



Quality and Characteristics of the North Carolina Pre-Kindergarten Program

2011-2012 Statewide Evaluation

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The executive summary and full report of this study are available at <http://www.fpg.unc.edu/projects/evaluation-nc-pre-kindergarten-program>.

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Executive Summary

Study Overview

The North Carolina Pre-Kindergarten Program (NC Pre-K) is a state-funded initiative for at-risk 4-year-olds, designed to provide a high quality, classroom-based educational program during the year prior to kindergarten entry. Children are eligible for NC Pre-K based on age, family income (at or below 75% of state median income), and other risk factors (limited English proficiency, identified disability, chronic health condition, and developmental/educational need). The statewide pre-k program was initiated in the 2001-2002 school year as the More at Four Pre-Kindergarten Program, and became the NC Pre-Kindergarten Program in 2011-2012, shifting from the Department of Public Instruction (DPI) to the Division of Child Development and Early Education (DCDEE) in the North Carolina Department of Health and Human Services (DHHS). In the 2011-2012 year, the NC Pre-K Program served over 29,000 children in a variety of settings across the state, including local school systems, private providers, and blended Head Start/pre-k classrooms.

The 2011-2012 evaluation study included information about characteristics of the NC Pre-K Program statewide and observations of classroom quality and teacher surveys in a random sample of 100 classrooms. The primary research questions addressed by this evaluation included:

- What were the key characteristics of the local NC Pre-K programs?
- What was the quality of the NC Pre-K classrooms attended by children?
- What factors were associated with better quality?
- To what extent were these results similar to past years under the More at Four Program?

Key Findings

Program Characteristics

The NC Pre-K Program has not changed substantially in comparison to prior years of its predecessor program More at Four. Similarities were found across most characteristics that were examined, including class size, curriculum, the variety of setting types, and the population of children (half boys and girls, variety of racial and ethnic backgrounds, 90% from poor families, and demonstrate a variety of other risk factors).

There were a few aspects in which the NC Pre-K Program differed in comparison to prior years of the More at Four Program. The NC Pre-K Program was slightly smaller than in recent years of the statewide pre-k program, serving just under 30,000 children. The children in NC Pre-K included a somewhat higher proportion of those who had never previously been served in a program, as well as all those who were unserved at the time of enrollment, compared to prior

years. Further, the NC Pre-K Program continued to maintain the trend for improving the qualifications of teachers, both in terms of teacher education levels and B-K licensure.

Teacher Beliefs

NC Pre-K teachers generally reported being satisfied with their work environment. They rated a variety of aspects of the work climate fairly positively, including the adequacy of resources; the overall work environment; and their decision-making role, especially for areas more closely tied to daily teaching.

NC Pre-K teachers reported that they planned to remain in the early childhood field. These teachers were experienced, having taught in early childhood education for an average of 11 years. The majority (71%) of teachers surveyed reported that they planned to continue working in an early childhood setting for the next three years.

Classroom Quality

The quality of classroom practices in NC Pre-K was in the medium to high range overall. A variety of aspects of classroom practices was examined, including global quality, teacher-child instructional interactions, language and literacy environment, and sensitivity of teacher-child interactions. Quality was relatively stronger in more global educational environment and teacher-child interactions than in more specific instructional practices. Further, there were no consistent patterns of predictors of quality, including teacher qualifications, class size, and classroom characteristics of children, although there was some evidence that teacher beliefs were associated with quality.

The quality of the NC Pre-K classrooms was similar in almost all areas when compared to recent years of More at Four. Scores did not differ between NC Pre-K and previous More at Four classes for measures of global classroom quality (ECERS-R), emotional support and classroom organization (CLASS), and sensitivity of teacher-child interactions (CIS). The one exception was in the area of instructional support (CLASS), where NC Pre-K classrooms scored lower than the More at Four classrooms. However, for both the NC Pre-K and More at Four classrooms, scores for this aspect of quality were substantially lower than for other aspects.

Conclusions

In sum, the primary characteristics of the NC Pre-K Program have remained quite similar to those of recent years of the More at Four Program, its predecessor. One important area to note in which the NC Pre-K Program has continued or maintained a trend toward improvement is in the area of teacher qualifications, both education and licensure levels. Two areas recommended to explore with regard to quality improvement include efforts focused on instructional practices and on beliefs about teaching practices. The quality of the NC Pre-K Program also was quite similar to recent years of the More at Four Program, indicating that there was little change at the level of classroom practices with the shift in program auspice. Taken in total, these results suggest that the NC Pre-K Program continues to offer a strong pre-k experience for at-risk 4-year-olds throughout the state.

Overview of the North Carolina Pre-Kindergarten Program

The North Carolina Pre-Kindergarten Program (NC Pre-K) is a state-funded initiative for at-risk 4-year-olds, designed to help them be more successful when they enter elementary school. The NC Pre-K Program is based on the premise that all children can learn if given the opportunity, but at-risk children have not been given the same level of opportunity. The purpose of NC Pre-K is to provide a high quality, classroom-based educational program for at-risk children during the year prior to kindergarten entry. Children are eligible for the NC Pre-K Program based on age, family income (at or below 75% of state median income), and other risk factors (limited English proficiency, identified disability, chronic health condition, and developmental/educational need), as well as having a parent actively serving in the military. Over the years, 90% of the children served in the program have qualified for free or reduced-price lunch. NC Pre-K provides funding for serving eligible children in classroom-based educational programs at a variety of sites, including public schools, Head Start, and community child care centers (both for-profit and nonprofit).

The North Carolina Pre-Kindergarten Program was initiated in the 2001-2002 school year as the More at Four Pre-Kindergarten Program, becoming statewide in the 2003-2004 school year. In 2011, the North Carolina General Assembly transferred the More at Four Program from the Department of Public Instruction (DPI) to the Division of Child Development and Early Education (DCDEE) in the North Carolina Department of Health and Human Services (DHHS) and renamed it the North Carolina Pre-Kindergarten Program (NC Pre-K). Since its inception, the statewide pre-k program has served over 223,000 children. In the 2011–2012 year, the NC Pre-K Program served over 29,000 children in a variety of settings across the state, including local school systems, private providers, and blended Head Start/pre-k classrooms.

The NC Pre-K Program operates on a school day and school calendar basis for 6 to 6-1/2 hours/day and 180 days/year. Local sites are expected to meet a variety of program guidelines and standards around curriculum, training and education levels for teachers and administrators, class size and student-teacher ratios, North Carolina child care licensing levels, and provision of other program services.¹ Class sizes are restricted to 18 children with a lead and assistant teacher, with adult:child ratios of 1:9. Lead teachers are required to hold or be working toward a NC Birth through Kindergarten (B-K) license or the equivalent and assistant teachers are required to hold or be working toward an Associate Degree in early childhood education or child development or a Child Development Associate (CDA) credential. Classroom experiences are based on the state early learning standards² and the use of an approved curriculum, and classroom staff are required to conduct ongoing assessments to gather information on individual children's growth and skill development.

Overview of the NC Pre-K Evaluation

Since its inception in 2002, the statewide evaluation of the North Carolina Pre-Kindergarten Program (formerly the More at Four Program) has been conducted by the FPG Child Development Institute at the University of North Carolina-Chapel Hill. The current report describes findings on the quality of the program for the 2011-2012 school year, along with comparisons to previous years. See Table 25 for a list of previous reports for further information about prior years, including studies of classroom quality and longitudinal studies of children's outcomes. One of the key issues of interest for the evaluation was the extent to which the NC Pre-K Program was providing a similar service as in past years, given the shift in the program's auspice in the 2011-2012 year from DPI to DHHS.

The primary research questions addressed by this evaluation included:

- What were the key characteristics of the local NC Pre-K programs?
- What was the quality of the NC Pre-K classrooms attended by children?
- What factors were associated with better quality?
- To what extent were these results similar to past years under the More at Four Program?

To address these questions, we gathered information from multiple sources, including monthly service reports, observations of classroom quality, and teacher surveys. The monthly service report data from each local contractor provided information about characteristics of the program and demographic information about the children served. Observations were conducted in a random sample of NC Pre-K classrooms using multiple measures to provide information about classroom quality, including global classroom quality, teacher-child instructional interactions, language and literacy environment, and sensitivity of teacher-child interactions. Information was gathered about the activities and materials provided, the interactions among teachers and children, the nature of instruction, the physical environment, and the daily organization and structure of the classroom. Teacher surveys provided information about teacher beliefs about teaching practices and work climate, as well as descriptive information about their classrooms and their professional experiences.

Methods

A variety of sources of information was gathered to evaluate the 2011-2012 NC Pre-K Program. Program characteristics were examined for the entire NC Pre-K Program, using data from the statewide databases, including information about the types of sites; class size, composition, and curriculum; teacher qualifications; and characteristics of the children served. The quality of classroom practices was examined for a randomly-selected sample of NC Pre-K classrooms, including measures of global quality, teacher-child instructional interactions, language and literacy environment, and sensitivity of teacher-child interactions. Survey data were gathered from the teachers in this sample of classrooms to obtain information about beliefs about teaching practices and the work climate, professional characteristics, and classroom characteristics.

Participants

A sample of 100 classrooms was selected randomly from the 1,800 NC Pre-K classrooms operating in September 2011. Three classes originally selected were excluded and replaced because they did not meet the sampling criteria; in two cases, only one NC Pre-K child attended the classroom and in one case the classroom exited the NC Pre-K Program prior to the beginning of data collection. Characteristics of the sample classrooms can be seen in Table 1. Analyses were conducted to compare the characteristics of the sample classrooms to the overall population (see Analysis Approach section for further details). The results revealed that the sample classrooms were not significantly different from the program as a whole. In both groups the class size was just under 16, the proportion of boys was slightly above 50%, the proportion of children with limited English proficiency was slightly above 20%, and the proportion of children who had never previously been served was just under 60%. Teachers in the sample classrooms also had similar credentials and education levels as teachers in the program overall.

Data Sources

Program Characteristics

Data on program characteristics were entered into statewide databases each month by local NC Pre-K contract administrators, each representing a county or multi-county region. Data gathered in the NC Pre-K Plan database include hierarchically-linked information about the contracts, sites, classrooms, and teachers. Information at the contract level includes agency information and slots allocated. Information about the sites includes site type, number of classes, and site program service dates. Information about classrooms includes curriculum, daily hours of operation, class size, and children served. Information on teachers includes teacher education and licensure/credentials.

Data entered in the NC Pre-K Kids database include hierarchically-linked information about the site, classroom, and individual children being served. Information about sites includes

operation days and teacher workdays. Classroom information includes total monthly enrollment and classroom composition (number of NC Pre-K and non-NC Pre-K children). Program guidelines indicate a maximum class size of 18, although classes are occasionally granted exceptions to exceed this size. Information about the individual children served includes household composition, risk factors (poverty status, limited English proficiency, developmental/educational need, identified disability, chronic health condition), prior placement, race, ethnicity, gender, birth date, primary caregiver's employment, parental military service, and attendance.

The FPG evaluation team collected data from both web-based reporting systems, NC Pre-K Plan and NC Pre-K Kids. The FPG Evaluation project downloaded, verified, corrected, and archived data from both systems monthly. The current report includes statewide data from the most recent program year, from July 1, 2011 to June 30, 2012.

Classroom Quality

Several aspects of classroom quality were measured, including global classroom quality, teacher-child instructional interactions, language and literacy environment, and sensitivity of teacher-child interactions. Global classroom quality was assessed using the Early Childhood Environment Rating Scale-Revised (ECERS-R)³, an observational rating scale that measures the developmental appropriateness of classroom practices including the activities and materials provided, the interactions among teachers and children, the physical environment, and the daily organization of the program. The scale contains 43 items arranged into seven subscales: Space and furnishings, Personal care routines, Language-reasoning, Activities, Interaction, Program structure, and Parents and staff. Each item is rated on a 7-point scale from low to high, where 1 = "inadequate," 3 = "minimal," 5 = "good," and 7 = "excellent." In the current study, the total and subscale scores were computed as mean item scores ranging from 1.0 to 7.0, with higher scores indicating better classroom quality. Scores from 1.0-2.9 are considered low quality, 3.0-4.9 are considered medium quality, and 5.0-7.0 are considered in the good quality range.

The quality of teacher-child instructional interactions was assessed using the Classroom Assessment Scoring System (CLASS)⁴. The CLASS is scored on a 7-point scale from low (1-2) to middle (3-5) to high (6-7), and includes ratings on 10 dimensions across three overarching domains—Emotional Support (teachers' abilities to support social and emotional functioning in the classroom), Classroom Organization (classroom processes related to organizing and managing children's behavior, time, and attention), and Instructional Support (ways in which curriculum is implemented to support cognitive and language development). The first domain, Emotional Support, encompasses four dimensions: Positive climate (the emotional connection among children and teachers); Negative climate (expressed negativity such as anger and hostility); Teacher sensitivity (responsiveness to children's concerns); and Regard for student perspectives (accommodations for children's points of view). The second domain, Classroom Organization, includes three dimensions: Behavior management (how effectively behavior is monitored or redirected); Productivity (how well time is organized to maximize learning

activities); and Instructional learning formats (how well teachers facilitate children's engagement to maximize learning opportunities). The third domain, Instructional Support, incorporates three dimensions: Concept development (how teachers foster higher-order thinking skills); Quality of feedback (how well teachers extend learning in their responses to children); and Language modeling (facilitation of language).

