

Thursday 30 august, 11h-12h30



## Papers

## Session: Assessment in Health and educational sciences

Chair: *Richard Fuller***Paper** Complex Problem Solving in Educational Contexts – Assessment, Measurement Invariance, and Construct Validity.

11h-12h30: Breakout room 1 Yen

**S. Wüstenberg • S. Greiff • G. Molnár • A. Fischer • J. Funke • B. Csapó**

Complex Problem Solving (CPS) is seen as a cross-curricular competency, which has recently attracted interest in large-scale-assessments. In the PISA 2012 cycle, CPS will be assessed across the world partly using minimally complex computer simulations based on the MicroDYN approach. In this talk, we present empirical results on MicroDYN, a computer-based test containing multiple items aimed to measure two main complex problem solving processes - knowledge acquisition and knowledge application. More specifically, we (a) test a measurement model for MicroDYN composed of the two aforementioned processes, we (b) evaluate whether measurement invariance holds across different grade levels of high school students in order to compare latent means between grade levels and (c) investigate relations between CPS, reasoning, grade point average (GPA), and parental education. Analyses are based on N=855 Hungarian high school students in grades 5 to 11. Using structural equation models, results show that (a) a 2-dimensional model with the facets knowledge acquisition and knowledge application fit the data best. Furthermore, (b) CPS is strongly factorial invariant and thus, mean differences between grades can be interpreted meaningfully. Latent means in both facets increase at higher grades, disregarding a considerable drop in CPS performance in grade 9. Finally, (c) results based on path analyses indicate that knowledge acquisition incrementally predicts variance in parental education and – to a lesser extent – in GPA even beyond reasoning. A proper assessment of CPS in addition to subject related abilities is of high educational relevance. Results of this study provide important implications on how to use CPS in an assessment context.

**Paper** Multiple perspectives on a viva voce as final assessment in veterinary science.

11h-12h30: Breakout room 1 Yen

**Gordon Joughin • Michael McGowan**

The viva has a long history. It has been, and remains a prominent form of assessment in many European countries and is used across a wide range of disciplines in the UK, Australia and elsewhere. The final year veterinary science program at an Australian university utilises a viva as the final piece of assessment in a five-year program. Students are assessed on their ability to competently investigate clinical case scenarios and communicate practical, economically responsible and scientifically valid recommendations on diagnosis, clinical management and control of a disease problem. Multiple perspectives on the viva were sought through the following process: (i) A random sample of students were interviewed immediately following their viva, with questions focussing on their expectations of what would happen, what they believed would be tested, how