

# Effects of Prekindergarten Curricula: *Tools of the Mind* as a Case Study

Kimberly T. Nesbitt & Dale C. Farran



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# **Effects of Prekindergarten Curricula: *Tools of the Mind* as a Case Study**

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# Effects of Prekindergarten Curricula: *Tools of the Mind* as a Case Study

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**Effects of Prekindergarten Curricula: *Tools of the Mind* as a Case Study**  
**Kimberly T. Nesbitt<sup>1</sup> and Dale C. Farran<sup>2</sup>**

**Abstract** Research demonstrates that children’s participation in quality early childhood care and education often has immediate positive effects on their social-emotional, self-regulation, and achievement outcomes. Most of the research on the impacts of early child care and education has focused narrowly on the United States, but advocacy for economic and social investment in early childhood care and education to support future children’s growth and well-being now exists on an international scale.

The longer-term outcomes from prekindergarten programs have not been as strong. To improve children’s long-term outcomes, one suggested strategy is an intentional, scripted curriculum. Our goal in this monograph is to provide a fully integrated and comprehensive account of a large-scale, longitudinal, field-based randomized control trial of the *Tools of the Mind* (Internal consistency of the *Tools*) prekindergarten curriculum that occurred in the United States. Our intent is twofold. First, we examine the impact of the *Tools* curriculum itself, addressing both the potential impacts of the curriculum to improve prekindergarten quality and children’s academic, executive function, self-regulation, and social outcomes. Second, we consider the broader question of whether the use of intentional, scripted curricula during early education can, more generally, enhance both short- and long-term outcomes in children.

Developed from a Vygotskian framework, *Tools* focuses on equipping children with cognitive tools for learning that they can then apply to the task of acquiring and sustaining academic knowledge as well as behavioral competencies. Thus, *Tools* is an integrated, comprehensive curriculum, not a

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supplementary one. The *Tools* approach follows from a socio-cultural perspective on child development that emphasizes children's acquisition of skills and cultural tools in collaboration with knowledgeable others.

The methodology of the 4-year longitudinal cluster randomized control trial is described in detail. We provide comprehensive information about recruitment, randomization of treatment condition, child assessment instrumentation and procedures, as well as observational assessments, including fidelity of implementation and teacher and child classroom behaviors.

We provide results comparing 32 classrooms assigned to the *Tools* condition and 28 assigned to the business-as-usual control condition for children's academic, executive function, self-regulation, and social gains from prekindergarten to the end of first grade. Developers of the curriculum specifically expected to see benefits on these measures. There were no positive effects for *Tools* on any of the outcomes.

The lack of expected curriculum effects required careful consideration and raised more general questions about how curriculum experiences manifest themselves in assessed skills. As a first step to understanding the findings, we focused on teachers who were implementing *Tools* and examined the degree to which the curriculum was delivered as intended and the relations between fidelity of implementation and children's outcomes in prekindergarten. Results indicated a wide variation in observed fidelity of implementation but no consistent associations between fidelity of implementation and any child outcomes.

In terms of more general practices and interactions associated with positive student outcomes, developers of the curriculum hypothesized that implementing *Tools* would enhance classroom practices and teacher-child interactions. Among the aspects they expected to be affected were the amount of non-instructional behaviors, teacher-led and child-directed activities, teacher and child talk, social learning interactions, classroom emotional climate, quality of teacher instruction, and children's level of involvement. Teachers varied as much within treatment and control classrooms as they did between conditions on most of the aspects examined. We found no differences between experimental conditions on most practices and interactions.

Curricula vary in scope and content, but they are universally intended to change classroom processes in ways that in turn will facilitate the development of targeted skills. For this mediational hypothesis to hold, the targeted classroom processes must be associated with child outcomes. We examined the associations between the classroom processes and children's prekindergarten and kindergarten gains and found support for their importance in early childhood classrooms. These findings demonstrate the value of identifying strategies to enhance these classroom practices and interactions.

We situate the findings of our study within the larger context of early childhood education expansion policies and practices, and we offer a set of lessons learned. The study we report is a single evaluation of a single curriculum, yet we hold that the lessons learned are general and shed light on understanding why evaluations of curriculum have yielded such mixed results.



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## **Effects of Prekindergarten Curricula: *Tools of the Mind* as a Case Study**

Quality early childhood education requires evidence for strategies that lead to positive outcomes. Some educators have recently argued for the value of providing intentional, scripted prekindergarten curricula. In this *Monograph*, Nesbitt and Farran describe their longitudinal, field-based randomized control trial of one such curriculum—*Tools of the Mind* (*Tools*). Comparisons of children from 32 *Tools* and 28 business-as-usual (control) classrooms showed no greater gains for *Tools* than control children on measures of academics, executive-function, or self-regulation. Fidelity of curriculum implementation likewise showed no consistent association with child outcomes. The authors also examined general classroom practices and processes that *Tools*' personnel (e.g., developers, teacher coaches) expected to be affected by the curriculum, but these, too, showed little impact of instructional condition. The authors close the monograph by offering four *Lessons Learned* to guide future curriculum development, evaluation, and implementation.