

**Theoretical and practical issues of assessment in education (chair: Tibor Víg)**

**T-5**

**ARE THERE NEW DEVELOPMENTS IN THE ASSESSMENT OF  
METACOGNITION? AN ANALYSIS OF THE VALIDITY ISSUES OF  
METACOGNITION MEASURES USED IN THE 10S AND 20S**

**Csaba Csíkos**

*Institute of Education, University of Szeged*

*Keywords:* metacognition; meta-analysis

This presentation focuses on the validity issues of different measures of metacognition. The most important message is that since metacognition itself is not a monolithic construct, there is no single, comprehensive measure readily available for research or especially for educational use. From the 70s, the concept of metacognition widely enriched the fields of psychology and education. In the initial theoretical models (Flavell, Nelson, Brown, Kluwe etc.) at least two facets of metacognition have been distinguished: knowledge about knowledge, and procedures to manage cognition. Nelson's (1996) seminal theoretical model depicting two levels of cognition including an object-level and a meta-level with information flow between them (monitoring and control) still could not clarify how to measure metacognition. A more recent three-dimensional model proposed by Fleming et al. (2012) shed further light on the multi-faceted nature of metacognition. A developmental model of metacognition (Csíkos, 2022) suggested that even if we could measure metacognition accurately and validly, the way of using those measures and the interpretation of test scores continue to be research challenges, and the role of individual differences and different developmental pathways should be taken into account. Since the 80s, several different questionnaires have been developed and used in measuring some aspects of metacognition, e.g., EBI (Epistemological Beliefs Inventory). Meanwhile, feeling the impossibility of validly measuring metacognition with any one-dimensional instrument only, a diverse range of alternative measures were used such as Schoenfeld's (1987) analysis of video recordings on math problem-solving, or Whitebread et al.'s (2009) observation checklists to assess kindergarten children's metacognitive processes. In his plenary talk at the EARLI 2013 conference, Veenman strongly opposed the overwhelming usage of questionnaires. Since then, questionnaires have still been widely accepted and used as measures of metacognition. Nevertheless, in the past decade, an increasing number of meta-analyses have been published in the field of metacognition. This presentation aims to provide a kind of meta-meta-analysis, i.e., building on the current meta-analyses about metacognition, we focus on the measures that were used. The gist of our statement is that meta-analyses of metacognition can be grouped into two distinct clusters: (1) meta-analyses on the use of an actual questionnaire, and (2) meta-analyses involving multiple measures of metacognition. In line with what Csíkos (2022) suggested, an important distinction between the actual or real-time application or usage of metacognition and the static, long-term available components (and there is, of course, an overlap between the two) should be emphasized when making a decision on which measure of metacognition should be used in an investigation.

*This work was supported by the Research Programme for Public Education Development of the Hungarian Academy of Sciences.*