

Education Level and Stability As It Relates to Early Childhood Classroom Quality: A Survey of Early Childhood Program Directors and Teachers

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Abstract:

The field of early care and education is continually seeking to determine factors that contribute to the overall quality of the education for young children. Individual characteristics of teachers, including education level, have been associated with classroom quality. Program demographics, including turnover rate for teachers, also have had varying associations with levels of quality. The current study used data from teachers and directors participating in the North Carolina Rated License process to explore relationships between education levels for teachers and directors with levels of classroom quality, and between stability of position for teachers and classroom quality scores. Teacher education level and stability (i.e., consistently working with the same age group) were positively related to classroom quality scores. Higher education levels for center directors and center director enrollment in a college course also were associated with higher quality scores for their programs. Results suggest that, in addition to teacher education, other factors within child care centers are critical to the quality of care that teachers provide.

Keywords: Education | Early Childhood | Classroom Quality | Teachers | Administrators | Directors | Turnover

Article:

Children who receive high-quality early education experiences are more likely to be successful in a variety of areas later in their lives. Results from research and program evaluations suggest that high-quality experiences help set the stage for children's readiness for school success, particularly for children whose backgrounds include factors typically associated with poor performance in school (Brown & Scott-Little, 2003; Burchinal et al., 2000; Campbell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002; NICHD Early Child Care Research Network, 2005; Peisner-Feinberg et al., 2001). Given the importance of early education in children's lives, researchers have been searching for factors that can explain differences observed in the quality of

care and education provided to children. The relationship between teachers' education and the quality of their classroom has received considerable attention. Results from studies examining the relationship between teacher education and quality have been mixed, with some studies suggesting that teachers with higher levels of education have higher quality classrooms and more recent studies suggesting that teacher education levels may not be good predictors of classroom quality (Early et al., 2007).

The purpose of this article is to explore factors related to classroom quality. While teacher education is certainly an important factor, the quality of care teachers provide is likely to be impacted by a number of factors, including, but not limited to, their own educational qualifications. In order to gain a better understanding of factors that might affect teachers, we chose to study the relationship between the length of time teachers have been teaching a specific age group and the characteristics of the person who supervises their work with the quality of classrooms. We begin with a review of the literature related to these factors, followed by a description of our study and the results obtained.

Teacher Education

There are many instances in the early childhood literature of studies that have found associations between teachers' education level and the quality of the classroom environment. In an early study using the Caregiver Interaction Scale, Arnett (1989) found that teachers with a four-year degree in early childhood education, or a related field, had significantly higher quality interactions than teachers with college-level training, but no degree. Teachers with four-year degrees displayed more positive interactions, less detachment, and less punitive behaviors.

Using data collected in the Cost, Quality, and Outcomes Study, Howes (1997) found that teachers with four-year degrees displayed greater sensitivity, were more responsive to children, and had classrooms where children displayed greater complexity in their play with objects, as well as greater creativity, than did teachers with less education. This study also found that lower levels of education were associated with the level of classroom quality experienced by children--namely, that teachers with two-year degrees in early childhood education were more sensitive than teachers with less education. These findings were supported in a study by Howes, James, and Ritchie (2003) examining effective teaching and the various channels that effective teachers had taken during their careers. Teachers with bachelor's degrees were more responsive to children than those with less than four-year degrees; the study also found a significant main effect for the quantity of time spent in language arts activities in classrooms with teachers with bachelor's degrees. Those who had more education spent more time in language activities in their classrooms.

Howes, Phillips, and Whitebook (1992) analyzed data from the National Child Care Staffing Study and found specialized training to be less effective in predicting teacher behaviors than formal education. Using simple correlations examining formal education, specialized training,

and experience, this study found only formal education to be associated with teacher behaviors, including greater sensitivity, less harshness and detachment, and appropriate caregiving. Those researchers found an association with greater teacher sensitivity similar to that found earlier by Arnett (1989), however, when specialized training was designated as college-level training.

Education levels and adult/child ratios were examined in the NICHD (2002) study exploring child care structure, process measures, and child outcomes. Data were collected to gauge children's cognitive outcomes. While maternal caregiving was the strongest factor associated with child outcomes, a significant positive relationship existed between structural items (e.g., education level of teachers and adult to child ratios) and child outcomes.

