**Paper 1: Effects through kindergarten of a prekindergarten curricular attempt to improve self-regulation and achievement**

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Successful transition into formal schooling, and subsequent academic success, requires a variety of competencies, including early literacy and numeracy skills that provide the foundation for reading and mathematics. Another critical competency is the ability to engage in and benefit from the kinds of learning tasks and activities intrinsic to school-based instruction, including attending to speech that conveys information, completing exercises that require planning, problem solving, and remembering and following rules and instructions (Cooper & Farran, 1988; McClelland & Morrison, 2003). Diamond and Lee (2011) proposed that full day curricula were needed to effect changes in both achievement and self-regulation and recommended *Tools of the Mind* as one possibility.

The aim of the *Tools of the Mind* pre-k curriculum is to enhance children’s self-regulation skills within an instructional context that promotes the basic academic skills that prepare them for kindergarten and beyond (Bodrova & Leong, 2007). To investigate the effectiveness of *Tools* in achieving this aim, we are conducting a longitudinal randomized experiment addressing the following questions:

1. Do children in *Tools* classrooms improve more in literacy, math and language during the preschool year than children in “business as usual” control classrooms? Are those gains sustained through kindergarten and first grade?
2. Do children in *Tools* classrooms show greater gains in self-regulation than children in the control classrooms? Do those gains mediate the curriculum effects on literacy and math outcomes?
3. Are there differential effects of *Tools* associated with characteristics of the children?

The study involves 60 prekindergarten classrooms in 5 school systems across 2 states (an additional 20 were added in 2011-12 but are not included here). Teachers were randomly assigned either to receive training in *Tools* or to serve as a comparison. Training began in 2009 with full implementation and data collection in AY 2010-11; 810 children have complete pre and post data. Children received individual assessments of their achievement in literacy, language and early math skills; self-regulation was assessed through a series of individual direct assessments. Teachers rated the children’s social and classroom behavior competencies.

The effectiveness of the *Tools* curriculum was tested using multi-level regression models with students nested within classrooms, schools, and district blocks. The models for each outcome included pretest scores, age, interval between assessments, gender, ELL status, and ethnicity as covariates. Results show that there were no significant treatment effects on any of the outcome variables at the end of pre-k (Table 1). Students in *Tools* classrooms performed about equally well on all outcome variables after receiving a year of the curriculum as students who received the usual preschool curriculum. Similarly there were no differences between the two sets of classrooms in teacher ratings of social and behavioral competence. In addition, the *Tools* curriculum did not result in significantly better outcomes for any student subgroups when compared to the control condition. Significant effects favoring the control children were found at follow up on three of the achievement measures. Discussion will focus on what these results may mean for the curriculum approach to improving self-regulation.