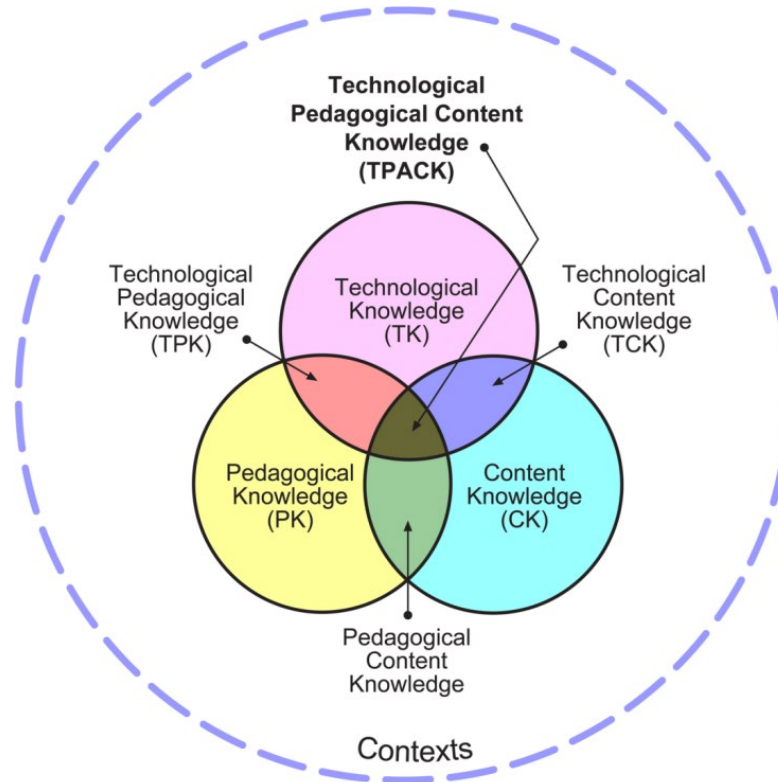
According to the **survey of the ECTN WG Lecturing Qualifications and Innovative teaching methods (2019)**:

- still some belief that being a **renowned researcher is enough to be a decent university teacher**.
- the training for lecturers at different universities
 - greatly varies
 - most part voluntary
 - mainly no continuous professional development (CPD).
- **focused only in pedagogy** and in general teaching skills.
- **digital technology** in teaching was **addressed separately or not at all**



Technological Pedagogical Content Knowledge (TPACK) approach is needed

<http://www.tpack.org/>



The model shows the **synergy of the teaching method, digital tool and learning content for effective learning.**

Mishra, P., & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017-1054.

STEM-CPD@EUni aims and goals

- to promote CPD at the EU universities
- to develop a sustainable cooperation between people who organize TPACK oriented CPD activities
- to improve the quality of education in university STEM (**science, technology, engineering, and mathematics**) faculties
- to share the experiences in STEM CPD at European universities

<https://content.thriveglobal.com/wp-content/uploads/2018/08/health-goals.png>




Activities and Intellectual outputs

- **WHAT is needed?**
 - A roadmap of STEM CPD
- **WHY and HOW to approach it?**
 - STEM-CPD on the CPD-Ambassador principle framework
- **HOW to reach the goals?**
 - short term staff joint trainings
 - knowledge sharing: STEM-CPD scenarios and user cases
- **HOW to support CPD-Ambassadors?**
 - open online modules, the microMOOCs
 - summer schools with the aim of training future CPD-Ambassadors
- **HOW to spread the knowledge?**
 - multiplier events and dissemination activities
- **DID IT WORK?**
 - reflection and evaluation

<http://www.inncommerce.eu/uploads/io3.png>



Partners/main responsibilities

- **ECTN** and its members institutions – dissemination, sustainability, 
- **University of Amsterdam** – roadmap, framework for STEM-CPD
- **University of Oulu** - STEM-CPD scenarios and cases
- **University of Naples Federico II** - design of summer school for CPD-Ambassadors
- **University of Ljubljana** - CPD Materials/modules
- **Jagiellonian University in Krakow** – coordinator, evaluation of STEM-CPD

STEM-CPD@EUni project welcomes you!



