

Learning How Much Quality is Necessary to Get to Good Results for Children

How Much Quality is Needed to Achieve School Readiness Outcomes for Children?

How good does an early childhood program have to be in order to achieve school readiness outcomes for children? This is known as the “threshold question,” and policy makers and others have wanted an answer to this question since the onset of public investments in early care and education (ECE) programs. With expansion of Head Start and pre-kindergarten programs for three- and four-year-old children, this question is getting even more attention.

Policy and other decision makers want this information so they can craft policies and direct resources to those factors that make the most difference to children’s school readiness. While we know that higher quality ECE programs and better results for children tend to go hand-in-hand, we don’t know the level of quality or quality indicators that are necessary for achieving learning outcomes that help children be successful in kindergarten and beyond.

In an attempt to fill this knowledge gap---to try and identify the minimum level of program quality required to attain positive results for children---this study examined academic and social outcomes for children from low income families. For the purposes of this study, low-income was defined by household income of less than 150% of the federal poverty level. The study focused on these children because, as a group, they are the target of most policy decisions related to program quality and access by families.

The study used data on teacher-child interactions and instructional quality from an 11-state pre-kindergarten (pre-k) evaluation. The findings show that achieving positive child outcomes require higher-quality, publicly-funded pre-k programs than typically are available.

A Description of the Study

Study Participants. Participants were 1,129 children enrolled in 671 pre-k classrooms in 11 states involved in two previous studies: the National Center for Early Development and Learning’s (NCEDL) Multi-State Study of Pre-Kindergarten and the NCEDL and National Institute for Early Education Research (NIEER) State-Wide Early Education Programs Study.

The pre-k classrooms were located in public schools, Head Start settings, and community-based programs. Demographic data, such as pre-test scores, children’s gender, race, and mother’s education, were collected. Having this information allowed researchers to compare findings across the classrooms in the 11 states.

Measures of Classroom Quality and Child Outcomes. To determine the level of quality in each of the classrooms studied, teachers’ interactions with children were assessed using the Classroom Assessment Scoring System (CLASS). This assessment tool is based on a seven-point scale that measures teacher-child interactions in two areas: (1) instructional support and (2) emotional support. A growing body of research demonstrates the relationship between higher scores on these two domains and positive effects on children’s academic and social outcomes.

These outcomes were assessed through tests of children’s academic and language skills at the beginning and end of the pre-kindergarten year. The battery of tests for this purpose measured children’s receptive language, expressive language, rhyming, applied problem solving, and letter naming, all of which are linked with children’s academic success. Teachers also completed a behavioral rating scale to measure children’s social competence and identify problem behaviors.

What the Study Found

The study focused on ten child academic and social outcomes related to children's school readiness. To find out whether a specific level of classroom quality had to be in place to achieve these academic and social outcomes, the study identified each classroom's level of quality in terms of whether the quality was low, moderate, or high. Then, based on differences between children's fall and spring test scores, researchers looked at the relationship between the classroom's level of quality and the strength of the ten academic and social outcomes.

Here are the findings:

- When teachers were more responsive and sensitive and were rated as providing high-quality emotional support, children showed better social adjustment and fewer behavior problems.
- In classrooms where teachers were rated as showing lower levels of emotional and instructional support, children experienced no benefits from the interactions with their teachers.
- Children showed more advanced academic and language skills when their pre-k teachers provided instruction rated in the moderate to high-quality range.

Thus, moderate to high-level classroom quality seems necessary for improving low-income children's social skills, reducing behavior problems, and promoting reading, math, and language skills. This means goals for pre-k may be achievable only if programs ensure high-quality teacher-child interactions and mid-to-high-quality instruction.

A threshold for classroom quality does, in fact, seem to exist. You can think of the continuum from moderate to high-quality as the "threshold range."

What the findings mean for early childhood programs

You might expect that children would simply get fewer benefits from low quality programs. But this study shows that programs need to function at least at the mid-level of quality and often times higher to get to good results for children. Lower levels of quality do not help children develop socially or academically.

Linking Research to Practice

So, what does this mean for program administrators and teachers? These findings confirm that the level of classroom quality matters. But there's more: the findings indicate that when the level of classroom quality goes below a certain level, children do not appear to gain school readiness benefits from their participation in the program.

Children are more likely to develop good social and academic outcomes when the quality level of their classrooms is in the threshold range: i.e., from the moderate- to high-range of classroom quality. Unless state-funded pre-k classrooms function within the threshold range, participating children will not be well served.

Results of this work suggest the following implications and recommendations:

- The finding that there are not associations between quality and child outcomes in low quality programs provides further evidence that state or federal funding or vouchers for lower quality programs should be ended if the goal is to enhance children's cognitive and social development.
- Furthermore, the presence of threshold effects suggests that quality enhancement programs should focus on improving lower quality programs only if those enhancement programs (e.g. professional development) have demonstrated impacts that improve quality to the active range of effects on child outcomes.
- And these results suggest that making small improvements in quality may have positive effects on child outcomes if they move low-quality programs into the moderate-to-high quality range.
- Given the very high numbers of programs in which quality is below the threshold for impacts on child outcomes, it is imperative to attend to all three of these recommendations in any comprehensive quality improvement strategy.

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Burchinal, M., Vandergrift, N., Pianta, R., & Mashburn, A. (in press). Threshold Analysis of Association between Child Care Quality and Child Outcomes for Low Income Children in Pre-kindergarten Programs. *Early Childhood Research Quarterly*.