

## Abstract Title Page

**Title:** Tools of the Mind: Promoting the School Readiness of ELLs

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## Abstract Body

### Background / Context:

The number of Latino children entering the educational system in the US is increasing at a rate greater than that of non-Hispanic White or African American children (Collins & Ribeiro, 2004). Unfortunately, Latino children are at-risk for poor educational outcomes (August & Hakuta, 1997). Statistics show that Latino children score below non-Hispanic Whites in reading and math in Grades 4, 8, and 12 (NCES, 2007) and are more likely to drop out of high school than non-Hispanic Whites (Federal Interagency Forum on Child and Family Statistics, 2007). Economic disadvantage is one factor that places Latino children at risk (August & Hakuta, 1997; Snow, Burns & Griffin, 1998). Twenty-two percent of Latino families live in poverty (DeNavas-Walt, Proctor & Lee, 2005) and 75% of Latino children possess at least one socio-demographic risk factor when entering kindergarten (NCES, 2007). Having a home language other than English is a second major risk factor (Snow et al., 1998). According to the US Department of Education, 27 percent of children from non-English speaking homes have difficulty speaking English, with the vast majority coming from Spanish-speaking homes (NCES, 2007). Because Latino children begin kindergarten with reading and math abilities that lag behind their non-Hispanic White peers, efforts to address the school readiness of Latino, English Language Learners (ELLs) are greatly needed.

Currently, there is a paucity of preschool interventions that have been shown to support the early developmental outcomes of children learning two languages. This research is designed to meet this need through a longitudinal, randomized controlled trial of *Tools of the Mind* (Tools, Bodrova & Leong, 2007), that explicitly focuses on the development of ELL children's oral language, and self-regulation in order to promote school readiness and build foundational skills in literacy, mathematics, and social-emotional competencies.

### Purpose / Objective / Research Question / Focus of Study:

The purpose of this research is to examine the efficacy of Tools of the Mind. Specifically, the aims of the research are to:

- 1) Evaluate the short- and long-term outcomes of *Tools of the Mind*, designed to promote school readiness for Latino preschoolers who are English Language Learners and at risk for later school difficulties.
- 2) Examine the impact of *Tools of the Mind* on teachers' usage of key teaching strategies' for promoting ELLs' school readiness outcomes.
- 3) Test a meditational model that investigates the impact of teachers' usage of the key teaching strategies specified in Aim 2 on children's school readiness outcomes.

This presentation will share information about the design of the study and initial data on children's teachers, as child data collection is currently underway.

**Setting:**

Sixty preschool classrooms in large urban areas in New York and in Florida are participating in the project. The classrooms are part of Head Start and school district programs that serve children from low-SES families. Participating classrooms include between 20% and 80% ELLs.

**Population / Participants / Subjects:**

**Teachers & Assistants:** Sixty preschool teachers and their assistants are participating in the project. Sixteen percent of the teachers have an associate's degree, 42% have a bachelor's degree and 31% have a master's degree, with the remaining 11% having a CDA or high school degree. Thirty-eight percent are Latino/a, 19% are African American and 43% are White. Thirty-five percent of the teachers speak Spanish.

With regard to the classroom assistants, 69% have a high school degree, 14% have an associate's degree, and 16% have a bachelor's degree. Over half are Latino/a, with 31% being African American and 18% being White. Over half (53%) of the assistants speak Spanish.

**Children:** Currently, 7 Latino children from each classroom are being enrolled in the study for a total of 420 children who are Spanish-English ELLs. To participate, the children must be typically developing, have no parent/teacher concerns about their development, and come from homes in which Spanish is the predominant language.

**Intervention / Program / Practice:**

*Tools of the Mind* is grounded in a Vygotskian theory of development through which teachers scaffold children's learning, primarily by fostering children's self-regulation and language development. Within the program, language is seen as the primary mental tool through which children interact with the world. As such, language development is an aspect of development that when appropriately scaffolded, provides the foundation for the development of higher order thinking skills that underlie self-regulated behavior, social-emotional competence and ultimately school readiness (Bodrova & Leong, 2007).

This project is in its second year. During the first year, teachers and their assistants were trained to implement Tools of the Mind. Specifically, they received 4 days of inservice training (2 days prior to the start of school, 1 day in Oct, 1 day in January and 1 day in March). Throughout the year, teachers received coaching two times a month. During the training and coaching sessions, teachers received information about how to support ELLs' language and literacy development in both English and Spanish as they implemented Tools of the Mind.