The classrooms' literacy environment was measured with the Early Language and Literacy Classroom Observation (ELLCO) Pre-K Tool⁵. The ELLCO measures the extent to which classrooms provide support for language and literacy development and includes 19 items organized into two main subscales: General Classroom Environment and Language and Literacy. The General Classroom Environment subscale includes items on classroom structure and curriculum. The Language and Literacy subscale contains items on the language environment, books and book reading, and print and early writing. Each item is scored on a 1-5 scale, where 1 = "deficient," 2 = "inadequate," 3 = "basic," 4 = "strong," and 5 = "exemplary." Mean item scores, ranging from 1.0-5.0, were used in the present study.

The sensitivity of teachers' interactions with children was measured with the Caregiver Interaction Scale (CIS)⁶. It includes 26 items divided into 4 subscales: Sensitivity, Harshness, Detachment, and Permissiveness. Each item is scored on a 1-4 scale from "not at all" to "very much." Mean item scores ranging from 1.0 to 4.0 were calculated for each subscale. For the total score, scores on the three negative subscales (Harshness, Detachment, and Permissiveness) were reversed and a total mean item score was calculated whereby higher scores indicated more positive teacher-child interactions.

Observations of classroom quality were conducted during the program year (3/3/12-5/30/12) on two different days for each classroom. The CLASS was administered on the first day and the remaining 3 measures administered on the second day. Each observation typically lasted 4-5 hours. Data collectors were trained to the reliability criterion on each measure prior to gathering data. Inter-rater reliability data were collected for 20% of the observations for each measure and intra-class correlations were calculated (ECERS-R total score=.91; CLASS Emotional Support=.88, Classroom Organization=.52, Instructional Support=.48; ELLCO General Classroom Environment=.81, Language and Literacy=.85; CIS total score=.85).

Teacher Survey

The FPG evaluation team distributed the surveys to teachers who completed and then returned the forms directly to the research team. Teacher surveys included questions about classroom characteristics, teachers' perspectives on teaching and the work climate, and teachers' professional characteristics. Teachers provided information about various classroom characteristics including number of children enrolled (NC Pre-K and non-NC Pre-K); typical numbers of staff and children present each day; numbers of boys and girls; and numbers of children who speak English and Spanish as their primary language (i.e., mostly English, mostly Spanish, English and Spanish).

Teachers' perspectives on teaching addressed two areas: teachers' beliefs about how well children in the class will perform during kindergarten compared to previous groups of children, and teachers' beliefs about developmentally appropriate practices. The kindergarten performance rating consisted of seven questions rated on a scale of 1 (not very well) to 5 (very well) across the areas of academic skills, language and communication skills, social skills, physical or motor skills, emotional development, being self-directed, and following directions, with an overall mean item score calculated. Similarly, to measure beliefs about developmentally appropriate practices, teachers rated their agreement with 32 various teaching practices, including both appropriate and inappropriate practices, on a scale from 1 (strongly disagree) to 5 (strongly agree). An overall mean item score was calculated, with scores for inappropriate practices reversed, so that higher scores indicate more appropriate beliefs.

In addition, teachers provided information about their beliefs related to various aspects of their work climate. Teachers rated their agreement with 20 items measuring their perspectives about their early childhood center as a place to work, including areas such as interactions with staff and supervisors, support for professional development, autonomy and decision-making opportunities, material and administrative resources, daily operations, and salaries and benefits. Ratings were based on a scale ranging from 0 (never) to 5 (always). A mean item score was calculated to represent teachers' overall perceptions of the work environment. In addition, teachers rated the extent to which they are involved in decision-making in the workplace based on a scale ranging from 1 (not at all involved) to 5 (very involved) for eight items including curriculum, how to teach, parent policies, hiring teachers, personnel policies, ordering materials and supplies, determining program objectives, and planning the daily schedule. Teachers also rated how similar their beliefs about classroom practices are to those of their supervisor on a scale from 1 (not at all similar) to 5 (very similar). To assess perceptions of the adequacy of various classroom resources, teachers rated seven items on a scale ranging from 1 (not at all adequate) to 5 (very adequate) spanning areas such as physical space and outdoor facilities, materials and equipment, personnel, and administrative resources.

Finally, teachers provided additional information related to their teaching experience and professional plans. Teachers reported their total years of teaching experience as well as their total years of teaching children age birth through five years. To measure teachers' professional plans over the next three years, they selected one option from the following categories: remain at this site, take a job in a different early childhood setting, take a job outside of child care, begin or return to school, not be employed, or other.

Analysis Approach

Sample Comparisons

Characteristics of the sample classrooms and overall population of NC Pre-K classrooms were compared to investigate the representativeness of the randomly-selected sample. Available data were used from the statewide database, including teacher education levels and credential

levels, class size, proportion of boys, proportion of NC Pre-K children in the classroom, and various characteristics of the NC Pre-K children in the classroom, including proportion of DLLs, and average prior placement status. Chi-square tests were conducted to test teacher education levels and credentials, and t-tests were conducted to test the various classroom and child characteristics. Chi-square tests were only conducted for comparisons with sufficient sample sizes ($n \geq 5$) in each category.

Changes in Program Characteristics over Time

Analyses were conducted to examine changes in key program characteristics over time, comparing the NC Pre-K Program to previous years of the More at Four Program, its predecessor statewide pre-k program. Data from the statewide databases for each program year from 2003-2004 (the first year the program was statewide) to 2011-2012 (the first year of NC Pre-K) were examined. Data from each program year were considered to be independent of each other. The characteristics examined included teacher qualifications (whether teachers had a B-K license or the equivalent, whether teachers had no credential), classroom setting types (public schools, private settings, and Head Start), and children's prior placement/service priority status (proportion never served, proportion not served at time of enrollment). Logistic regression models with time point indicators as model covariates were conducted to examine teacher qualifications and setting types, with dichotomous variables created for each of the five characteristics. General linear regression models with time point indicators as model covariates were conducted to examine the classroom proportions for prior placement variables, with continuous variables created for each of these characteristics.

Changes in Classroom Quality over Time

Analyses were conducted to investigate whether there were changes over time in scores for various classroom quality measures. Data from observations in the sample of 2011-2012 NC Pre-K classrooms were compared to data from prior samples of More at Four classrooms from three cohorts as available (2003-2004, 2005-2006, 2007-2008). The classroom quality measures examined included ECERS-R total scores (comparisons to all three previous cohorts), CLASS Emotional Support, Classroom Organization, and Instructional Support scores (comparisons to last cohort), and CIS total score (comparisons to last two cohorts). Separate linear regression models were conducted for each classroom quality score as the dependent variable, with indicator variables of the program year to estimate the changes among different program years.

Predictors of Classroom Quality

Analyses were conducted to examine whether specific teacher and classroom characteristics were associated with various classroom quality measures for the NC Pre-K classrooms. Separate series of analyses were conducted for each classroom quality measure, including the ECERS-R Total score; the CLASS Emotional Support, Classroom Organization, and Instructional Support scores; the ELLCO General Classroom Environment and Language and

Literacy scores; and the CIS Total score. Two linear regression models were estimated for each outcome measure. The first model was parallel to those from prior analyses of previous More at Four cohorts, and included teacher and classroom structural characteristics: lead teacher licensure (B-K license/equivalent or not), lead teacher education (MA/MS or above or not), total class size, proportion of NC Pre-K children in the classroom, proportion of dual language learners, average cumulative risk score, and average prior placement status (formerly service priority status for More at Four) for the NC Pre-K children in the classroom (information on these latter three characteristics was not available for non-NC Pre-K children). The second model added measures of teacher beliefs about teaching practices (developmentally appropriate practices scale total score) and work climate (work environment scale total score) based on the teacher survey data to the model one predictors.

Results

Program Characteristics and Services

A variety of key characteristics of the NC Pre-K Program for the 2011-2012 year are provided in Tables 2-8, based on information from the NC Pre-K Plan and NC Pre-K Kids statewide databases. The NC Pre-K Program offered a statewide program to nearly 30,000 children in over 2,000 classrooms and more than 1,100 sites. Classrooms served an average of 16 children, with 13 (82%) of those being funded by the NC Pre-K Program. Children who participated in NC Pre-K in 2011-2012 attended for 137 days on average, which represents 76% of the 180 instructional days offered by the program. The program guidelines require use of an approved curriculum, and the majority of classrooms (85%) reported using Creative Curriculum as their primary curriculum. (See Table 2.) Approximately half (51%) of the classrooms were in public school settings; about one-third (33%) in private settings, including about one-quarter (24%) in for-profit and about 9% in non-profit child care centers; and 16% in Head Start, both those administered by public schools and by non-public school grantees. (See Table 3.)

In terms of the qualifications of lead teachers in the NC Pre-K Program in 2011-2012, almost all teachers had at least a bachelor's degree in both public school (99.5%) and private settings (96%). (See Table 4.) Nearly all teachers in public school settings (91%) and about half of the teachers in private settings (51%) had a Birth-Kindergarten (B-K) license (or the equivalent). Almost no teachers in public school settings (2%) and just under one-quarter in private settings (24%) reported having no credential. (See Table 5.)

Information about the characteristics of the children and families served by the NC Pre-K Program in 2011-2012 indicates that about half the children were boys (52%) and half girls (49%). Children represented a variety of racial groups, with the majority of White (49%) or African-American (36%) backgrounds. Approximately one-quarter of the children (25%) were of Hispanic/Latino ethnicity. The vast majority of the primary caregivers (71%) were employed and 7% of the parents were serving in the military. (See Table 6.) Children served by the NC Pre-K Program primarily came from poor families, with 90% eligible for free lunch or reduced-price lunch. With regard to each of the other designated risk factors, close to one-quarter of NC Pre-K children were indicated as having limited English proficiency (22%) or a developmental or educational need (24%), while a small proportion were indicated as having an identified disability (7%) or a chronic health condition (7%). (See Table 7.) With regard to children's prior placement, more than three-quarters (78%) were unserved (i.e., not being served in another preschool program) at the time of enrollment in the NC Pre-K program, including 60% who had never been served in a program. (See Table 8.)

Comparative information about characteristics of the More at Four Program from 2003-2004 (the first year the program became statewide) through 2010-2011 (the most recent year) is provided in Tables 9-15. Compared to previous years of the More at Four Program, which showed a pattern of growth and then leveling off in the few most recent years, the size of the NC Pre-K

Program decreased slightly and is most similar to the 2007-2008 program year, with just under 30,000 children. With regard to other characteristics of the classrooms, the results for the 2011-2012 NC Pre-K Program looked fairly similar to past results for More at Four, which has shown little change in recent years. (See Table 9.) The population of children served by NC Pre-K in 2011-2012 also looked similar to those served by More at Four in recent years in terms of a variety of demographic characteristics, including gender, racial/ethnic background, risk factors, and caregiver employment and military service. (See Table 13 and Table 14.)

Analyses were conducted to examine changes over time in some key program characteristics, including teacher qualifications, program setting types, and children's prior placement/service priority status. With regard to teacher qualifications, a higher proportion of NC Pre-K teachers in 2011-2012 had a bachelor's degree or higher compared to all previous years of More at Four. (See Table 11 and Table 16.) Similarly, a higher proportion of teachers in the NC Pre-K Program had a B-K license (or the equivalent) than in past years in the More at Four Program, with the exception of the most recent year (2010-2011). Conversely, the proportion of NC Pre-K teachers with no credential was lower than most preceding years of the More at Four Program, except for the two most recent years. (See Table 12 and Table 16.) The proportion of NC Pre-K classrooms in public school settings was slightly lower than in the most recent year of More at Four (51% vs 54%), but was not significantly different from the preceding years, which has remained at around half. Compared to recent years of More at Four, the proportion of NC Pre-K classrooms in private child care settings was higher and the proportion in Head Start was lower (the Head Start proportion was higher compared to the early years of More at Four), although these differences were fairly small. (See Table 10 and Table 16.) With regard to children's prior placement (or service priority status), the proportion of children who were unserved at the time of enrollment in the 2011-2012 NC Pre-K Program was higher than in the four most recent years of the More at Four Program and lower than in the earliest few years. The same pattern was found for the subset of children who had never been served in a program at the time of enrollment in NC Pre-K compared to previous cohorts of More at Four. (See Table 15 and Table 16.)

