



## IMST-Tagung 2019

„IMST-Symposiumstag: Vernetzung zwischen den MINDT-Fachdidaktiken“

24. September 2019

Hauptvortrag (in englischer Sprache):

### **„Multidisciplinary networking as an opportunity and added value for STEAM didactics. The example of phenomenon-based learning in Finland“**

*Dr. Kristóf Fenyvesi (University of Jyväskylä, Finnish Institute for Educational Research – Experience Workshop - Bridges Organization)*

STEAM (Science, Technology, Engineering, Arts and Mathematics) integration in learning is becoming increasingly important worldwide. STEAM in today's European schools represents a dynamically developing, but largely unexplored field. The development of collaborative and inter-, multi-, and transdisciplinary problem-solving capabilities, which enable students to discover unexpected connections between different aspects of various complex phenomena, is not only an effective tool, but one of the most important goals of today's learning societies. Based on a brief overview of the European "STEAM-scape", the presentation introduce some of the major trends, opportunities and current challenges of inter-, multi-, and transdisciplinary mathematics learning combined with various tools and technologies. From a methodological point of view, we will examine (1) STEAM concepts' compatibility with the phenomenon-based learning and the 'multidisciplinary learning module' in the current Finnish National Core Curriculum; (2) problem-solving based combination of hands-on and digital modelling in the process of STEAM-learning; study and practical support for teachers in (3) interactional organization of technology supported exploratory learning situations in STEAM settings. Most of the examples are based on University of Jyväskylä's Innovative Learning Environments research group and Experience Workshop STEAM Network ([www.experienceworkshop.org](http://www.experienceworkshop.org)) and its international partners' projects.

The presentation will introduce some of our recent and on-going projects, which are addressing the advancement of creative approaches and innovative communities in the school. The perspectives and attitudes, methods, technologies and learning tools developed by the Erasmus+ Modeling at School (coordinated by Johannes Kepler University, Linz) and the Everyday Creativity (<https://creativeschools.eu/>), the STIMEY H2020 ([www.stimey.eu](http://www.stimey.eu)), the Checkpoint Leonardo Network (<https://www.jyu.fi/science/fi/luma/hankkeet/checkpoint-leonardo-network>) Finnish national project are intended to enhance collaboration, motivation and engagement and contribute to innovative learning environments (<https://www.jyu.fi/it/en/research/research-areas/cognitive-science-and-educational-technology/ile>).

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