In the second year (which is the current year), teachers and their classrooms assistants will receive another 4 days of training on implementing Tools of the Mind. The training builds on the training that they received in their first year. Teachers will also continue to receive coaching

## **Research Design:**

Participating classrooms were randomly assigned to either the control or intervention conditions, taking into account characteristics of the classrooms, teachers, and children. Characteristics of interest included: class size, percentage of ELL children, language(s) spoken by the teachers, teacher race, teacher education, years of experience, and CLASS scores.

## **Data Collection and Analysis:**

In the first year of the study, when the intervention teachers were learning to implement Tools of the Mind and no child data were collected, classroom observations were conducted in the fall using the Language Interaction Snapshot (LISn; Mathematica, 2007) and the ELLCO-Extension (Castro, 2008). The LISn captures the language(s) spoken between children, teachers, and classroom assistants, as well as the language quality and amount of talk that occurred in the classroom. The ELLCO-extension is used to rate the quality with which teachers use strategies that are supportive of ELLs' language and literacy development (e.g., using children's knowledge of their first language to support the acquisition of the second language). Also, the teachers and assistants completed a questionnaire that captured their beliefs about ELLs' language and literacy development and reported instructional practices when working with ELLs. In addition, fidelity of implementation was measured in the spring using a measure created by Farran, Bodrova and Leong.

In the second year of the study, classroom observations will be conducted in the fall and spring using the CLASS, LISn and ELLCO Extension. Also, the teachers will complete the questionnaire about their beliefs and practices related to ELLs. Fidelity of implementation will be formally assessed by independent raters in the fall and spring. In addition, children's language, self-regulation, literacy, math, and social emotional development will be assessed through direct child assessments and teacher questionnaires. Children's language, self-regulation literacy and math abilities will be assessed in both Spanish and English. The assessments will occur in the fall and spring of the children's preschool year with a shorter mid-year assessment of children's language abilities being conducted. See the appendix for a list of the assessments given. Follow up testing will occur at the end of kindergarten and first grade.

## **Findings / Results / Conclusions:**

Analysis of the initial data is underway. In this presentation, we will present the theoretical foundation of the project, the research design, and initial classroom data. Specifically, we will present data from the CLASS, LISn, ELLCO-Extension and the teacher questionnaire for the intervention and control classrooms. Challenges for conducting research in classrooms that serve ELLs will be discussed. Also, next steps in the study will be presented.

## Appendices

### Appendix A. References

- August, D., & Hakuta, K. (Eds.). (1997). *Improving schooling for language-minority children: A research agenda*. National Research Council and Institute of Medicine. Washington, DC: National Academy Press.
- Bodrova, E., & Leong, D. J. (2007c). *Tools of the mind: The Vygotskian approach to early childhood education* (2nd ed.). New York: Merrill/Prentice Hall.
- Collins, R., & Ribeiro, R. (2004). Toward an early care and education agenda for Hispanic children. *Early Childhood Research and Practice*, 6..
- DeNavas-Walt, C., Proctor, D., & Lee, C. (2005). Income, poverty, and health insurance coverage in the United States: 2004. Washington, DC: U.S. Government Printing Office.
- Federal Interagency Forum on Child and Family Statistics (2007). *America's children: Key national indicators of well-being*. Washington, DC: U.S. Government Printing Office.
- NCES (2007). *The condition of education*. Washington, DC: US Government Printing Office.
- Snow, C. E., Burns, M.S., Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.

## Appendix B. Preschool Assessment Battery

Developmental Area/Assessment	Language		PreK		
	English	Spanish			
<b>Oral Language</b>			Fall	Mid	Spr
Expressive vocabulary Expressive vocabulary of the CELF Preschool 2	X	X	X	X	X
Conceptual vocabulary Expressive One Word Picture Vocabulary Test	Bilingual		X	X	X
Receptive language Sentence Structure of CELF Preschool 2	X	X	X	X	X
Narrative/Expressive Language Abilities Story Retell – Narrative Language Samples	X	X	X		X
Phonological Awareness CELF Preschool 2 Phonological awareness subtest (raw scores only) Use CTOPP in K & 1st	X	X	X		X
<b>Self-regulation</b>					
Executive function Fish Flanker, Dimensional Change Card Sort Working Memory	X	X	X		X
Effortful control Children’s Behavior Questionnaire		X	X		X
Emotion regulation Emotion Regulation Checklist		X	X		X
<b>Reading</b>					
Letter-Word Knowledge WJ/Batería III Letter-Word ID	X	X	X		X
<b>Math</b>					
WJ/Batería III Applied Problems	X	X	X		X
<b>Social-Emotional</b>					
Teacher Observation of Classroom Adaptation		X	X		X
Social Competence Scale		X	X		X
Preschool Learning Behaviors Scale		X	X		X
Penn interactive Peer Play Scale		X	X		X