In the executive summary provided by the North Carolina Rated License Assessment Project (Cassidy, Hestenes, Hestenes, & Mims, 2005), higher levels of teacher education were correlated with higher global quality scores in classrooms evaluated. Teachers with four-year degrees who worked in center-based settings had significantly higher global classroom assessment scores than teachers with less education. Additionally, teachers with two years of college achieved significantly higher scores than those with high school diplomas and some college. Recent analyses on this large dataset show a moderate association between teacher education and global quality ($r = .29$; Hestenes, Cassidy, Shim, & Hegde, 2008).

Recent publications examining relationships among teacher education, classroom quality, and child outcomes in state pre-kindergarten programs have revealed conflicting information when compared to earlier studies (Early et al., 2007; Pianta et al., 2005). Looking across data from seven major studies of early care and education programs serving 4-year-olds, Early et al. (2007) found that neither teachers' level of education nor their major consistently predicted differences in the quality of care they provided or in child outcomes. Results from most of their analyses indicated no relationship between a teacher's educational background and quality; in fact, the results from one study suggested that teachers with higher education levels provided lower quality care. While a teacher's education level continues to be associated with some variance in aspects of quality and positive outcomes for children, findings from studies examining the relationship between teacher education and quality have been inconsistent and relatively small in effect size. The lack of evidence for associations between a teacher's education and the quality of care or child outcomes in some studies suggests that perhaps other factors may account for differences in the quality of care that teachers provide. This study will examine two additional factors that could relate to differences in the quality of early childhood classrooms--the stability of the teacher in the classroom and characteristics of the administrator/director who oversees the program.

Stability for Teachers

While the importance of education has been documented, so has consistently maintaining the presence of the same teachers in classrooms. It is widely recognized that high turnover of staff

has a detrimental effect on children in child care programs (Helburn, 1995; Howes, Phillips, & Whitebook, 1992; Whitebook & Sakai, 2003; Whitebook, Sakai, & Howes, 1997). Data from child care programs indicate that teacher turnover is a significant issue for the early childhood field. The Center for the Child Care Workforce reported a national turnover rate of 30% in 2001 (Center for the Child Care Workforce, 2001). A report on the North Carolina Workforce from Child Care Services Association in 2004 reported a somewhat less alarming turnover rate of 24%, but also reported that 79% of teachers in the state do not see themselves working in the field in three years (Child Care Services Association, 2004). High turnover in child care programs often has been associated with lower levels of quality and seems to have negative effects on children (Helburn, 1995; Howes et al., 1992; Whitebook et al., 1997).

Whitebook and Sakai (2003) identify three types of turnover for early child care settings: "job turnover" (when a staff member leaves a particular center), "occupational turnover" (when staff leave not only the center but also the early childhood field), and "position turnover" (when staff move to different classrooms or positions within the same center). Whitebook and Sakai indicate that "position turnover" typically is seen in a more positive light compared to the other two types, often indicating a promotion or the fulfillment of a desired career change for the individual teacher. However, they also indicate that position turnover still carries the potential for disorder for children, families, and co-workers. Even a positive move, such as a promotion, typically results in families and children needing to adjust to a new teacher and establish relationships with a new person. Additionally, the new co-workers of a promoted employee must go through the process of establishing workable communication methods and routines. While there is much data available regarding the effects of staff turnover on levels of classroom quality and outcomes for children, few studies have explored position turnover for teachers and how changes in position may impact program quality. This type of turnover is not represented in turnover statistics, but can create a very dramatic change for a teacher's responsibilities and job duties.

Turnover is typically measured by using the number of teachers who leave their employment at a program within a year. However, it is possible that programs with low turnover might still have high position turnover within their program staff. In addition to promotions, this movement may be a result of changing age groups or classrooms and may result in changes in quality.

Consistency in position may provide teachers the benefit of experience with a particular age group. The skills developed while working with one age group, however, may not prepare teachers to achieve comparable levels of quality immediately upon moving to a different age group, even in the same program. The information on job and occupational turnover suggests that having consistent teachers over time within a program has a positive effect on the quality of the experiences offered to children. The question that remains largely unexamined is whether teachers who teach the same age group, within the same program for extended periods of time, have higher quality classrooms.

Director Characteristics

Within a child care center, the director is the person responsible for administrative aspects of the program as well as the one who often supervises classroom staff. Directors can influence the quality of care that teachers provide in a number of ways. There is, however, limited data regarding the relationship between director characteristics and the quality of care provided by teachers, particularly for the amount of education that directors have completed. One study has examined directors' education, as well as other factors that are related to quality. Data from the Cost, Quality and Child Outcomes study revealed associations between director characteristics and quality. Specifically, a director's effectiveness and involvement with a center's curriculum, years of experience, and education level were related to quality scores. In a discriminant analysis from this study, the director's education level was found to be highest in good quality centers, lower in mediocre centers, and lowest in poor-quality centers (Mocan, Burchinal, Morris, & Helburn, 1995).

