

## Frank Porter Graham Child Development Institute Researchers Find that Two Years of High-Quality Teacher–Child Interactions Predict Children’s Learning Outcomes

Children who experience higher-quality classroom environments during pre-K and kindergarten have better language, literacy and math skills at the end of kindergarten. These findings from a study led by doctoral student Robert Carr, along with researchers at the FPG Child Development Institute, were recently published in the journal *Early Childhood Research Quarterly*.

Carr’s study used the Classroom Assessment Scoring System, an observational measure of classroom-wide teacher–child interactions that focuses on three domains of classroom quality; instructional support, emotional support and classroom organization. The CLASS dimensions were measured on a 1 to 7 scale, with scores from 1 to 2 representing low- quality, 3 to 5 representing mid-quality, and 6 to 7 representing high-quality.



Robert Carr, M.A.

The study found that higher-quality classroom environments in pre-K and kindergarten were both independently associated with children’s language and literacy skills. In contrast, for children’s math skills, higher-quality in pre-K was only associated with math skills at the end of kindergarten for children who went on to experience high-quality kindergarten classroom environments, not average- or low-quality kindergarten classroom environments. Carr describes the effects of classroom quality as additive in relation to language and literacy skills, and multiplicative in relation to math skills. These findings have implications for the design of policies and practices related to the alignment of classroom instruction across pre-K through third grade (referred to as PK-3).

To date, most PK-3 instructional alignment initiatives have focused on the use of curricula, instructional practices, learning standards and assessments. Carr’s study suggests the PK-3 initiatives should also include professional development strategies to promote high-quality teacher–child interactions in these domains. Carr says that “any benefits that could result from the alignment of curricula, instruction, learning standards or assessments across grades may be enhanced in classrooms characterized by high-quality teacher–child interactions.”

In response to this study, renowned early childhood expert, Richard Clifford, Ph.D., says that “Robert Carr and colleagues offer new insights concerning how the quality of early childhood learning environments impact child outcomes. Although we still have much left to learn in order to guide educational practice and policymaking in this area, this work provides a new piece of the puzzle.” Dr. Clifford and other researchers at FPG have developed the FirstSchool initiative (<https://firstschool.fpg.unc.edu>), which is an instructional alignment initiative designed to improve PK-3 experiences for African American, Latino and low-income children

and their families. Dr. Clifford added that “the field of early childhood education needs a new generation of researchers to help us unravel the complex interrelationships among the multitude of variables affecting children’s learning outcomes. Robert Carr’s recent analyses are an excellent example of what the next generation can offer.”