APPLYING COMPUTER-BASED ASSESSMENT IN KINDERGARTEN AND AT THE BEGINNING OF SCHOOLING: AN INTERNATIONAL OVERVIEW

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Mastery of basic literacy, reasoning and numeracy skills is the main goal of the first school years (Csapó et al., 2014). Several instruments have been developed to monitor early development (Snow & Van Hemmel, 2008), but the majority of them are usually individually administered; only a few of them can be used in regular educational practice. One of the limits is that early tests must take into account that the children assessed may not be able to read. This symposium explores the potential of using online tests in kindergarten and by pupils at the beginning of schooling in international context. The sample of the studies included in the symposium focuses on 6- to 9-year-old children attending kindergarten or elementary school in Finland, Germany, Palestine and Hungary (N=970). The instrument of the studies is based on tests measuring skills essential for later learning: inductive reasoning (IR) and numeracy skills. The first paper presents the validation of a digital version of a paper and pencil screening device for at-risk learners in math at the transition from kindergarten to primary school in Germany. The second paper analyses the development of IR and early numeracy in kindergarten and examines the relationship between the two constructs in different age cohorts in Hungary. The third paper incorporates two strands of educational research and theory: IR and Carroll's learning model regarding the role of time in students' learning by presenting results regarding the role of time on task in a test on IR in a follow-up study from Finland. The fourth presentation tests the applicability of computer-based testing in Palestine by assessing pupils' inductive reasoning skills and their development at the early years of schooling. All tests were administered online, using tablets or desktop computers and in three out of the four studies, via the eDia system. As ecological validity is a main concern of all of the four researches, all data collection occurred in real kindergarten or school settings. Descriptive statistics, ANOVA, IRT and SEM analyses were used in the analyses. Results indicated that traditional paper-and-pencil assessments can be replaced by computer-based assessments. Both inductive reasoning and early numeracy can be assessed in a valid and reliable way from the age of 6 to 9 independent of the cultural context.