

Keynote by Mari Murtonen at the EARLI SIG 4&17 Conference in Utrecht

Title: Embracing evidence-based understanding: learning and teaching of research in higher education

Summary: One of the most crucial skills in today's world is the ability to use evidence-based knowledge to solve the wicked problems of society. Higher education graduates should possess the ability to comprehend research and contribute to the advancement of society using research-based knowledge, fostering a better future. However, both learning and teaching of research have proven to be challenging tasks. In this keynote, I introduce the audience to the challenges students face when learning research and the pedagogical questions associated with teaching it. I also present a comprehensive model to understand the components involved in the development of research-related understanding.

The challenges students face in research learning are diverse. Research methods, methodologies, principles and traditions have evolved over a very long time. They often encompass abstracted theories and rules, complex concepts, and procedural instructions, incorporating methods from other academic domains, such as statistics and academic writing. Applying evidence-based information to solve problems requires inferencing skills, while accepting uncertainty requires epistemic maturity. All these factors contribute to creating a complicated field for students to learn. As Epstein noted back in 1987, "No other part of the social work curriculum has been so consistently received by students with as much groaning, moaning, eye-rolling, hyperventilation, and waiver strategizing as the research course". The challenges in research learning appear to be similar and widespread across various disciplines. Although many pedagogical innovations have been implemented, the results have not always been as successful as expected.

Our team has studied the questions of research learning and teaching for a long time, resulting in a model that aims to explicate these phenomena within the broader context of scientific thinking. By scientific thinking, we refer to processes in common not only to natural sciences but to all university disciplines aspiring to rigorous knowledge-seeking processes. We envision our model assisting universities and teachers in planning curricula and teaching that elucidate the desired learning goals more comprehensively for both themselves and their students, and helps students to understand the big picture of research as a tool for understanding the world.

Bio: Mari Murtonen is a Professor of Higher Education Pedagogy and the Director of the UTUPEDA Centre for University Pedagogy at the University of Turku. She is the Executive Editor-in-Chief of the Finnish Journal of University Pedagogy. Her main research areas include higher education teachers' development of pedagogical expertise in both traditional and digital environments, as well as students' development of scientific thinking and research skills during university education.

Webpage: <https://www.utu.fi/en/people/mari-murtonen>