Teacher Surveys

Teachers in the evaluation sample provided information about their classrooms and their professional beliefs. (See Table 17.) Classrooms typically had 2 staff available on a daily basis (with a range from 2-3), for an average of 16.5 children. When asked to rate how well they thought this year's class would do in kindergarten compared to previous years across a variety of domains (e.g., academic skills, social skills, being self-directed, following directions), teachers consistently rated children as doing fairly well (4 out of 5) on average. On a rating of beliefs about developmentally appropriate teaching practices, the average score was 4.0 (on a 1-5 scale), indicating that teachers agreed overall with these practices, although they ranged from neutral to strongly agree overall. Teachers also rated several aspects of the work climate. They generally rated the adequacy of resources between somewhat and very adequate, including physical facilities, staffing and administration, and materials and equipment. Their average

overall work environment rating was 3.7, indicating that teachers frequently viewed aspects of their work environments positively. However, average scores ranged from 0.4 to 5.0, indicating that some teachers almost never viewed their workplace positively, while others always did so. Teachers' roles in decision-making varied greatly, depending on the area. They rated themselves as most involved with aspects of decision-making that were closely tied to their daily teaching (planning daily schedule, how to teach), somewhat involved in aspects more broadly related to decision-making about program practices (supplies, curriculum, program objectives, parent policies), and least involved with personnel-related practices (hiring teachers, personnel policies). The NC Pre-K teachers had a substantial amount of experience, having taught for an average of 13 years, 11 of which were with children birth to age five. When asked about their professional plans for the next three years, the majority (71%) of teachers reported that they would remain in the early childhood field.

Classroom Quality

Global Quality

The global quality of classroom practices was in the upper end of the medium quality range, based on ECERS-R scores (see Table 18). The average total ECERS-R score was 4.6, although individual classroom scores ranged from medium to high quality. No classrooms scored in the low quality range, about two-thirds (67%) scored in the medium quality range and about one-third (33%) scored in the high quality range (see Figure 1).

For six of the seven subscales, average scores were relatively high as well. Three subscales had average scores in the high quality range—Language-Reasoning (5.2), Program Structure (5.2), and Parents and Staff (5.1). Three subscales had average scores in the medium quality range, all at the upper end of the range—Space and Furnishings (4.6), Activities (4.5), and Interaction (4.9). One subscale had an average score at the upper end of the low quality range—Personal Care Routines (2.9). Some specific areas of strength across the program, with average scores in the high quality range, include classroom furniture and furnishings for routine care, learning, and comfort; greeting and departing routines; encouraging children to communicate and informal use of language; fine motor activities; interactions among staff and children; free play and group time; provisions for parents and provisions around staff professional needs and development. In addition to most of the items on the Personal Care Routines subscale, the one other area that scored in the low quality range on average was space for gross motor play.

The total ECERS-R scores for the NC Pre-K classrooms were compared to those for three previous cohorts of More at Four classrooms (see Table 23 and Table 24). (See Analysis Approach section for further details.) The scores for the current cohort of NC Pre-K classrooms were not significantly different from the two most recent cohorts of More at Four classrooms, indicating that there has not been an overall change in the global quality of the program since it became the NC Pre-K Program. Compared to the first cohort of More at Four classrooms, both

the NC Pre-K classrooms and the more recent More at Four cohorts had significantly lower scores, but this trend did not continue over time.

Teacher-Child Instructional Interactions

With regard to instructional interactions, scores were higher on Emotional Support and Classroom Organization than on Instructional Support (see Table 19, Figures 2-4). The average score was in the high quality range on Emotional Support (5.8), with no classrooms scoring in the low range (below 2.5), 25% scoring in the middle range (2.5-5.4), and 75% of the classrooms scoring in the high range (5.5 or above). The average score was at the upper end of the middle range on Classroom Organization (5.4), with no classrooms in the low range, 46% in the middle range, and 54% in the high quality range. The average score was at the upper end of the low range on Instructional Support (2.4), with 59% of the classrooms scoring in the low range, 41% scoring in the middle range, and no classrooms scoring in the high range. In looking at the dimensions within each domain, scores were consistently high for those related to both Emotional Support and Classroom Organization, and consistently lower for those related to Instructional Support.

These CLASS domain scores were compared to scores for the one previous cohort of More at Four classrooms for which these data were available (see Table 23 and Table 24). (See Analysis Approach section for further details.) Compared to the NC Pre-K classrooms, the scores for the More at Four classrooms were nearly identical for Emotional Support and Classroom Organization, but higher for Instructional Support. Further, across both cohorts, the scores were relatively lower on Instructional Support than on the other domains, a pattern that is consistent with that typically found in other studies of early care and education programs.^{7,8,9}

Language and Literacy Environment

The quality of the NC Pre-K classrooms based on the ELLCO Pre-K Tool was generally in the basic to strong range (see Table 20). The average score was slightly higher on General Classroom Environment (3.8) than on Language and Literacy (3.5). Scores for individual classrooms varied widely, from less than basic to the exemplary range. On the General Classroom Environment subscale, 9% scored below basic, 48% scored between basic and strong, and 43% scored between strong and exemplary. On the Language and Literacy subscale, 21% scored below basic, 55% scored between basic and strong, and 24% scored between strong and exemplary. (See Figures 5-6). Average scores were highest in the area of Classroom structure and lowest in the areas of Language environment and Print and early writing, although all scores were still within the basic to strong range. Because the ELLCO Pre-K Tool was a different version from that used in previous years in More at Four, it was not possible to compare the pattern of results with prior data.

Sensitivity of Teacher-Child Interactions

Teachers in NC Pre-K classrooms were fairly sensitive in their interactions with children, based on scores on the CIS. (See Table 21 and Figure 7.) The average total score was 3.4, with the majority of classrooms (88%) scoring above 3.0. Average scores were similarly high on the Sensitivity subscale (3.1), which indicates more positive interactions with children, and low on the Harshness (1.4), Detachment (1.4), and Permissiveness (1.4) subscales, which indicate negative interactions with children (i.e., lower scores represent fewer negative interactions).

The CIS total scores for the NC Pre-K classrooms were compared to those for two previous cohorts of More at Four classrooms (see Table 23 and Table 24). (See Analysis Approach section for further details.) These results indicated that there were no differences between the current cohort of NC Pre-K classrooms and the two cohorts of More at Four classrooms in the sensitivity of teacher-child interactions.

Predictors of Classroom Quality

We examined whether various teacher and classroom characteristics were related to higher quality for the 2011-2012 sample of NC Pre-K classrooms. Four dimensions of classroom quality were examined in separate analyses: 1) Global quality as measured by the ECERS-R total score; 2) Teacher-child instructional interactions as measured by the CLASS Emotional Support, Classroom Organization, and Instructional Support domain scores; 3) Literacy environment as measured by the ELLCO Classroom Environment and Language and Literacy subscale scores, and 4) Sensitivity of teacher-child interactions as measured by the CIS total score. Two models examining predictors of classroom quality were examined. The first model was parallel to those from previous years for the More at Four Program, and examined structural factors, including teacher and classroom characteristics. The predictors for the first model included lead teacher licensure (whether or not the teacher had a B-K license or the equivalent) and educational qualifications (highest earned degree); total class size and proportion of NC Pre-K children in the classroom; and proportion of dual language learners, average cumulative risk score, and average prior placement status (formerly service priority status for More at Four) for the NC Pre-K children in the classroom (information on these latter three characteristics was not available for non-NC Pre-K children). The second model added measures of teacher beliefs about teaching practices (developmentally appropriate practices scale total score) and work climate (work environment scale total score) based on the teacher survey data to the model one predictors. (See Analysis Approach section for further details.)

For model one, the overall models generally were not significant for the classroom quality measures, indicating that as a set, these teacher and classroom factors did not predict the quality of the NC Pre-K classrooms (see Table 22). These findings are consistent with the results from past years, where this set of factors generally did not predict the quality of the More at Four pre-k classrooms, based on comparisons to samples from the 2003-2004, 2005-2006, and 2007-2008 program years (see Table 25 for a list of past reports). For the NC Pre-K classrooms,

although the overall model was significant for the ELLCO Language and Literacy subscale, none of the individual factors were significant predictors. Further, although the overall model for CLASS Instructional Support was not significant, there was some indication that two of the factors may be associated with higher instructional quality. Classrooms with higher proportions of Spanish-speaking dual language learners and children with lower overall cumulative risk scores had higher instructional quality based on the CLASS Instructional Support scores. Because the overall models were generally not significant and these results were found for only one measure, these findings should be interpreted cautiously, but do offer some suggestion of areas that may be worth further exploration.

For model two, teacher beliefs were a significant predictor for several of the quality measures (see Table 22). However, the overall model was only significant for the ECERS-R total score and the ELLCO General Classroom Environment subscale, so results for other quality measures should be interpreted cautiously. Teachers with more developmentally appropriate beliefs about teaching practices had classrooms with higher global quality based on the ECERS-R. Teachers who rated their work environments more positively had classrooms with better classroom practices based on the ELLCO General Classroom Environment score and higher instructional support based on the CLASS Instructional Support scores. In addition, having a higher proportion of NC Pre-K children in the classroom was related to having a better Language and Literacy Environment score on the ELLCO, but only after adjusting for the teacher belief factors in model two.

Conclusions

Overall, the North Carolina Pre-Kindergarten Program has not changed substantially in 2011-2012 compared to prior years of the statewide pre-k program. The statewide pre-k program was initiated in the 2001-2002 school year as the More at Four Pre-Kindergarten Program, and became the NC Pre-Kindergarten Program in 2011-2012, shifting from DPI to DCDEE, under DHHS.

When compared across a number of different program characteristics, NC Pre-K looks quite similar to its predecessor program. Although NC Pre-K served a slightly smaller number of children in 2011-2012 compared to the previous few years, it was still serving the same population of at-risk 4-year-olds. Consistent with the pattern over the life of the program, 90% of the children came from poor families, qualifying for free or reduced-price lunch. The NC Pre-K Program has continued to include a similar variety of settings, with about half in public school, about one-third in private child care, and about 16% in Head Start. Compared to recent years of More at Four, the NC Pre-K Program served a slightly higher proportion of children in what were traditionally the highest service priority groups, those who had never been served in a program as well as all those who were unserved at the time of enrollment. The NC Pre-K Program also has continued the strong trend toward improving teacher qualifications, displaying an increase in the overall proportion of teachers with a bachelor's degree or higher and maintaining the previous year's increase in the proportion of teachers with B-K licenses. By 2011-2012, nearly all lead teachers in NC Pre-K had at least a bachelor's degree, suggesting that the program as a whole has achieved its goal in this area. Based on a sample, NC Pre-K teachers generally viewed their work environments fairly positively, and over 70% planned to stay in the field for the next three years. When asked to rate their current group of children, teachers generally perceived them as being fairly well prepared for kindergarten compared to previous groups of children.

One of the primary issues of interest was to examine the quality of the NC Pre-K Program, including factors predicting quality as well as the extent to which the quality of the program was similar to past years. Overall, the quality of classroom practices was in the medium to high quality range across a number of dimensions, including global quality, teacher-child instructional interactions, language and literacy environment, and sensitivity of teacher-child interactions. Quality tended to be higher for dimensions related to the more global educational environment (e.g., language-reasoning, program structure, activities, space and furnishings, classroom organization, general classroom environment) and to teacher-child interactions (e.g., emotional support, teacher sensitivity, interaction) than for dimensions related to instructional practices (e.g., instructional support, language and literacy environment). Compared to recent years of the More at Four Program, the quality of practices in the NC Pre-K Program was similar in almost all areas, including global classroom quality (as measured by the ECERS-R), emotional support and classroom organization (as measured by the CLASS), and sensitivity of teacher-child interactions (as measured by the CIS). The one exception was in the area of instructional support (as measured by the CLASS), where NC Pre-K classrooms scored lower

than the most recent cohort of More at Four classrooms (2007-2008) for which data were available. However, for both the NC Pre-K and More at Four classrooms, scores for this aspect of quality were substantially lower than for other aspects. These results suggest that instructional practices may be a useful area to explore in terms of quality improvement efforts for NC Pre-K classrooms. Further, there were no clear indications that any of the specific factors examined were strong predictors of the quality of classroom practices, including lead teacher licensure and education levels, class size, and other classroom characteristics (proportion of NC Pre-K children, proportion of dual language learners, and children's average risk status and prior placement). This result replicated earlier findings from the More at Four Program. Similarly to these earlier samples, there was limited variability in the range of quality within the NC Pre-K sample, with most classrooms scoring at the middle and upper ends of the distributions for the quality measures, which may have limited the ability to detect associations between these program characteristics and classroom quality. There was some indication that teacher beliefs were related to broader measures of classroom quality, although these associations were not found consistently across all measures. Having more developmentally appropriate beliefs about teaching practices was related to higher global classroom quality; similarly, teachers who rated their work environments more positively had classrooms rated higher in general classroom environment. These findings suggest that professional development activities that focus on beliefs about teaching practices may be worth further consideration.

In sum, the primary characteristics of the NC Pre-K Program have remained quite similar to those of recent years of the More at Four Program, its predecessor. It has continued to serve its primary target group of at-risk 4-year-olds, providing an educational program in a variety of classroom-based settings. One important area to note in which the NC Pre-K Program has continued or maintained a trend toward improvement is in the area of teacher qualifications, both education and licensure levels. Two areas recommended to explore with regard to quality improvement include efforts focused on instructional practices and on beliefs about teaching practices. The quality of the NC Pre-K Program also was quite similar to recent years of the More at Four Program, indicating that there was little change at the level of classroom practices with the shift in program auspice. Taken in total, these results suggest that the NC Pre-K Program continues to offer a strong pre-k experience for at-risk 4-year-olds throughout the state.

