Bringing Data Science into your classroom

A hands-on mini-conference for STEAM teacher educators and teachers provided by the DataSETUP project

Date	October 2, 2025
Time	14:00–18:30
Venue	University of Münster, Fürstenberghaus

What you will do…

- **Experiment** with **classroom-ready modules** using **interesting real and multivariate data** (about use of media, leisure time activities, etc.)
- **Explore** and **visualize** data with **digital tools** like CODAP
- **Discuss** strategies for **scaffolding inquiry, ethics, and assessment** in your classroom

What you will take away…

- **Plug-and-play lesson ideas** and **datasets** for teacher education
- **Reflection** on opportunities how to implement those in primary and secondary school classrooms
- **Modules** which include access to **real datasets** and **step-by-step activity guides**
- **Confidence to start teaching with real data—no prior experience needed**

Time	Program
14:00–14:45	**Welcome address** **Introduction** to the project **DataSETUP** and the DataSETUP **framework** EDUCATE
14:45–16:15	**Two parallel workshops (W1 & W2)** So… What Is Data Science, Really? (W1) – *workshop held in English* From Data to Insight (W2) – *workshop held in German*
16:15–16:45	**Coffee break**
16:45–18:15	**Two parallel workshops (W3 & W4)** Interrogating Messy Data: Exploring Mental Health in the Tech Industry through Data Science Practices (W3) – *workshop held in English* Teaching Machines, Teaching Future Citizens (W4) – *workshop held in English*
18:15–18:30	**Outlook & Farewell**

What is DataSETUP?

The Erasmus+ cooperation partnership *Promoting Data Science Education for Teacher Education at the University Level* (DataSETUP) aims to **strengthen data science education** in university-based teacher preparation programs. DataSETUP introduces pre-service teachers to **key data science concepts** and **practices to foster data-informed reasoning**. The project seeks to cultivate a **mindset of thoughtful, constructive engagement with data science—preparing future teachers**, and in turn their students, to meet the **demands of an increasingly data-driven world**.

Six partner universities in five countries form the cooperation of DataSETUP, **funded by the European Union**: University of Münster, University of Paderborn (both Germany), Mary Immaculate College (Ireland), National and Kapodistrian University of Athens (Greece), European University Cyprus (Cyprus) and Middle East Technical University (Turkey)
For more information see: datasetup.euc.ac.cy

Register via email: datasetup.eu@gmail.com • Bring a digital device (laptop) if possible

DATASETUP

Workshop Abstracts

So… What Is Data Science, Really? (W1)

This interactive 90 minute workshop offers an engaging and accessible introduction to the world of data science. Drawing on the DataSETUP framework, participants will explore what data science is, how it differs from traditional statistics, and why it is becoming increasingly important in education and society. Through real-world examples, video insights, and hands-on activities, we'll break down the key stages in the data science process—exploring data, posing questions, analyzing data, making sense of patterns, and communicating findings. Along the way, we'll consider important ideas such as data ethics, how data is used in everyday life, and what it means for the world of education. No prior experience with data science is required - this session aims to build understanding, confidence, and spark curiosity about how data science shapes the world we live—and teach—in.

From Data to Insight (W2)

This interactive 90-minute workshop offers a practical and accessible introduction to integrating data science into teaching and teacher education. Participants in this workshop will explore real datasets on the leisure and media habits (especially gaming habits and news consumption) of young people, inspired by the KIM and JIM studies. With the support of the digital tool CODAP, we will engage in data exploration, visualization, and interpretation to experience core elements of the data science process and data practices in action. Along the way, we will reflect on opportunities and challenges for teaching with real-world data using digital tools and discuss ways to adapt the module for different learners, and consider how data science can enrich both school and university contexts. No prior experience is required—this session aims to build confidence, provide ready-to-use ideas, and spark curiosity about bringing data science into teaching and teacher education.

Interrogating Messy Data: Exploring Mental Health in the Tech Industry through Data Science Practices (W3)

This interactive 90-minute workshop invites teachers to explore real-world, messy data through a data science lens using a simplified version of a 2014 mental health survey on attitudes toward mental health in the tech industry. Using CODAP, a web-based data analysis and visualization tool, participants working in small groups will engage in key phases of the data science process: preparing data, analyzing categorical data, and drawing insights through collaborative interpretation. No technical background is required, and participants will be guided through each step. Overall, the workshop emphasizes critical thinking about data quality, evaluation of secondary data sources, and ethical considerations. With guided exploration and discussion, teachers will experience how data science can support meaningful, socially relevant inquiry in the classroom. The session will conclude with a reflection on how teachers can bring data science thinking into their own classrooms.

Teaching Machines, Teaching Future Citizens (W4)

This 90-minute hands-on workshop offers an engaging introduction to key concepts in data science and machine learning (ML), with a critical focus on their ethical and societal implications. Participants will follow a structured inquiry cycle—collecting data, training a simple image classification model using Google's Teachable Machine, and analyzing how data choices shape model performance, bias, and outcomes. The activity illustrates how core data science practices—such as data collection, modeling, evaluation, and interpretation—are embedded in AI systems that increasingly influence everyday life. Through guided reflection and real-world case studies, participants will examine how data science education can equip students with the critical literacy needed to engage with AI responsibly, ethically, and equitably. The session concludes with a collaborative design challenge that reinforces the role of educators in preparing learners to navigate and question algorithmic systems. No technical background is required.