The LEAD Graduate School & Research Network at the University of Tübingen invites you to attend the lecture by

Christian Fischer, Ph.D.
University of California, Irvine

Understanding technology-enhanced forms of professional development: Teachers' adoption of a national science curriculum reform in the United States

Tuesday, October 17th, 2017, 10.15–11.45 hrs
IWM, Schleichstr. 6, Room 6.334

Abstract: An important objective for education is the preparation of students for the demands of the 21st century to both enable individuals to succeed and to raise societal standards. Teachers and teacher professional development (PD) are often viewed as critical factors for increased learning and achievement, in particular during times of changing educational landscapes. This talk reports on a large-scale top-down science curriculum reform in the United States, College Board's Advanced Placement program. Nationwide data sets (>200,000 students, >10,000 teachers) are analyzed to identify teachers' adoption of the curriculum reform using a multitude of methodologies including multi-level ordered logistic regression, hierarchical linear modeling, structural equation modeling, meta-analysis, and propensity score matching. Analyses indicate that potential policy malleable factors to increase student learning and achievement include teachers' perceived administrative support, self-efficacy, teaching experience, and elements of classroom instruction. Teachers' PD participation has a small, mixed impact on student achievement. However, participation in an online teacher community was shown to be related to student performance and specific characteristics were identified as beneficial. Follow-up analyses of social media discourses in purposefully selected Twitter communities (>100 users, >2,000 tweets) indicate that collaborative online microblogging communities adhere to design characteristics of high-quality PD and have potential to complement more hierarchically-structured traditional PD activities.

Biography: Christian Fischer, Ph.D., is a Distinguished Postdoctoral Scholar for Teaching and Learning Research at the Teaching and Learning Research Center at the University of California, Irvine working under the mentorship of Mark Warschauer and Adrienne Williams. His research focuses on empirical explorations and evaluations that identify ways to increase student learning and achievement in the sciences. In his research, Dr. Fischer mostly applies methodological traditions such as survey research and measurement, experimental and quasi-experimental designs for generalized causal inference, learning analytics, and educational data mining. Dr. Fischer received his Ph.D. in Learning Technologies at the University of Michigan under the mentorship of Barry Fishman. Previously, he studied Education, Physics, and Mathematics at the Ruhr University Bochum in Germany, the ETH Zurich in Switzerland, and the University of California, Berkeley.

Important Publications:

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