

## **ECOSPHERE – A NEW PARADIGM FOR COMPLEX PROBLEM SOLVING ASSESSMENT IN THE ADOLESCENCE**

**David Tobinski**

*Institut für Psychologie, Universität Duisburg-Essen*

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The assessment of complex problem solving (CPS) in the adolescence is a challenge for cognitive psychology. Regarding the fact, that previous research are focused on adulthood and hardly used systems with eigendynamics, the paradigm EcoSphere (ESP) has been developed. The ESP technology uses a system of differential equations. The exploration of the system takes place in a vivid simulation and generates a new quality of ecological validity. This fact qualifies the assessment of CPS, to bring up scenarios with a semantic embedment near the curriculum of the participants. The substantial progress in creating curriculum-near scenarios lies in the possibility to analyze an additional and central factor of complex problem solving: the previous knowledge. Regarding the importance of knowledge the ESP technology uses a new highly standardized computer-based test for causal diagrams. The ESP technology brings up four different designs: (1) instruction of a complex system; (2) observing a complex system; (3) exploring a complex system and (4) controlling a complex system. The control performance and the construction of mental models will be tested with different Items with de- and increasing complexity.