



Teacher Professional Vision: Toward Theoretical, Methodological, and Educational Synergy

E-CER founding date: January 01, 2023

E-CER Scope

Teacher professional vision refers to how teachers perceive and interpret classroom situations and how they use these perceptions for teaching. Different research traditions and empirical approaches are used to conceptualize and study the processes and components of teacher professional vision. The E-CER aims to bring together these different rich perspectives to develop a comprehensive account for conceptualizing, analyzing, and promoting teacher professional vision.

The E-CER has three goals. The first goal is to work toward theoretical synergy. We will aim to develop a meta-theory that integrates prominent theory frameworks and also draws from related models on professional vision and visual expertise from domains outside the teaching profession. This meta-theory will offer definitions of key components and include not only sociocognitive processes, but also outcomes, reflecting the consequences of professional vision for student learning and equity.

The second goal is to work towards methodological synergy. We will collectively create new research contexts and test novel data collection approaches to explore teacher professional vision. Considering research contexts, we aim at bridging the divide between research *in action* (when teachers teach in real classrooms) and *on action* (when teachers watch videos of themselves or other teachers' teaching) through sequential data procedures; these new contexts also include virtual and simulated classroom realities. Considering novel method approaches, we aim at exploring new ways to get access to teachers' and students' mutual visual attention and their classroom correlates and consequences.



The third goal of this E-CER is to work toward educational synergy. We will develop a set of curriculum and syllabus material aimed at promoting the professional vision in two contexts: (a) teacher education, focusing on pre-service teachers in higher education, and (b) teacher professional development, focusing on the training of in-service teachers at school.

E-CER Members

Kai S. Cortina is a professor of Psychology at the University of Michigan. His current research interest lies on technology-enhanced analysis of classroom instruction. Another focus lies on the effect of schooling on psychosocial and cognitive development throughout the lifespan. He teaches educational psychology and multivariate statistics and serves as associate editor of the *Journal of Personality and Social Psychology*, and *Frontiers in Psychology* and is on several editorial boards of major journals in relevant fields. In Germany, he holds the position as co-editor of the *Zeitschrift für Pädagogik*.

Andreas Gegenfurtner is a professor for methods in learning research at the University of Augsburg. His research focuses on digital learning, student heterogeneity, and visual expertise in the professions. He is particularly interested in using mixed-method and multi-method approaches to gain access to the processes and practices that constitute professional vision and visual expertise of teachers in classrooms. Andreas serves as editor for the EARLI journal *Frontline Learning Research*.

Markku Hannula is professor for mathematics education at the faculty of Educational Sciences in the University of Helsinki. Markku Hannula is also the president for the International Group for the Psychology of Mathematics Education. Markku Hannula has currently 187 publications, 53 of them peer reviewed journal articles. He has supervised 7 PhD theses. His main areas of research have been mathematical problem solving, mathematics-related affect, and visual attention in mathematics classrooms.

Robin Junker works as a PostDoc at the Institute for Psychology in Education at the University of Münster. His teaching and research mainly focus on teachers' professional vision, classroom management and stress. He is substantially responsible for the operation of the cross-university video platform "unterrichtsvideos.net" (containing metadata of over 1800 lesson videos). Moreover, he is developing and examining virtual learning environments for the promotion of professional vision.



Nora McIntyre is a Lecturer in Educational Innovation within the Southampton Education School. Prior to joining the Southampton Education School, Nora established and led a research centre at an edtech start-up (2021). There, her research focus was on online education as an avenue for educational access and opportunity for innovative process-tracing educational research analyses. She has research interest in culture, socio-emotion, and inequalities. She particularly advocates the use of intensive data via innovative research technology and process-oriented analytic techniques. Nora co-coordinates the EARLI Special Interest Group 27 Online Measures of Learning Processes.

Tina Seidel is Professor of Educational Psychology at the TUM School of Social Sciences and Technology. Her research is focused on teacher professional vision, teacher-student interactions in classrooms and evidence-based teacher education. She is particularly interested in developing and testing educational technology tools for higher education and, thereby, incorporating educational research on professional vision and classroom interactions in evidence-based learning environments.

Miriam Gamoran Sherin is Associate Provost for Undergraduate Education at Northwestern University and the Alice Gabrielle Twight Professor of Learning Sciences in the School of Education and Social Policy. Sherin's research seeks to improve our understanding of how teachers think and learn by examining teacher knowledge across a variety of cognitive tasks. Much of her research examines the nature of teacher noticing, looking specifically at how teachers identify and respond to significant events during instruction. Sherin has been at the forefront of efforts to design and study contexts that make use of video in ways that promote teacher learning.

Rebekka Stahnke is a postdoctoral researcher at the Leibniz Institute for Science and Mathematics Education in Berlin. There she works at the department for Knowledge Transfer, which is home to the German Centre for Mathematics Teacher Education – a network that researches and develops teacher professional development courses. Her main research interests include teacher professional vision, teacher expertise and professional development. She uses eye-tracking, survey and interview data, which she analyses with quantitative and qualitative research methods.

Kathleen Stürmer has held the chair for "Effective Teaching and Learning Arrangements" at the Hector Institute at the University of Tübingen since 2017. Her research interests lie in linking teaching effectiveness research with teacher research and are expressed in a series of externally funded research projects. She is the author of numerous journal articles and book chapters on the conceptualization and measurement of professional vision. She received her doctorate from the TUM School



of Education in 2011. In 2013, she was a visiting scholar at Stanford University of Education.

Elizabeth van Es is a professor in the School of Education at UC, Irvine. She is interested in teacher learning and the design of pre-service teacher education and professional development that supports teachers' developing their noticing practices for ambitious and equitable instructional practice. Much of her work uses video to foster teachers developing a vision of ambitious instructional practice and to learn to notice student thinking. She also investigates teachers' noticing for equity, focusing on how teachers' dispositions and noticing practices support teachers enacting culturally sustaining pedagogy in mathematics.