In addition to education, other director characteristics seem to affect the quality of early childhood programs. For example, Howes, James, and Ritchie (2003) found effective teaching to be predicted by the presence of reflective supervision. The reflective supervision in this study was provided by a supervisor and/or a mentor who had at least a bachelor's degree. In their study, effective teaching was defined by a teacher's responsive involvement, engagement in language during play with children, and provision of language activities for children. Reflective supervision included regular meetings with a supervisor, discussions regarding specific children and teaching strategies, and observation by the supervisor. Clearly, directors can play an important role in supporting teachers. What remains largely unknown is whether directors who have more education and/or participate in ongoing professional development are better equipped to assist teachers in providing higher quality care.

Research Questions

The current study is designed to examine factors associated with differences in the quality of care provided in child care settings. Looking beyond teacher education levels, we have chosen to explore additional variables that have implications for the quality of teachers' classrooms. We examined two main questions: 1) Does teacher stability, defined as working with one age group over time, have an association with classroom quality? and 2) Is there an association between the director's education level and ongoing education of directors, and overall program quality? We first examine the relationship between teacher education levels and classroom quality scores. Because we recognize that the quality of care teachers provide is likely to be affected by more than just their education level, we then examine the relationship between continuity of position for teachers and classroom quality. Finally, we examine the relationship between directors' education level and ongoing education with overall program quality scores.

Methods

Background Information

Child care programs in North Carolina are licensed by the Division of Child Development (DCD) in the state's Department of Health and Human Services. The DCD is responsible for issuing a license to programs or homes providing care for more than three children. At the time of the study, the North Carolina Rated License incorporated graduated levels of licensure, with one through five stars being awarded based on a program's history of compliance with regulations, education level of staff, and program quality. This process for licensure was instituted in 1999, with most programs entering during 2000.

For those programs seeking to be licensed at the higher three-, four-, or five-star level, an assessment of program quality is required every three years. The DCD contracts with the North Carolina Rated License Assessment Project (NCRLAP), which is operated by the Department of Human Development and Family Studies at the University of North Carolina at Greensboro, to conduct the program quality assessments. The revised edition of the Early Childhood Environment Rating Scale (ECERS-R; Harms, Clifford, & Cryer, 1998), the Infant/Toddler Environment Rating Scale, revised, (ITERS-R; Harms, Cryer, & Clifford, 2003), and the School-Age Care Environment Rating Scale (SACERS; Harms, Jacobs, & White, 1996) are used to evaluate child care classrooms and provide an overall quality score.

Since most programs entered the system during 2000 and the license carries a requirement for reassessment every three years, many centers entered their third year of participation in the rated license process beginning in 2003 and required a second assessment. Although all programs are reassessed every three years, classrooms within a facility are randomly selected during each assessment. Therefore, the two assessment times will often reflect scores from different classrooms within the same program. The reassessment of programs presented an opportunity to examine what had happened during the three-year period.

Data Collection Process

After completion of the NCRLAP quality rating process, surveys were sent to participating directors and teachers. Information from the returned surveys, as well as the quality rating scores of the program, were used in this study. The quality rating scores were classroom assessments conducted by employees of the NCRLAP as part of the licensing process. Assessors are trained by the project and must achieve and maintain 85% reliability with experienced trainers in order to conduct environment rating scale assessments. Scores are derived based on observation of activities and interactions in the classrooms, as well as on interviews with teachers.

Surveys were sent to a total of 1,588 teachers employed in 465 programs completing a second assessment by the NCRLAP. A total of 540 surveys were returned, representing a 34% response rate from teachers. This study used only data from teachers who had been employed by the program at the first and second quality assessment times. From the returned surveys, 205 teachers indicated that their employment had covered the entire three years, although many of

them were only assessed at the second assessment period. A subgroup of 72 teachers with classroom assessment scores for both the first and second assessment period also was identified.

Directors in participating programs also were surveyed. We sent 465 surveys to program administrators. Of these, 231 were returned (50% response rate), and 205 of the responders indicated they had been employed at both the first and second assessments. Since the rated license assessment process requires at least one third of a program's classrooms to be assessed, there was typically more than one classroom assessment score per center. For directors, a mean score of all the assessments conducted in their programs was derived and used as the indicator of program quality. Differences between time I and time 2 mean scores were also calculated.