Table 1. Sample Characteristics (2011–2012)

Characteristic	Evaluation sample
	n=100
	% / Mean (SD)
Teacher Education Level	
MA/MS or Higher	14.0%
BA/BS	85.0%
AA/AS	1.0%
HS Diploma/GED	0.0%
Teacher Credential	
B-K or Preschool Add-on License	76.0%
Other Teacher’s License	6.0%
CDA Credential	0.0%
NCECC	8.0%
None	10.0%
Class Size	15.9 (3.2)
% Boys in Class	52.5%
% NC Pre-K Students in Class	76.1%
% Dual Language Learners	21.0%
Prior Placement	
Never Served	59.1%
Unserved	75.8%

Table 2. NC Pre-K Program Characteristics (2011–2012)

Program Characteristic	
Total NC Pre-K Sites (Centers/Schools)	1,174
Total NC Pre-K Classrooms	2,057
Total Children Served	29,312
Average Class Size	
Mean	15.6
(SD)	(3.6)
Median	17.2
Average Number of NC Pre-K Children per Class	
Mean	12.8
(SD)	(4.6)
Median	13.7
Average Proportion of NC Pre-K Children per Class	
Mean	0.82
(SD)	(0.2)
Median	0.94
Average Days of Attendance	
Mean	137
(SD)	(43.6)
Primary Curriculum ^a	
Creative Curriculum	84.8%
	(1,744)

^a Other approved curricula included OWL/Bright Beginnings, High Scope, and others (Tools of the Mind; Tutor Time LifeSmart; Passports: Experiences for PreK Success; Bank Street Curriculum; and The Empowered Child, Childtime).

Table 3. Distribution of NC Pre-K Classrooms by Setting Type (2011–2012)

Setting Type ^a	n=2,057	%	(number)
Public Preschool		50.6%	(1,041)
Private		33.3%	(686)
Private For-Profit		24.2%	(497)
Private Non-Profit		9.2%	(189)
Head Start		16.0%	(330)
Head Start Not Administered by Public School		12.4%	(256)
Head Start Administered by Public School		3.6%	(74)

^a Children who attended more than one NC Pre-K site are represented by the setting type in which they were enrolled longest.

Table 4. Education Levels of NC Pre-K Lead Teachers (2011–2012)

Setting Type ^a	Total n ^b	Highest Education Level							
		MA/MS or higher		BA/BS		AA/AAS		HS diploma/GED	
		%	(number)	%	(number)	%	(number)	%	(number)
Public School	1,142	15.8%	(181)	83.7%	(956)	0.4%	(5)	0.0%	(0)
Private	1,054	8.6%	(91)	87.3%	(920)	3.6%	(38)	0.5%	(5)
All	2,191	12.4%	(271)	85.4%	(1,872)	2.0%	(43)	0.2%	(5)

Table 5. Licensure/Credential Levels of NC Pre-K Lead Teachers (2011–2012)

Setting Type ^a	Total n ^b	Highest Licensure/Credential ^c									
		B-K ^d		Other Teacher's License		CDA Credential		NCECC		None	
		%	(number)	%	(number)	%	(number)	%	(number)	%	(number)
Public School	1,142	91.3%	(1,043)	6.0%	(68)	0.1%	(1)	0.7%	(8)	1.9%	(22)
Private	1,054	51.0%	(538)	11.0%	(116)	1.4%	(15)	12.9%	(135)	23.7%	(250)
All	2,191	72.0%	(1,578)	8.4%	(183)	0.7%	(16)	6.5%	(143)	12.4%	(271)

^a Teachers in Head Starts administered by public schools are included in public school setting types; teachers in Head Starts not administered by public schools are included in private setting types.

^b The n for All is less than the sum of the n's for Public School and Private because some teachers worked in both public and private settings (n=5).

^c Note: B-K = Birth-Kindergarten, CDA = Child Development Associate, NCECC = North Carolina Early Childhood Credential. Other teacher's license includes non-early childhood licenses and licenses from other states.

^d This category includes teachers with a B-K license, B-K Standard Professional I or II, provisional B-K license, or Preschool Add-on.

Table 6. Characteristics of NC Pre-K Children (2011–2012)

Characteristic	n=29,312	%	(number)
Gender			
Male		51.5%	(15,092)
Female		48.5%	(14,220)
Race			
White/European-American		49.0%	(14,371)
Black/African-American		36.2%	(10,607)
Native American/Alaskan Native		6.5%	(1,914)
Multiracial		5.3%	(1,551)
Asian		1.8%	(535)
Native Hawaiian/Pacific Islander		1.1%	(334)
Ethnicity			
Non-Hispanic/Latino		74.6%	(21,870)
Hispanic/Latino		25.4%	(7,442)
Primary Caregiver Employed		70.8%	(20,750)
Military Parent		7.1%	(2,085)

Table 7. Risk Factor Status of NC Pre-K Children (2011–2012)

Type of Risk Factor	n=29,312	%	(number)
Family Income			
130% of poverty and below (eligible for free lunch)		76.2%	(22,330)
131-185% of poverty (eligible for reduced-price lunch)		13.8%	(4,044)
186-200% of poverty		2.3%	(669)
201-250% of poverty		3.9%	(1,156)
>251% of poverty		3.8%	(1,113)
Limited English Proficiency			
Family and/or child speak limited or no English in the home		21.6%	(6,339)
Developmental/Educational Need			
Developmental/educational need indicated by performance on a developmental screen		24.4%	(7,153)
Identified Disability			
Child has an IEP		6.5%	(1,903)
Chronic Health Condition(s)			
Child is chronically ill/medically fragile		6.6%	(1,943)

Table 8. Prior Placement for NC Pre-K Children (2011–2012)

Prior Placement ^a	n=29,311	%	(number)
Children who have never been served in any preschool or child care setting.		59.6%	(17,484)
Children who are currently unserved (may previously have been in preschool or child care setting).		17.9%	(5,234)
Children who are in unregulated child care.		2.8%	(810)
Children who are in a regulated preschool or child care setting, but are not receiving subsidy.		13.5%	(3,955)
Children who are receiving subsidy and are in some kind of regulated child care or preschool program.		6.2%	(1,828)

^aThese categories are defined according to the 2011–2012 program requirements.

Table 9. More at Four Program Characteristics (2003–2011)

Program Characteristic	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Total More at Four Sites (Centers/Schools)	628	689	790	909	1,178	1,285	1,273	1,239
Total More at Four Classrooms	883	1,027	1,218	1,439	2,148	2,322	2,313	2,262
Total Children Served	10,891	13,515	17,251	20,468	29,978	33,798	34,212	33,747
Average Class Size								
Mean (SD)	16.3 (2.6)	16.1 (3.0)	16.2 (2.7)	16.0 (3.0)	15.8 (3.4)	15.7 (3.4)	16.1 (3.0)	16.1 (3.2)
Median	17.6	17.7	17.6	17.6	17.2	17.0	17.9	17.9
Average Number of More at Four Children per Class								
Mean (SD)	10.7 (5.8)	11.5 (5.5)	12.3 (4.9)	12.6 (4.7)	12.8 (4.4)	12.9 (4.4)	13.4 (4.3)	13.4 (4.4)
Median	10.6	11.7	13.6	13.7	14.0	14.2	14.6	14.5
Average Proportion of More at Four Children per Class								
Mean (SD)	0.67 (0.3)	0.71 (0.3)	0.76 (0.2)	0.79 (0.3)	0.82 (0.2)	0.83 (0.2)	0.83 (0.2)	0.83 (0.2)
Median	0.78	0.89	0.91	0.93	0.93	0.93	0.94	0.94
Average Days Attended								
Mean (SD)	125 (48.1)	134 (44.6)	136 (44.5)	139 (42.8)	132 (43.6)	138 (41.7)	140 (39.7)	141 (40.2)
Primary Curriculum ^a								
Creative Curriculum	666 (76.5%)	811 (79.0%)	949 (77.9%)	1,147 (79.7%)	1,809 (84.2%)	2,014 (86.7%)	1,996 (86.3%)	1,914 (84.6%)

^a Other approved curricula included OWL/Bright Beginnings (2003-2011), High Scope (2003-2011), and others [Tools of the Mind (2009-2011); Tutor Time LifeSmart (2009-2011); Passports: Experiences for PreK Success (2009-2011); Bank Street Curriculum (2003-2011); Montessori (2003-2008); and The Empowered Child, Childtime (2009-2011)].

Table 10. Distribution of More at Four Classrooms by Setting Type (2003–2011)

Setting Type ^a	2003-2004 n=866	2004-2005 n=1,027	2005-2006 n=1,218	2006-2007 n=1,439	2007-2008 n=2,110	2008-2009 n=2,322	2009-2010 n=2,308	2010-2011 n=2,262
Public Preschool	49.7% (430)	54.1% (556)	53.0% (646)	55.0% (791)	53.4% (1,127)	51.9% (1,205)	52.2% (1,205)	54.1% (1,223)
Private	35.2% (305)	34.8% (357)	35.1% (427)	32.0% (461)	28.5% (602)	28.8% (669)	28.1% (649)	27.1% (613)
Private For-Profit	25.1% (217)	24.1% (247)	23.6% (287)	21.3% (306)	19.4% (409)	20.1% (467)	19.3% (446)	18.7% (424)
Private Non-Profit	10.2% (88)	10.7% (110)	11.5% (140)	10.8% (155)	9.1% (193)	8.7% (202)	8.8% (203)	8.4% (189)
Head Start	15.1% (131)	11.1% (114)	11.9% (145)	13.0% (187)	18.1% (381)	19.3% (448)	19.7% (454)	18.8% (426)
Head Start Not Administered by Public School	9.2% (80)	8.4% (86)	9.0% (110)	10.1% (145)	14.8% (313)	15.8% (366)	15.8% (364)	14.9% (338)
Head Start Administered by Public School	5.9% (51)	2.7% (28)	2.9% (35)	2.9% (42)	3.2% (68)	3.5% (82)	3.9% (90)	3.9% (88)

^a Children who attended more than one More at Four site are represented by the setting type in which they were enrolled longest.

Table 11. Education Levels of More at Four Lead Teachers (2003–2011)

Setting Type ^a	Total n ^b	Highest Education Level							
		MA/MS or higher		BA/BS		AA/AAS		HS diploma/GED	
		%	(number)	%	(number)	%	(number)	%	(number)
2003-2004^c									
Public School	450	17.1%	(77)	77.1%	(347)	2.4%	(11)	3.3%	(15)
Private	534	4.1%	(22)	62.5%	(334)	25.3%	(135)	8.1%	(43)
All	984	10.1%	(99)	69.2%	(681)	14.8%	(146)	5.9%	(58)
2004-2005									
Public School	615	15.1%	(93)	83.6%	(514)	1.0%	(6)	0.3%	(2)
Private	519	4.2%	(22)	61.3%	(318)	29.5%	(153)	5.0%	(26)
All	1,133	10.2%	(115)	73.3%	(831)	14.0%	(159)	2.5%	(28)
2005-2006									
Public School	725	13.8%	(100)	84.6%	(613)	1.4%	(10)	0.3%	(2)
Private	620	3.4%	(21)	61.0%	(378)	31.8%	(197)	3.9%	(24)
All	1,342	9.0%	(121)	73.7%	(989)	15.4%	(206)	1.9%	(26)
2006-2007									
Public School	875	15.1%	(132)	84.0%	(735)	0.8%	(7)	0.1%	(1)
Private	684	4.4%	(30)	57.9%	(396)	34.2%	(234)	3.5%	(24)
All	1,555	10.4%	(162)	72.5%	(1,128)	15.4%	(240)	1.6%	(25)
2007-2008									
Public School	1,197	13.8%	(165)	84.5%	(1,012)	1.5%	(18)	0.2%	(2)
Private	990	3.8%	(38)	50.0%	(495)	41.8%	(414)	4.3%	(43)
All	2,183	9.3%	(203)	68.9%	(1,503)	19.8%	(432)	2.1%	(45)
2008-2009									
Public School	1,305	14.9%	(195)	83.5%	(1,090)	1.4%	(18)	0.2%	(2)
Private	1,109	4.2%	(47)	52.4%	(581)	41.3%	(458)	2.1%	(23)
All	2,409	10.0%	(241)	69.2%	(1,667)	19.8%	(476)	1.0%	(25)
2009-2010									
Public School	1,308	15.3%	(200)	83.0%	(1,085)	1.8%	(23)	0.0%	(0)
Private	1,107	5.3%	(59)	62.2%	(689)	31.7%	(351)	0.7%	(8)
All	2,412	10.7%	(259)	73.5%	(1,772)	15.5%	(373)	0.3%	(8)
2010-2011									
Public School	1,333	16.0%	(213)	82.9%	(1,105)	1.1%	(15)	0.0%	(0)
Private	1,065	7.2%	(77)	73.9%	(787)	18.8%	(200)	0.1%	(1)
All	2,395	12.1%	(289)	78.9%	(1,889)	9.0%	(216)	0.0%	(1)

^a Teachers in Head Starts administered by public schools are included in public school setting types; teachers in Head Starts not administered by public schools are included in private setting types.

