Barbara Schneider is the John A. Hannah Chair University Distinguished Professor in the College of Education and Department of Sociology at Michigan State University. She has used a sociological lens to understand societal conditions and interpersonal interactions that create norms and values that enhance human and social capital for the past thirty years. Her research focuses on how the social contexts of schools and families influence the academic and social well-being of adolescents as they move into adulthood. Barbara is the Principal Investigator on the College Ambition Program—a model that encourages low income and minority adolescents to pursue science, technology, mathematics, and engineering (STEM) majors in college and occupations in these fields. Recently, she was awarded the National Science Foundation’s first-ever Partnerships for International Research and Education (PIRE) award with The University of Helsinki also funded by the Academy of Finland. This project is designed to enhance adolescent engagement in secondary school science classrooms in Michigan and Helsinki.

Dr. Schneider’s focus is to enhance secondary science teachers’ skills in promoting engagement in classroom activities that yield what she calls ‘optimal learning moments.’ Rather than thinking about engagement as a “general trend,” optimal learning moments conceptualize engagement as “a behavioral activity that is temporal in quality. In an optimal learning moment, students are fully engaged in a learning task: they are interested in the task, possess a relevant skill set to engage in the task, and are aroused by an appropriate level of challenge. This definition builds on Csikszentmihalyi’s idea of ‘flow’ and Dweck’s concept of ‘growth mindset’: students lose track of time and experience satisfaction from wrestling with developmentally appropriate challenges.

She hypothesizes that optimal learning moments can motivate students to seek similar experiences in the future and thus can lead to sustained interest in science and positive science outcomes. But carefully regulating learning experiences for this ideal mix of interest, skill, and challenge is not a skill in which many science educators are expert (although it is likely to become key to the successful roll out of the Next Generation of Science Standards). Barbara is collaborating with educators and researchers in Michigan and Finland to design real-time measures of this type of engagement using mobile devices (as compared to traditional, retrospective survey questionnaires asking students to report on more general engagement) and to learn how science educators can better foster optimal learning moments. A key component of this work is exploring the classroom messages and instructional tasks in classrooms that have discouraged women, underrepresented minorities, and individuals with special needs from pursuing careers in STEM fields.

Professor Schneider has published 15 books and over 100 articles and reports on family, social context of schooling, and sociology of knowledge. She received her Ph.D. from Northwestern University. She is the past President of the American Educational Research Association, a fellow of the American Association
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