Enhancing Executive Function and Achievement in Prekindergarten Classrooms: The Effectiveness of Tools of the Mind
SYMPOSIUM OVERVIEW

The concept of Executive Function (EF) applied to classroom settings has been around for many years but under different names: self regulation (Bedrova & Leong, 2005); learning dispositions (Katz, 1995); work-related skills (Cooper & Farran, 1988); approaches to learning (NCES, 2010). Shared among them are three essential elements of EF (Hughes, 2011): inhibitory control, working memory, and attentional flexibility. Strong relationships between EF and tested content knowledge and school grades have been found in both early and late elementary grades, especially for mathematics (e.g., Best, Miller, & Naglieri, 2011; Lan, Legare, Ponitz, Li, & Morrison, 2011; Monette, Bigras, & Guay, 2011).

These findings have led several researchers to urge attention to the development of EF in early childhood classrooms. Three articles in 2011 alone have called for research into curricula that might facilitate the development of this important set of skills (Best et al., 2011; Diamond & Lee, 2011; Hughes, 2011). The one curriculum mentioned by all has been Tools of the Mind, an approach developed by Bedrova and Leong (2007). Tools of the Mind is a comprehensive, full-day early childhood curriculum with from 40-65 Vygotskian-based activities but whose central activity is socio dramatic play. Tools is focused on helping children develop learning dispositions (self-regulation) while they are also learning academic skills.

Despite the appeal of Tools of the Mind and its wide publicity in the public media, in 2008 What Works Clearinghouse found no evidence that it was effective. A primary problem was that there was only one relatively small study that met criteria (Barnett et al., 2008). Since that review, IES and NICHD have funded several longitudinal, large scale randomized trials of the curriculum. This symposium will present findings from several of them.

First is a cluster randomized field-based trial presenting data collected in the second year of implementation in 60 prekindergarten classrooms in Tennessee and North Carolina. More than 800 children were assessed for achievement in language, literacy, and early mathematics, a variety of EF measures, and teacher ratings of EF and social skills. Data will be presented on the relative effectiveness of the 32 Tools classrooms compared to 28 classrooms following a variety of other curricula. The second paper presents data from a cluster-randomized design involving 117 prekindergarten and Head Start classrooms with over 2000 children in New Mexico and Massachusetts. Child outcomes in literacy, language and EF were collected comparing a literacy curriculum, Tools, a combination of the two, and a business as usual control group of classrooms. The third paper will present data from a cluster randomized control trial comparing a mathematics curriculum alone, mathematics combined with the Tools approach to play, and a business as usual control group. Measures of EF were collected on 826 children in 84 classrooms in California. The final paper is from a project in its first year of implementation, focused on the adaptation of Tools specifically for ELL children. This project involves 60 classrooms in New York and Florida. Greg Duncan will serve as a discussant, pulling together these four large studies.
References