^b In some cases, the *n* for All is less than the sum of the *n*'s for Public School and Private because some teachers worked in both public and private settings (n=1 in 2004-2005; n=3 in 2005-2006 and 2009-2010; n=4 in 2006-2007, 2007-2008, and 2010-2011; and n=5 in 2008-2009).

^c These data were not reported for 5 teachers in 2003-2004.

Table 12. Licensure/Credential Levels of More at Four Lead Teachers (2003–2011)

Setting Type ^c	Total n ^d	Highest Licensure/Credential ^a									
		B-K License ^b		Other Teacher's License		CDA Credential		NCECC		None	
		%	(number)	%	(number)	%	(number)	%	(number)	%	(number)
2003-2004											
Public School	454	68.1%	(309)	18.3%	(83)	0.0%	(0)	1.1%	(5)	12.6%	(57)
Private	535	16.4%	(88)	10.5%	(56)	3.9%	(21)	16.3%	(87)	52.9%	(283)
All	989	40.1%	(397)	14.1%	(139)	2.1%	(21)	9.3%	(92)	34.4%	(340)
2004-2005											
Public School	615	75.4%	(464)	13.5%	(83)	0.7%	(4)	1.1%	(7)	9.3%	(57)
Private	519	15.2%	(79)	9.1%	(47)	9.6%	(50)	28.9%	(150)	37.2%	(193)
All	1,133	47.8%	(542)	11.5%	(130)	4.8%	(54)	13.9%	(157)	22.1%	(250)
2005-2006											
Public School	725	83.1%	(601)	9.8%	(71)	0.6%	(4)	1.1%	(8)	5.7%	(41)
Private	620	16.5%	(103)	8.5%	(53)	6.5%	(40)	31.5%	(195)	36.9%	(229)
All	1,342	52.3%	(702)	9.2%	(124)	3.3%	(44)	15.1%	(202)	20.0%	(269)
2006-2007											
Public School	875	86.2%	(753)	8.0%	(70)	0.6%	(5)	1.3%	(11)	4.1%	(36)
Private	684	20.6%	(142)	7.5%	(51)	5.6%	(38)	32.3%	(221)	33.9%	(232)
All	1,555	57.4%	(893)	7.7%	(120)	2.8%	(43)	14.9%	(231)	17.2%	(268)
2007-2008											
Public School	1,197	85.7%	(1025)	7.2%	(86)	0.9%	(11)	1.1%	(13)	5.2%	(62)
Private	990	17.1%	(172)	5.7%	(56)	6.5%	(64)	37.9%	(375)	32.6%	(323)
All	2,183	54.7%	(1,194)	6.5%	(142)	3.4%	(75)	17.7%	(387)	17.6%	(385)
2008-2009											
Public School	1,305	86.8%	(1,134)	7.5%	(98)	0.6%	(8)	1.2%	(16)	3.8%	(49)
Private	1,109	22.7%	(256)	5.8%	(64)	4.4%	(49)	39.2%	(435)	27.5%	(305)
All	2,409	57.5%	(1,385)	6.7%	(162)	2.4%	(57)	18.7%	(451)	14.7%	(354)
2009-2010											
Public School	1,308	88.5%	(1,156)	7.0%	(91)	0.5%	(6)	1.9%	(25)	2.3%	(30)
Private	1,107	30.8%	(341)	7.6%	(84)	4.6%	(51)	32.9%	(364)	24.1%	(267)
All	2,412	62.0%	(1,496)	7.3%	(175)	2.3%	(56)	16.1%	(388)	12.3%	(297)
2010-2011											
Public School	1,333	92.8%	(1,237)	4.6%	(61)	0.2%	(3)	1.3%	(17)	1.1%	(15)
Private	1,065	44.0%	(471)	9.2%	(98)	2.9%	(31)	22.6%	(241)	21.0%	(224)
All	2,394	71.2%	(1,704)	6.6%	(159)	1.4%	(34)	10.8%	(259)	10.0%	(239)

^a Note: B-K = Birth-Kindergarten, CDA = Child Development Associate, NCECC = North Carolina Early Childhood Credential. Other teacher's license includes non-early childhood licenses and licenses from other states.

^b This category includes teachers with a B-K license, provisional B-K license, or Preschool Add-on.

^c Teachers in Head Starts administered by public schools are included in public school setting types; teachers in Head Starts not administered by public schools are included in private setting types.

^d In some cases, the *n* for All is less than the sum of the *n*'s for Public School and Private because teachers worked in both setting types (*n*=1 in 2004-2005; *n*=3 in 2005-2006 and 2009-2010; *n*=4 in 2006-2007, 2007-2008, and 2010-2011; and *n*=5 in 2008-2009).

Table 13. Characteristics of More at Four Children (2003–2011)

Characteristic	2003-2004 n=10,891	2004-2005 n=13,515	2005-2006 n=17,251	2006-2007 n=20,468	2007-2008 n=29,978	2008-2009 n=33,798	2009-2010 n=34,212	2010-2011 n=33,747
Gender^a								
Male	51.5% (5,588)	51.1% (6,904)	51.0% (8,803)	50.9% (10,425)	51.3% (15,374)	51.5% (17,417)	51.6% (17,667)	51.8% (17,473)
Female	48.5% (5,254)	48.9% (6,611)	49.0% (8,448)	49.1% (10,043)	48.7% (14,604)	48.5% (16,381)	48.4% (16,545)	48.2% (16,274)
Race/Ethnicity								
Black/African-American	42.8% (4,658)	40.0% (5,403)	36.4% (6,277)	34.6% (7,085)	36.1% (10,818)	35.7% (12,074)	35.2% (12,042)	35.1% (11,836)
White/European-American	31.3% (3,404)	33.2% (4,480)	34.1% (5,890)	35.0% (7,166)	32.8% (9,826)	33.9% (11,447)	32.8% (11,217)	47.9% (16,168)
Hispanic/Latino ^b	17.8% (1,934)	18.9% (2,543)	21.8% (3,765)	22.7% (4,652)	22.2% (6,641)	21.3% (7,200)	22.9% (7,835)	25.5% (8,616)
Multiracial	3.4% (369)	3.6% (488)	3.5% (604)	3.9% (800)	4.5% (1,355)	5.2% (1,763)	4.9% (1,679)	6.4% (2,146)
Native American/ Alaskan Native	3.0% (328)	2.8% (375)	2.4% (407)	2.0% (406)	2.6% (764)	2.2% (745)	2.3% (795)	7.5% (2,521)
Asian	1.6% (176)	1.4% (195)	1.5% (263)	1.6% (318)	1.7% (498)	1.5% (513)	1.7% (593)	1.8% (597)
Native Hawaiian/ Pacific Islander	0.2% (22)	0.2% (31)	0.3% (45)	0.2% (41)	0.3% (76)	0.2% (56)	0.2% (51)	1.4% (479)
Primary Caregiver Employed ^c	69.3% (7,535)	76.4% (10,101)	79.3% (13,385)	81.5% (16,366)	81.9% (23,338)	81.3% (25,939)	77.7% (25,258)	75.0% (24,264)
Military Parent ^d	--	--	--	--	6.4% (1,916)	6.8% (2,284)	6.6% (2,268)	6.7% (2,244)

^a In 2003-2004, gender was not reported for 49 children, and household size was not reported for 105 families.

^b In 2010-2011, whether a child was of Hispanic/Latino ethnicity was asked as a separate question. In previous years, it was asked as a choice within the race/ethnicity question.

^c Primary caregiver's employment was not reported for 14 families in 2003-2004; 294 families in 2004-2005; 369 families in 2005-2006; 378 families in 2006-2007; 1,485 families in 2007-2008; 1,909 families in 2008-2009; 1,721 families in 2009-2010, and 1,403 families in 2010-2011.

^d Parent/guardian on active military duty was included as an option for More at Four eligibility beginning in 2007-2008.

Table 14. Risk Factor Status of More at Four Children (2003–2011)

Type of Risk Factor	2003-2004 n=10,833 ^a	2004-2005 n=13,515	2005-2006 n=17,251	2006-2007 n=20,468	2007-2008 n=29,978	2008-2009 n=33,798	2009-2010 n=34,212	2010-2011 n=33,747
Family Income								
130% of poverty and below (eligible for free lunch)	74.3% (8,051)	74.4% (10,052)	73.6% (12,694)	75.4% (15,439)	74.5% (22,323)	74.0% (25,023)	76.7% (26,226)	78.3% (26,407)
131-185% of poverty (eligible for reduced-price lunch)	15.3% (1,653)	16.4% (2,215)	16.4% (2,820)	15.4% (3,157)	15.4% (4,626)	14.0% (4,745)	13.5% (4,607)	12.6% (4,235)
186-200% of poverty		3.2% (435)	3.6% (615)	3.1% (639)	3.0% (900)	2.7% (899)	2.7% (932)	2.4% (807)
201-250% of poverty	10.4% (1,129) ^b	4.8% (642)	4.8% (827)	4.0% (812)	4.5% (1,346)	4.0% (1,359)	3.2% (1,083)	2.9% (979)
>251% of poverty		1.1% (150)	1.7% (295)	2.1% (421)	2.6% (783)	5.2% (1,772)	4.0% (1,364)	3.9% (1,319)
Limited English Proficiency								
Family and/or child speak limited or no English in the home	18.1% (1,958)	17.1% (2,317)	18.6% (3,209)	17.5% (3,573)	18.2% (5,461)	19.1% (6,467)	21.0% (7,166)	21.4% (7,233)
Developmental/Educational Need^c								
Developmental/educational need indicated by performance on a developmental screen	---	10.8% (1,459)	15.6% (2,694)	16.6% (3,395)	21.2% (6,339)	30.2% (10,216)	30.9% (10,570)	30.7% (10,369)
Identified Disability								
Child has an IEP	7.0% (762)	5.7% (765)	4.8% (831)	4.5% (914)	5.6% (1,674)	6.0% (2,042)	6.3% (2,140)	5.7% (1,906)
Chronic Health Condition(s)								
Child is chronically ill/medically fragile	3.3% (361)	5.5% (746)	4.7% (818)	4.2% (867)	4.9% (1,460)	5.2% (1,759)	5.7% (1,957)	5.6% (1,904)

^a In 2003-2004, risk factor data were not reported for 58 children.

^b In 2003-2004, only one category for family income levels above 185% of poverty was used by some programs.

^c Developmental/educational need was included as a risk factor for children in all income categories beginning in 2004-2005.

Table 15. Service Priority Status of More at Four Children (2003–2011)

Service Priority Status ^a	2003-2004 n=10,891	2004-2005 n=13,515	2005-2006 n=17,251	2006-2007 n=20,468	2007-2008 n=29,978	2008-2009 n=33,798	2009-2010 n=34,212	2010-2011 n=33,747
Unserved								
Children who have never been served in any preschool or child care setting.	62.3% (6,788)	60.4% (8,165)	59.9% (10,325)	58.8% (12,033)	54.6% (16,353)	54.0% (18,237)	54.8% (18,755)	57.5% (19,397)
Children who are currently unserved (previously in preschool or child care setting). ^b	20.9% (2,282)	17.9% (2,418)	13.2% (2,270)	13.1% (2,676)	13.1% (3,938)	16.1% (5,433)	15.1% (5,155)	14.6% (4,918)
Children served for 5 months or less in the year prior to service in the More at Four program in any preschool or child care setting.	-- ^c	3.2% (436)	5.9% (1,022)	4.1% (849)	3.9% (1,161)	2.3% (780)	2.1% (721)	1.5% (520)
Underserved								
Children who are in unregulated child care that does not meet the More at Four Pre-K standards.	-- ^c	4.5% (608)	4.2% (716)	4.0% (814)	5.3% (1,592)	5.9% (1,981)	4.7% (1,609)	3.8% (1,291)
Children who are in a regulated preschool or child care setting, but are not receiving subsidy.	5.6% (606)	3.4% (463)	2.1% (364)	2.4% (497)	3.6% (1,072)	4.5% (1,510)	4.7% (1,612)	5.2% (1,765)
Other children, including those in pre-kindergartens or child care settings that do not meet More at Four program standards.	11.2% (1,215)	10.5% (1,425)	7.2% (1,236)	7.2% (1,474)	8.5% (2,556)	4.6% (1,570)	4.4% (1,507)	4.5% (1,527)
Exception								
Children served by this site as 3-year-olds.	-- ^c	-- ^c	7.6% (1,318)	10.4% (2,125)	11.0% (3,306)	12.7% (4,287)	14.2% (4,853)	12.8% (4,329)

^a These categories are described based on the 2010-2011 program requirements.

^b This category included two separate categories indicating whether or not children were eligible for subsidy prior to 2007-2008.

^c The program requirements for service priority status did not distinguish this category in this year.

