

# Learning Analytics with experimental design on Structured and Unstructured Heterogeneous Data Sources in a flipped Statistics classroom

Jiun-Yu Wu

National Yang Ming Chiao Tung University

## Abstract

In this talk, Professor Jiun-Yu Wu will share his Learning Analytics research for higher-education learners in a flipped Statistics classroom within the Personal Learning Environment (PLE). He will introduce a Learning Analytics framework on heterogeneous data sources with data mining, supervised machine learning techniques and hierarchical regression models. With the PLE pedagogy, this study examined learners' demographic backgrounds, motivational measures and ill-structured social media discussion data to understand what student demographic information, how they feel, and what they do can impact their statistics learning performance. Professor Wu will show how the human-centered learning analytics can be integrated into the classroom instruction with experimental design to monitor students' learning progress, and to identify students at risk of failure within the technology-enhanced learning environment. The findings have evidence-based implications for building an effective learning environment to facilitate students' learning in the post-pandemic era.