Measures

A survey was developed to learn more about staff education experiences, staff stability, and the strategies programs used to prepare for the second assessment. Questions regarding demographic information, such as current education level, continuing education experiences, and employment circumstances or changes during the past three years, were included on the survey. The following section describes the measure for each variable included in our analyses.

Teacher Education. Education level for teachers was measured by self-report on the survey in one of six categories: high school diploma, some college, two-year college degree, four-year degree in any field, four-year degree in early childhood, and graduate studies/degree.

Table 1. Mean Scores by Stability for All Teachers and Teachers With Two Classroom Assessments

| | All Teachers | | | Teachers Assessed Twice | | |
|-----------------|--------------|------|------|-------------------------|------|------|
| | n | Mean | SD | n | Mean | SD |
| Stability "no" | 50 | 4.96 | .571 | 12 | 4.75 | .486 |
| Stability "yes" | 154 | 5.96 | .579 | 60 | 5.39 | .561 |

Teacher Stability. For teachers indicating they had been employed at both the first and second assessment times, stability was measured as a "yes" response to the question, "Are you currently working with the same age group that you worked with when your program was first assessed?"

Director Education. Education level for directors also was measured by self-report with the same categories as described above under teacher education, and their survey included the question, "In the time period between the first and most current assessment, did you take any college courses?" to determine if they were engaged in ongoing professional development.

Classroom Quality. Classroom quality scores were derived from environment rating scales widely used as measures of global quality in the early childhood field. Because the classroom observations were conducted in classrooms that ranged from infancy to school age, the ECERS-R (Harms, Clifford, & Cryer, 1998), ITERS-R (Harms, Cryer, & Clifford, 2003), ITERS (Harms, Cryer, & Clifford, 1990), and SACERS (Harms, Jacobs, & White, 1996) measures all were used in the study. High overall internal consistency scores have been documented for all the scales and range from .83 to .95. The scales provide an overall quality score ranging from 1 to 7 for individual classrooms. Each scale is used according to the ages of children in the classroom being observed and appraises the quality of materials, interactions, and classroom structure, as well as items related to health and safety. Trained assessors who undergo periodic reliability checks and maintain 85% minimum reliability with program trainers conducted all of the assessments.

Overall, 63% of the total classrooms were assessed with the ECERS-R, 31% were assessed using ITERS and ITERS-R, and 6% were assessed with the SACERS. While all of the individuals included in the survey results had been employed during both assessment periods, a sub-group of 72 teachers were working in classrooms that were actually assessed twice, providing classroom scores for both time 1 and time 2 assessments. For the group of teachers with two assessment scores, 70% were ECERS-R, 25% ITERS and ITERS-R, and 5% SACERS.

Participants

All of the directors and teachers in this study had been employed at their respective programs for a minimum of three years and were employed at the time of the first and second assessment. All of the participating centers were voluntarily seeking higher level star ratings that required the classroom quality assessments. Education levels for teachers ranged from high school through graduate classes, with the largest group being those reporting some college (38%). High school graduates represented 19%, those teachers with two-year degrees represented 25%, and teachers with four-year early childhood degrees, other four-year degrees, and graduate courses made up the remaining 18%. All teachers with four-year degrees or higher were grouped together due to the small numbers in the sample.

Directors also represented a range of education levels, with 27% reporting graduate courses, 30% reporting four-year degrees (early childhood education and other combined), 26% reporting two-year degrees, and 16% reporting some college or high school diploma. Of the responding directors, half had been enrolled in a college course between the two assessment periods, while half reported they had not been enrolled.

Results

Descriptive Information

We begin by providing descriptive information related to the ongoing professional development participants reported, followed by a description of the quality of the classrooms.

Ongoing Professional Development. As a group, the participating centers were involved in a variety of professional development and quality enhancement activities, as reported on the surveys. Almost all (95% of directors and 83% of teachers) had participated in training on the environment rating scales during recent years. A majority of teachers (63%) and almost half of the directors (48%) had taken a college course during the past three years. Most (81%) of the centers that responded had received assistance from a state-wide quality enhancement program, and a majority (59%) had received consultation from their local resource and referral agencies. These were centers that were utilizing a variety of community resources and were actively pursuing higher levels of quality.