Table 16. Pre-K Program Characteristics Over Time Results

Year	Teacher BA or Higher		Teacher BK License		Teacher No Credential		Site Type: Public School		Site Type: Private School		Site Type: Head Start		% Children Never Served		% Children Unserved	
	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)
2003-2004 vs. 2011-2012	2.46***	(0.17)	1.35***	(0.08)	-1.31***	(0.09)	0.08	(0.08)	-0.14	(0.08)	0.09	(0.11)	-4.79%***	(1.04%)	-5.28%***	(0.98%)
2004-2005 vs. 2011-2012	2.18***	(0.17)	1.03***	(0.08)	-0.70***	(0.10)	-0.14	(0.08)	-0.06	(0.08)	0.43***	(0.12)	-2.23%*	(0.99%)	-4.38%***	(0.93%)
2005-2006 vs. 2011-2012	2.23***	(0.16)	0.85***	(0.07)	-0.57***	(0.09)	-0.10	(0.07)	-0.08	(0.08)	0.35**	(0.11)	-1.67%	(0.93%)	-2.09%*	(0.88%)
2006-2007 vs. 2011-2012	2.22***	(0.16)	0.65***	(0.07)	-0.39***	(0.09)	-0.18*	(0.07)	0.06	(0.07)	0.25*	(0.10)	0.91%	(0.89%)	1.35%	(0.84%)
2007-2008 vs. 2011-2012	2.52***	(0.15)	0.76***	(0.06)	-0.42***	(0.09)	-0.11	(0.06)	0.23***	(0.07)	-0.14	(0.08)	6.52%***	(0.81%)	6.58%***	(0.76%)
2008-2009 vs. 2011-2012	2.46***	(0.15)	0.64***	(0.06)	-0.20*	(0.09)	-0.05	(0.06)	0.21**	(0.07)	-0.22**	(0.08)	7.24%***	(0.78%)	6.61%***	(0.74%)
2009-2010 vs. 2011-2012	2.12***	(0.16)	0.46***	(0.06)	0.01	(0.09)	-0.06	(0.06)	0.25***	(0.07)	-0.25**	(0.08)	5.47%***	(0.78%)	6.07%***	(0.74%)
2010-2011 vs. 2011-2012	1.49***	(0.16)	0.04	(0.07)	0.24*	(0.09)	-0.14*	(0.06)	0.30***	(0.07)	-0.19*	(0.08)	2.64%***	(0.79%)	4.06%***	(0.74%)

^a Significance levels are * $p < .05$, ** $p < .01$, *** $p < .001$. Est=estimated mean differences between groups.

Table 17. NC Pre-K Teacher Survey Results (2011–2012)

Characteristic	n=92-98	Mean/%	(SD)	Range
Classroom Characteristics				
Number of staff present daily		2.1	(0.3)	2-3
Total number of children		16.5	(2.3)	8-19
Teacher Perspectives				
Teacher beliefs about developmentally appropriate practices ^a		4.0	(0.4)	3.2-4.7
How this class will do in kindergarten compared to last year's class in these areas ^b :				
Academic or intellectual skills		3.9	(0.9)	1-5
Language and communication skills		4.1	(0.9)	1-5
Social skills		4.1	(0.9)	1-5
Physical or motor skills		4.5	(0.8)	1-5
Emotional development		4.1	(0.8)	2-5
Being self-directed		4.3	(0.9)	1-5
Doing activities the teacher assigns or following teacher directions		4.1	(0.8)	2-5
Work Climate				
Work environment summary score ^c		3.7	(0.9)	0.4-5.0
Adequacy of resources ^d				
Physical space		4.1	(0.9)	1-5
Outdoor facilities		3.8	(1.1)	1-5
Other qualified regular staff		4.2	(0.9)	1-5
Trained substitutes		3.3	(1.1)	1-5
Equipment		3.9	(0.9)	2-5
Materials/supplies		3.8	(1.0)	1-5
Administrative resources		4.0	(1.1)	1-5

^a Rated on a scale of 1-5 with higher scores representing more developmentally-appropriate teaching beliefs.

^b Rated on a scale of 1-5 with higher scores representing higher expected skills.

^c Rated on a scale of 0-5 with higher scores representing a more positive work environment.

^d Rated on a scale of 1-5 with higher scores representing more adequate resources.

Table 17. NC Pre-K Teacher Survey Results (2011–2012)

Characteristic	n=92-98	Mean/%	(SD)	Range
Involvement in decision-making ^a				
Planning daily schedule		4.5	(0.9)	1-5
How to teach		4.1	(1.3)	1-5
Ordering supplies		3.6	(1.4)	1-5
Curriculum		3.1	(1.5)	1-5
Program objectives		2.7	(1.5)	1-5
Parent policies		2.6	(1.2)	1-5
Hiring teachers		1.7	(1.0)	1-5
Personnel policies		1.7	(1.1)	1-5
Teacher Characteristics				
Professional plans for next 3 years				
Remain at this site		66%		--
Take a job in a different early childhood setting		5%		--
Open a family child care home		0%		--
Take a job outside of child care		5%		--
Begin/return to school		10%		--
Not work		1%		--
Other ^b		13%		--
Years of experience teaching birth-5		11.0	7.3	0.4-40
Total years of teaching experience		12.8	7.9	0.6-40

^a Rated on a scale of 1-5 with higher scores representing greater involvement in decision-making.

^b Other professional plans included plans to enter administration, teach other grade levels, go on disability, or retire.

Table 18. Global Classroom Quality (ECERS-R Scores): NC Pre-K Classrooms (2011–2012)

ECERS-R Item	n=100	Mean	(SD)	Range
Total Score		4.6	(0.7)	3.0-6.1
Space and Furnishings Subscale		4.6	(0.9)	2.3-6.4
Indoor space		4.5	(2.1)	1-7
Furniture for routine care, play, and learning		6.3	(1.2)	2-7
Furnishings for relaxation and comfort		5.1	(1.7)	2-7
Room arrangement for play		4.9	(1.9)	1-7
Space for privacy		4.9	(1.9)	1-7
Child-related display		4.9	(1.6)	3-7
Space for gross motor play		2.2	(1.4)	1-7
Gross motor equipment		3.7	(2.1)	1-7
Personal Care Routines Subscale		2.9	(0.9)	1.3-5.7
Greeting/departing		5.3	(1.9)	1-7
Meals/snacks		1.7	(1.3)	1-6
Nap/rest		4.0	(2.1)	1-7
Toileting/diapering		1.7	(1.4)	1-7
Health practices		2.5	(1.5)	1-7
Safety practices		2.4	(1.7)	1-7
Language-Reasoning Subscale		5.2	(1.1)	1.8-7.0
Books and pictures		4.6	(1.7)	1-7
Encouraging children to communicate		6.2	(1.3)	2-7
Using language to develop reasoning skills		4.2	(1.4)	1-7
Informal use of language		5.6	(1.5)	2-7
Activities Subscale		4.5	(0.9)	2.6-6.5
Fine motor		5.3	(1.7)	2-7
Art		4.4	(1.4)	3-7
Music/movement		4.6	(1.4)	2-7
Blocks		4.7	(1.6)	1-7
Sand/water		4.9	(1.6)	1-7
Dramatic play		4.3	(1.2)	1-7
Nature/science		4.5	(1.7)	1-7
Math/number		4.7	(1.5)	1-7
Use of TV, video, and/or computers		3.8	(2.0)	1-7
Promoting acceptance of diversity		4.2	(1.2)	1-7
Interaction Subscale		4.9	(1.3)	1.8-7.0

Table 18. Global Classroom Quality (ECERS-R Scores): NC Pre-K Classrooms (2011–2012)

ECERS-R Item	n=100	Mean	(SD)	Range
Supervision of gross motor activities		4.4	(1.7)	1-7
General supervision of children		4.9	(2.1)	1-7
Discipline		4.8	(1.6)	1-7
Staff-child interactions		5.4	(2.0)	1-7
Interactions among children		5.3	(1.9)	1-7
Program Structure Subscale		5.2	(1.2)	2.7-7.0
Schedule		4.5	(1.9)	1-7
Free play		5.6	(1.7)	1-7
Group time		5.7	(1.5)	3-7
Provisions for children with disabilities		4.9	(1.8)	1-7
Parents and Staff Subscale		5.1	(0.8)	3.0-6.3
Provisions for parents		5.5	(1.4)	2-7
Provisions for staff personal needs		3.1	(1.2)	1-6
Provisions for staff professional needs		5.3	(2.0)	1-7
Staff interaction		5.7	(1.3)	1-7
Staff supervision		5.9	(1.4)	1-7
Professional growth		5.0	(1.3)	1-7

Figure 1. Global Classroom Quality (ECERS-R Total Scores)

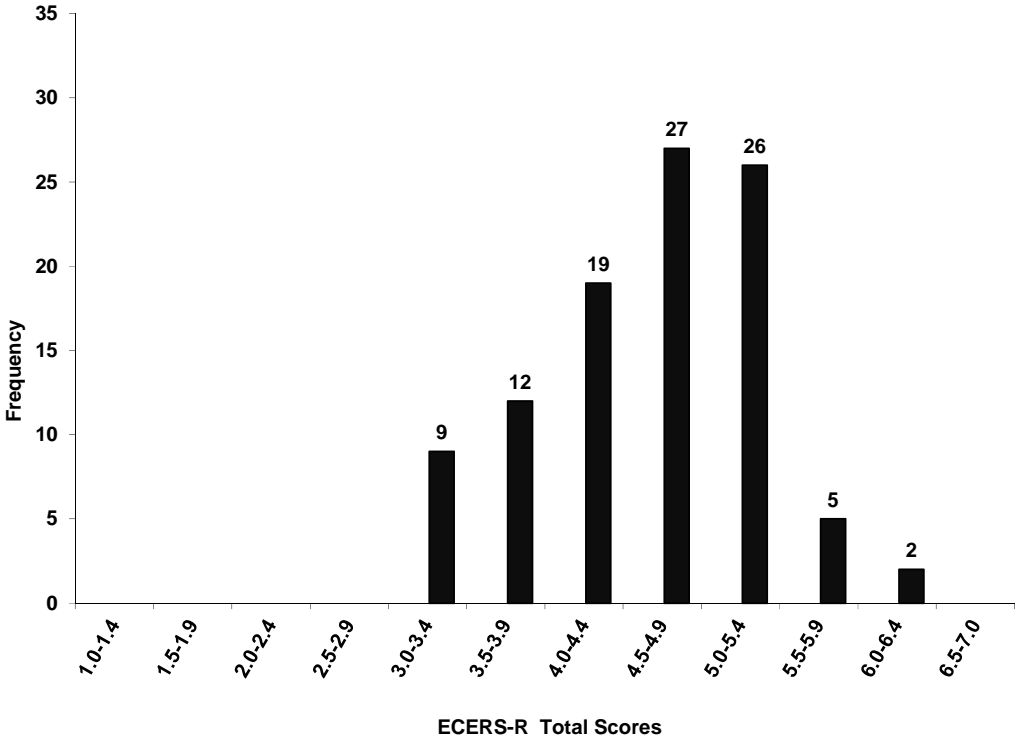


Table 19. Teacher-Child Instructional Interaction Quality (CLASS Scores): NC Pre-K Classrooms (2011–2012)

CLASS Dimension	n=100	Mean	(SD)	Range ^a
Emotional Support Domain		5.8	(0.5)	4.4-6.6
Positive climate		5.8	(0.7)	4.2-7.0
Negative climate ^b		1.2	(0.4)	1.0-2.8
Teacher sensitivity		5.3	(0.7)	3.8-6.8
Regard for student perspectives		5.1	(0.8)	3.0-6.8
Classroom Organization Domain		5.4	(0.6)	3.4-6.6
Behavior management		5.6	(0.7)	3.2-7.0
Productivity		5.7	(0.7)	3.6-6.8
Instructional learning formats		4.9	(0.7)	3.2-6.4
Instructional Support Domain		2.4	(0.6)	1.3-4.7
Concept development		2.1	(0.8)	1.0-5.0
Quality of feedback		2.5	(0.7)	1.2-4.2
Language modeling		2.7	(0.8)	1.0-4.8

^a Domain scores could range from 1.0-7.0; dimension scores could range from 1-7.

^b Lower scores on Negative climate represent greater emotional support. Scores on this dimension are reversed for the Emotional Support Domain score.