Two ways of involvement

ECTN team

dissemination, sustainability

Website, Newsletter, logo etc.

Sanjiv Prashar coordinator

ECTN member institutions

CPD Ambassadors

dissemination, sustainability



ECTN (our!) responsibilities

- ECTN website, ECTN Newsletter – **a chance to revive them!**
- Publications in the education section of the electronic magazine **VIRT&L-COMM**
- **STEM-CPD one day workshop** based on the flipped classroom approach during its GA
- ECTNA Eurolabel activities **contacts with National Accreditation agencies**
- **corporate identity** (logo etc.)

Do you/ would you like to organize CPD activities at your faculty?

Welcome to join the STEM-CPD@EUni summer school to:

- gain knowledge to empower your personal TPACK
- receive relevant material
- produce your own material to organize CPD activities at your home universities.
- stay in contact with summer school staff and peers and get (peer) feedback.

<https://runforthecall.files.wordpress.com/2014/03/ambassadors.jpg>



Short term staff joint trainings

Participants are employees from **ECTN partner institutions**.

Two types of trainings:

- **“How to design short online CPD modules, microMOOCs”** - who wish to develop such materials – Ljubljana, February 2021
- **“STEM CPD summer schools”** - who wish to become CPD-Ambassadors and develop their teaching competences, share with peers and organize STEM-CPD activities at their institution - **June 2021, Krakow & October 2022, Naples**



Dissemination / open access

- All outputs capable of existing in digital form will be freely accessible on the ECTN website <http://ectn.eu/>.
- **MicroMOOCs** will be available on the open **Coursera** platform via its cooperation with the ECTN and UvA and partner universities e-learning platforms
- STEM-CPD scenarios shared on **Starfish platform** – **a chance to come back** <https://starfish.innovatievooronderwijs.nl/glossary/340/>

The screenshot displays the Starfish platform interface. At the top left, the logo 'Starfish' is followed by a 'beta' badge and a green 'Browse' button. Below this is a search bar containing the text 'ectn x | e.g. #TPACK'. A suggestion box below the search bar reads 'Did you mean: #ECTN'. On the left side, there are three filter panels: 'Sorting' with a dropdown menu set to 'Most recent', 'Categories' with a list of options (Projects: 1, Glossaries: 2, Information: 6, People: 10), and 'Information' with a sub-header and three content cards. The first card is titled 'Claim a descriptor which you wish to contribute to the ECTN database' and includes the text 'Welcome to contribute to the Expertise in Chemistry Teaching - ECTN databasel Bezig met laden.....'. The second card is titled 'Request ECTN Expertise in HE Chemistry Teaching personal profile and Starfish account' and includes 'Bezig met laden.....'. The third card is titled 'List of topics relevant to university chemistry teaching' and includes the text 'The ECZE2N working group 'Towards Excellence in School and University Teaching' is building a collection (database) of teaching methods and pedagogical issues relevant for university chemistry teach...'. The interface is clean and modern, with a light blue and white color scheme.



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STEM-CPD@Euni and STEM-CPD Special Interest ECTN Group

TODAY at 3 p.m.

Registration: [http://ectn.eu/
ectn-general-assembly-2020-will-be-held-online/](http://ectn.eu/ectn-general-assembly-2020-will-be-held-online/)

How ECTN could play a role in discussing and helping chemistry laboratory teaching organised remotely?

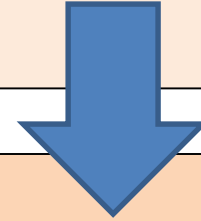
Suggestion for future activities of ECTN



from Lament to Hope

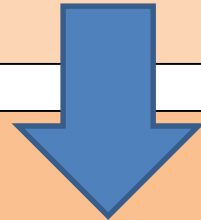


„ Our students were not able to practice chemistry”



What we did in the time of the Plague?

- Focus on laboratory based LOs which could be developed remotely (e.g. inquiry)
- Several solutions: remote laboratories, home experiments, online simulation, video tutorials etc. etc.



What can we (ECTN) do to help lecturers who teach in laboratories?

- Exchange of experiences, resources, technologies,
- VEC database? New WG? new SIG?, ...
- Personal contact and support (consultations) – Starfish?