Figure 2. Emotional Support (CLASS Scores)

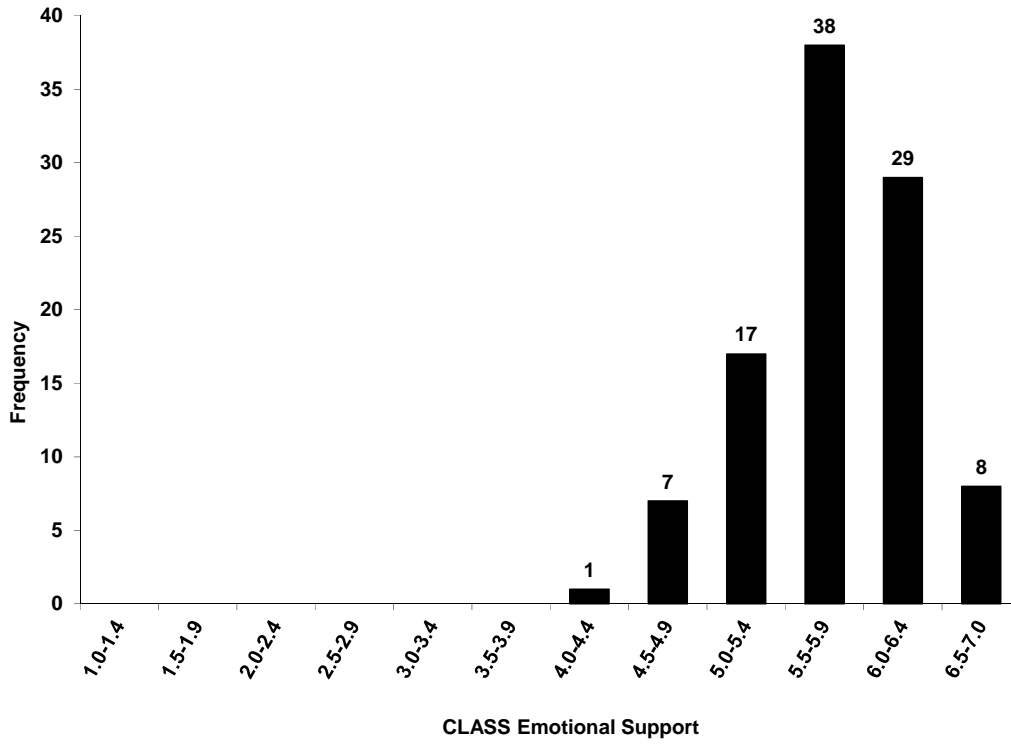


Figure 3. Classroom Organization (CLASS Scores)

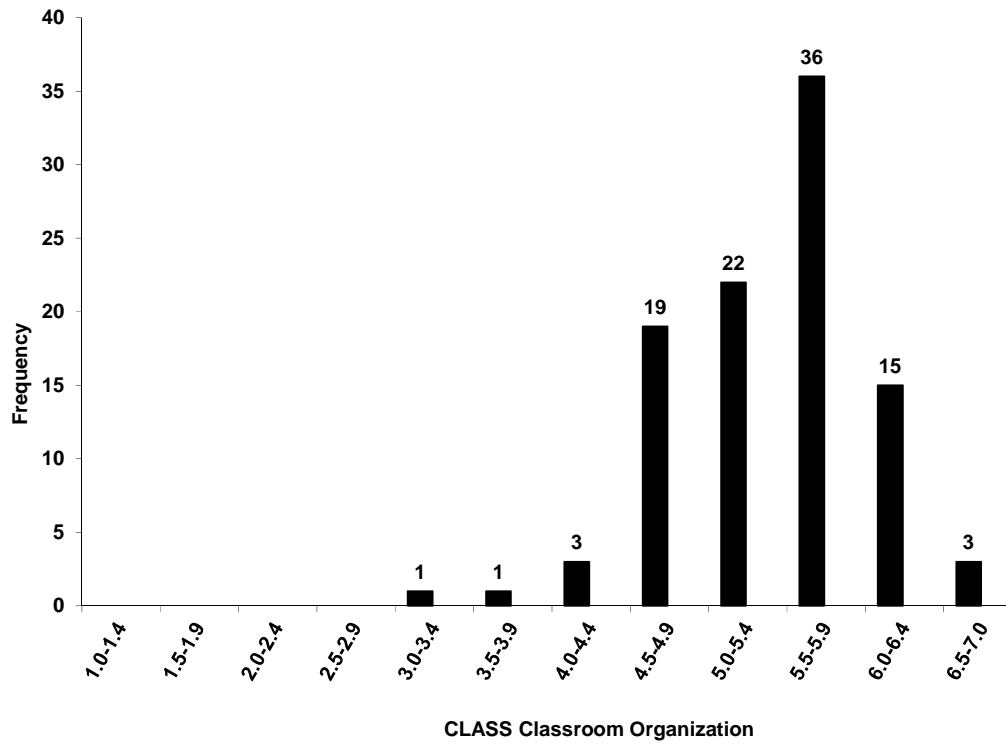


Figure 4. Instructional Support (CLASS Scores)

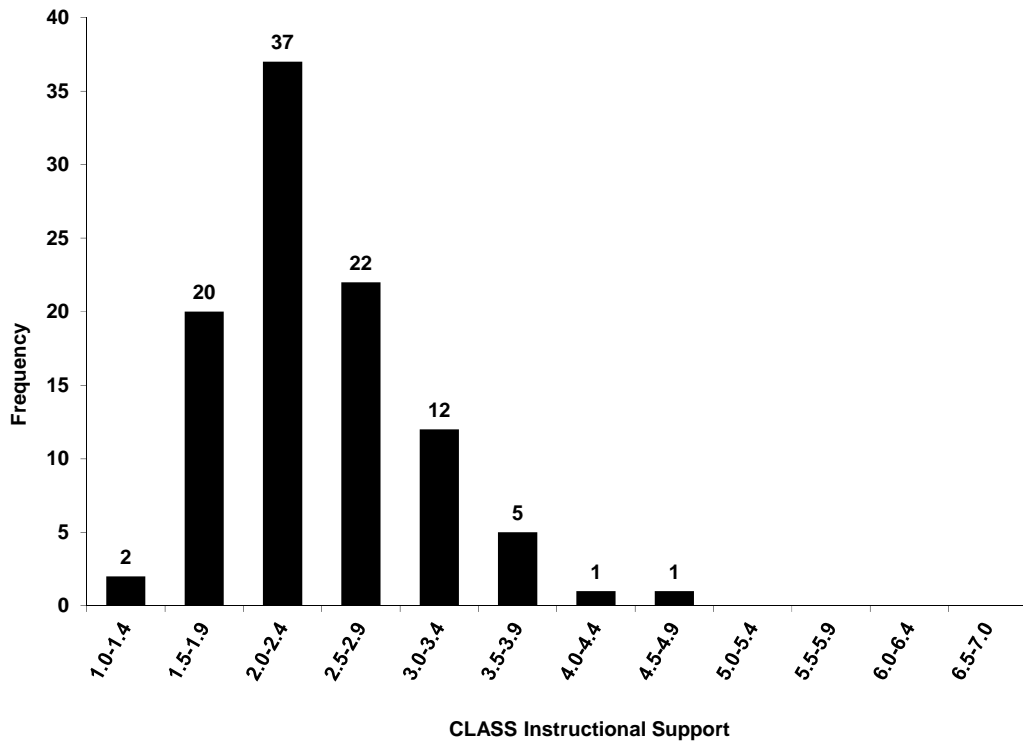


Table 20. Language and Literacy Environment Quality (ELLCO Scores): NC Pre-K Classrooms (2011–2012)

Item Description	n=100	Mean	(SD)	Range ^a
General Classroom Environment Subscale		3.8	(0.6)	2.7-4.9
Classroom Structure		4.0	(0.6)	2.8-5.0
Curriculum		3.5	(0.7)	2.3-5.0
Language and Literacy Subscale		3.5	(0.6)	2.3-4.8
The Language Environment		3.3	(0.7)	2.0-4.5
Books and Book Reading		3.7	(0.7)	1.8-5.0
Print and Early Writing		3.3	(0.9)	1.7-5.0

^a Scores could range from 1.0 to 5.0.

Figure 5. General Classroom Environment (ELLCO Scores)

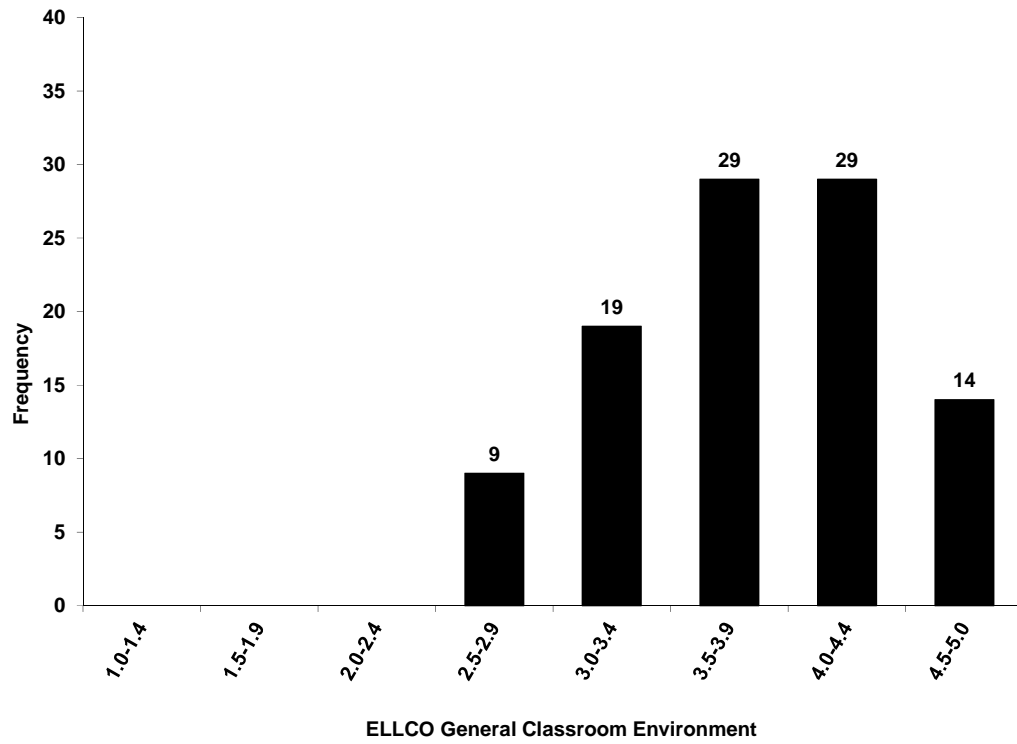


Figure 6. Language and Literacy (ELLCO Scores)

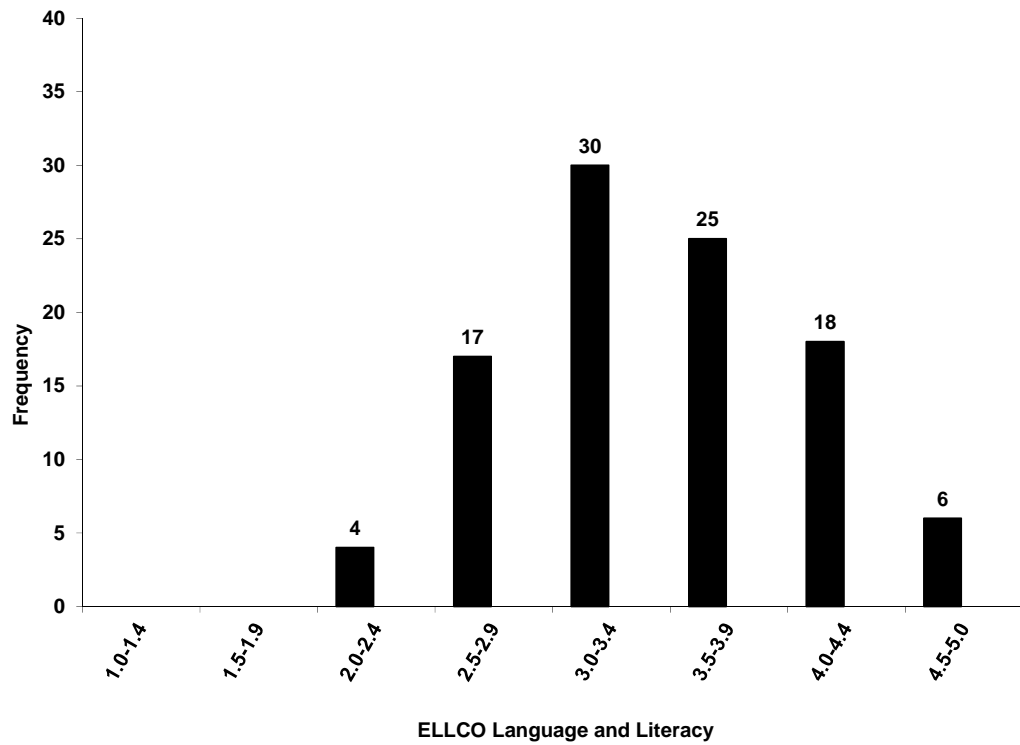
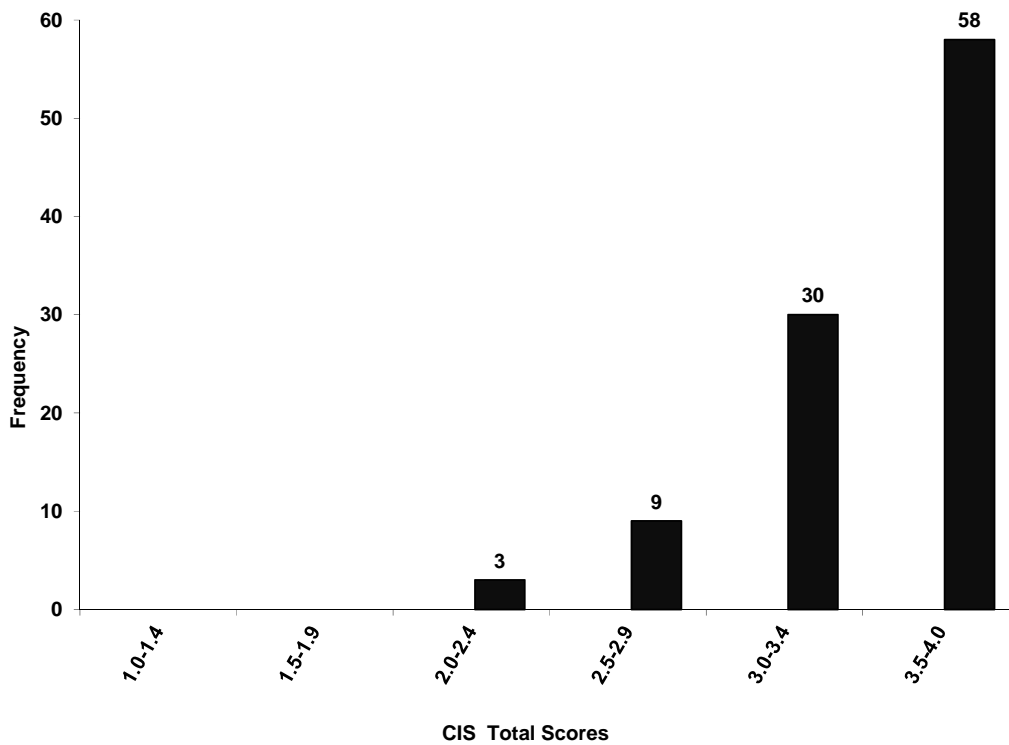


Table 21. Sensitivity of Teacher-Child Interaction Quality (CIS Scores): NC Pre-K Classrooms (2011–2012)

Item Description ^a	n=100	Mean	(SD)	Range ^b
Total Items Score		3.4	0.4	2.0-4.0
Sensitivity Subscale		3.1	0.6	1.7-3.9
Harshness Subscale		1.4	0.5	1.0-2.9
Detachment Subscale		1.4	0.4	1.0-3.0
Permissiveness Subscale		1.4	0.5	1.0-3.0

Figure 7. Sensitivity of Teacher-Child Interaction (CIS Total Scores)



^a For the total score calculation, scoring is reversed on the Harshness, Detachment, and Permissiveness subscales so that higher total scores represent more positive interactions. For the individual scores on these three subscales, lower scores represent more positive interactions, while for the Sensitivity subscale, higher scores represent more positive interactions.

^b Possible range=1.0-4.0.

Table 22. Predictors of Classroom Quality Regression Results: NC Pre-K Classrooms (2011–2012)

Model	ECERS-R		CLASS				ELLCO				CIS			
	Total Score		Emotional Support		Classroom Organization		Instructional Support		General Classroom Environment		Language and Literacy		Total Score	
	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)
Model I n=100	$R^2=0.11$		$R^2=0.06$		$R^2=0.08$		$R^2=0.10$		$R^2=0.08$		$R^2=0.15^*$		$R^2=0.09$	
Intercept	3.86	(0.78)	5.64	(0.55)	5.16	(0.67)	3.67	(0.70)	3.15	(0.63)	2.05	(0.65)	3.01	(0.44)
Teacher has BK license	0.21	(0.17)	0.09	(0.12)	0.18	(0.15)	-0.02	(0.15)	0.18	(0.14)	0.07	(0.14)	-0.06	(0.10)
Teacher has MA/MS or higher	0.17	(0.21)	-0.15	(0.15)	-0.12	(0.19)	-0.19	(0.19)	0.02	(0.17)	0.22	(0.18)	0.11	(0.12)
Classroom size	0.01	(0.02)	0.01	(0.02)	-0.01	(0.02)	0.00	(0.02)	0.01	(0.02)	0.03	(0.02)	-0.02	(0.01)
% NC Pre-K students in class	0.12	(0.28)	0.12	(0.20)	-0.02	(0.24)	-0.09	(0.25)	0.24	(0.23)	0.43	(0.23)	0.26	(0.16)
% limited English proficiency students	0.77	(0.46)	0.42	(0.32)	0.33	(0.40)	1.15**	(0.41)	0.41	(0.37)	0.39	(0.38)	-0.02	(0.26)
Class average risk score	-0.04	(0.25)	-0.12	(0.17)	-0.07	(0.21)	-0.58*	(0.22)	-0.03	(0.20)	0.06	(0.21)	0.16	(0.14)
% students no prior placement	0.26	(0.34)	0.08	(0.24)	0.45	(0.30)	-0.25	(0.31)	0.09	(0.28)	0.34	(0.28)	0.26	(0.20)
Model II n=98	$R^2=0.24^{**}$		$R^2=0.11$		$R^2=0.11$		$R^2=0.16$		$R^2=0.17^*$		$R^2=0.22^{**}$		$R^2=0.12$	
Intercept	1.40	(1.07)	4.51	(0.83)	4.20	(1.03)	2.47	(1.07)	1.52	(0.92)	0.45	(0.95)	2.21	(0.68)
Teacher has BK license	0.15	(0.16)	0.05	(0.12)	0.15	(0.15)	-0.08	(0.16)	0.13	(0.14)	0.03	(0.14)	-0.08	(0.10)
Teacher has MA/MS or higher	0.21	(0.19)	-0.13	(0.15)	-0.10	(0.19)	-0.16	(0.19)	0.05	(0.17)	0.25	(0.17)	0.12	(0.12)
Classroom size	0.00	(0.02)	0.00	(0.02)	-0.01	(0.02)	0.00	(0.02)	0.01	(0.02)	0.03	(0.02)	-0.02	(0.01)
% NC Pre-K students in class	0.26	(0.25)	0.19	(0.20)	0.05	(0.25)	0.01	(0.25)	0.36	(0.22)	0.53*	(0.23)	0.30	(0.16)
% limited English proficiency students	0.68	(0.42)	0.37	(0.33)	0.30	(0.41)	1.05*	(0.42)	0.33	(0.36)	0.32	(0.37)	-0.06	(0.27)
Class average risk score	0.02	(0.22)	-0.10	(0.17)	-0.05	(0.22)	-0.53*	(0.22)	0.01	(0.19)	0.10	(0.20)	0.18	(0.14)
% students no prior placement	0.08	(0.32)	0.01	(0.24)	0.34	(0.30)	-0.42	(0.31)	-0.08	(0.27)	0.21	(0.28)	0.21	(0.20)
Teacher beliefs	0.53**	(0.19)	0.25	(0.15)	0.18	(0.19)	0.15	(0.19)	0.30	(0.16)	0.33	(0.17)	0.17	(0.12)
Work environment	0.13	(0.07)	0.06	(0.06)	0.08	(0.07)	0.16*	(0.07)	0.14*	(0.06)	0.10	(0.07)	0.04	(0.05)

^aSignificance levels are *p< .05, **p< .01, ***p< .001.

Table 23. Pre-K Classroom Quality Scores (2003–2008)

	2003-2004 n=99			2005-2006 n=57			2007-2008 n=50		
	Mean	(SD)	Range	Mean	(SD)	Range	Mean	(SD)	Range
ECERS-R Total	5.3	(0.7)	3.4-6.4	4.4	(0.7)	2.8-5.8	4.6	(0.9)	2.8-6.4
CLASS Emotional Support ^a	---	---	---	---	---	---	5.8	(0.9)	2.8-7.0
CLASS Classroom Organization ^a	---	---	---	---	---	---	5.3	(0.8)	2.9-6.7
CLASS Instructional Support ^a	---	---	---	---	---	---	3.1	(1.0)	1.4-5.3
CIS Total ^a	---	---	---	3.4	(0.4)	2.4-3.9	3.5	(0.4)	2.4-4.0

Table 24. Pre-K Classroom Quality Over Time Results

Year	ECERS-R		CLASS ^a						CIS ^a	
	Total Score		Emotional Support		Classroom Organization		Instructional Support		Total Score	
	Est ^b	(SE)	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)	Est ^a	(SE)
2003-2004 vs. 2005-2006	-0.92***	(0.12)	---	---	---	---	---	---	---	---
2003-2004 vs. 2007-2008	-0.70***	(0.12)	---	---	---	---	---	---	---	---
2003-2004 vs. 2011-2012	-0.72***	(0.10)	---	---	---	---	---	---	---	---
2005-2006 vs. 2007-2008	0.22	(0.14)	---	---	---	---	---	---	0.07	(0.08)
2005-2006 vs. 2011-2012	0.20	(0.12)	---	---	---	---	---	---	0.02	(0.07)
2007-2008 vs. 2011-2012	-0.01	(0.12)	-0.01	(0.11)	0.13	(0.12)	-0.62***	(0.13)	-0.06	(0.07)

^a The CIS and the CLASS were gathered beginning in the 2005-2006 and 2007-2008 program years, respectively.

^b Significance levels are *p< .05, **p< .01, ***p< .001. Est=estimated mean differences between groups

Table 25. More at Four Evaluation Reports Reference List

- Peisner-Feinberg, E. S. (2003). *Child and Program Characteristics of the North Carolina More at Four Pre-kindergarten Program: Year 1 (January-June 2002)*. Chapel Hill: The University of North Carolina at Chapel Hill, FPG Child Development Institute.
- Peisner-Feinberg, E. S., & Maris, C. L. (2005). *Evaluation of the North Carolina More at Four Prekindergarten Program: Year 2 (July 1, 2002-June 30, 2003)*. Chapel Hill: The University of North Carolina at Chapel Hill, FPG Child Development Institute.
- Peisner-Feinberg, E. S., & Maris, C. L. (2005). *Evaluation of the North Carolina More at Four Prekindergarten Program: Year 3 Report (July 1, 2003-June 30, 2004)*. Chapel Hill: The University of North Carolina at Chapel Hill, FPG Child Development Institute.
- Peisner-Feinberg, E. S., & Maris, C. L. (2006). *Evaluation of the North Carolina More at Four Prekindergarten Program: Children's longitudinal outcomes and classroom quality in kindergarten*. Chapel Hill: The University of North Carolina at Chapel Hill, FPG Child Development Institute.
- Peisner-Feinberg, E. S., Elander, K.C., & Maris, C. L. (2006). *Evaluation of the North Carolina More at Four Pre-kindergarten Program: Year 4 (July 1, 2004 – June 30, 2005) Program characteristics and services*. Chapel Hill: The University of North Carolina at Chapel Hill, FPG Child Development Institute.
- Peisner-Feinberg, E. S., & Schaaf, J. M. (2007). *Evaluation of the North Carolina More at Four Prekindergarten Program: Children's outcomes and program quality in the fifth year*. Chapel Hill: The University of North Carolina at Chapel Hill, FPG Child Development Institute.
- Peisner-Feinberg, E. S., & Schaaf, J. M. (2008). *Evaluation of the North Carolina More at Four Prekindergarten Program: Children's longitudinal outcomes and program quality over time (2003-2007)*. Chapel Hill: The University of North Carolina at Chapel Hill, FPG Child Development Institute.
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- Peisner-Feinberg, E. S., & Schaaf, J.M. (2010). *Long-term effects of the North Carolina More at Four Pre-kindergarten Program: Children's reading and math skills at third grade*. Chapel Hill: The University of North Carolina, FPG Child Development Institute.
- Peisner-Feinberg, E. S., & Schaaf, J.M. (2011). *Effects of the North Carolina More at Four Pre-kindergarten Program on Children's School Readiness Skills Key Findings*. Chapel Hill: The University of North Carolina, FPG Child Development Institute.
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Reference Notes

- ¹ North Carolina Division of Child Development and Early Education. (2011). *North Carolina Pre-kindergarten (NC Pre-K) Program Requirements and Guidance. Effective SFY 2011-2012*. Raleigh, NC: Author.
- ² North Carolina Department of Public Instruction. Early Childhood Section. (2005). *Foundations: Early learning standards for North Carolina preschoolers and strategies for guiding their success*. Raleigh, NC: Author.
- ³ Harms, T., Clifford, R. M., & Cryer, D. (1998). *Early Childhood Environment Rating Scale Revised Edition*. New York: Teachers College Press.
- ⁴ Pianta, R. C., La Paro, K. M., & Hamre, B. K. (2008), *Classroom Assessment Scoring System (CLASS) Manual, Pre-K*. Baltimore: Paul H. Brookes.
- ⁵ Smith, M. W., Brady, J. P., Anastasopoulos, L. (2008), *Early Language and Literacy Classroom Observation Pre-K Tool*. Newton, MA: Brookes Publishing.
- ⁶ Arnett, J. (1989). Caregivers in day-care centers: Does training matter? *Journal of Applied Developmental Psychology, 10*, 541-552.
- ⁷ Mashburn, A. J., Pianta, R. C., Hamre, B. K., Downer, J. T., Barbarin, O. A., Bryant, D. Howes, C. (2008). Measures of classroom quality in prekindergarten and children's development of academic, language, and social skills. *Child Development, 79*, 732-749.
- ⁸ Peisner-Feinberg, E. S. & Schaaf, J. M. (2009). *Evaluation of the North Carolina More at Four Pre-kindergarten Program: A look across time at children's outcomes and classroom quality from pre-k through kindergarten (2003-2009)*. Chapel Hill: The University of North Carolina, FPG Child Development Institute.
- ⁹ Phillips, D. A., Gormley, W. T., & Lowenstein, A. E. (2009). Inside the pre-kindergarten door: Classroom climate and instructional time allocation in Tulsa's pre-K program. *Early Childhood Research Quarterly, 24*, 213-228.