Classroom Quality. The average teacher classroom quality scores for the two assessment periods was 5.21 (SD = .62) for the first assessment and 5.18 (SD = .59) for the second assessment. A paired samples t-test for the teachers with two quality scores was not significant, $t(71) = -.937$, $p = .352$, indicating a lack of significant change over time. In addition, a two-tailed t-test comparing all first scores with all second scores was not significant, $t(291) = .278$, $p = .781$.

Program quality scores were calculated by averaging all classroom assessments from one center/program that were completed at each assessment. The program quality scores were then entered into analyses for directors. The mean program score for the two assessment periods was 5.28 (SD = .61) for the first assessment and 5.17 (SD = .54) for the second assessment. A one-way ANOVA indicated no significant difference between the overall first and second program scores, $F(1, 355) = 3.17$, $p > .05$.

Factors Associated With Differences in Classroom Quality

Correlations between survey responses and quality scores were conducted. Relationships between classroom quality scores, change in quality levels over time, and the responses of directors and teachers were examined. Pearson correlations were used in the analyses, including those involving dichotomous and continuous variables, as suggested by Howell (1999). For teachers, significant positive correlations were found between assessment scores and current education level. This relationship was present at the first assessment, $r(84) = .363$, $p < .001$, as well as at time 2, $r(201) = .183$, $p < .009$. Although not particularly strong, the correlations confirmed the findings of earlier studies and point to the important role that teacher education plays in quality classroom experiences for young children. Based on these initial correlations, we conducted further analyses to explore relationships between stability and quality scores and to examine whether directors' education was related to the quality of care.

Stability. Of the total number of teachers employed at both assessment times, the majority (75%) reported working with the same age group at the second assessment. This group represents teachers whose classrooms were assessed only once, as well as those who had two assessments

completed. All teachers in this group had a minimum of three years of experience with the same age group. Fifty teachers (25%) responded they were not working with the same age group in that three-year period. For those teachers who had actually been assessed twice, the breakdown was similar, with 60 (83%) reporting "yes," they were with the same age group, and 12 (17%) reporting "no."

We found a significant correlation between age group stability and quality in both the larger group of teachers, $r(204) = .221, p < .001$, as well as in the sub-group of teachers who had their classrooms assessed twice, $r(72) = .400, p < .000$. Similar results were found at the second assessment while controlling for education level using partial correlations. These results were found for the larger group, $r(197) = .230, p < .001$ and the sub-group of teachers, $r(66) = .402, p < .001$.

At the second assessment, teachers who responded they were working with the same age group had a mean quality score of 5.26 ($SD = .58$) as compared to the 4.96 mean score ($SD = .57$) for teachers who were not working with the same-age group, as indicated in Table 1. An ANOVA comparing classroom quality scores between these two groups revealed a significant difference, $F(1, 203) = 10.38, p < .001$. For the sub-group of teachers who were assessed twice, this relationship was even more pronounced, $F(1, 72) = 13.36, p < .000$. For this sub-group, the mean score for teachers working with the same age group was 5.39 ($SD = .56$), while the mean score for those not working with the same age group was 4.76 ($SD = .49$). The range of scores and standard deviations between the two groups (teachers who remained with the same age group versus those who reported changing age groups) were comparable; however, there was a difference in the number of teachers in the two groups. That is, more teachers reported they were working with the same age group compared to those who reported a change in age groups. However, Levene's test of homogeneity of variance was non-significant ($p = .887$ and $.339$, respectively), indicating this would not affect the findings.

Directors' Education. In addition to the noted relationship between teachers' education and quality, directors' education also was related to the quality of care in classrooms. Directors with higher current education levels had classrooms rated as higher quality at the second assessment, $r(169) = .249, p < .001$. Furthermore, directors who were enrolled in a college course during the time between the two assessments had programs that improved in quality. Higher difference scores (time 2 minus time 1) were significantly correlated, with directors responding that they were enrolled in a college course between assessments, $r(146) = .212, p < .01$. This finding remained significant when controlling for overall education level of the director, $r(135) = .244, p < .004$, using a partial correlation. This correlation is interesting in light of the fact that the director would not be the individual teaching in the classroom or observed during the assessment process, but it seems to have an association with the overall program mean scores.

Discussion

This research lends support to the prevailing notion of the importance of teacher education and its effect on classroom quality. Even in these centers that are typically considered to be "above average" due to their voluntary participation in higher levels of regulation and licensing, education was an important factor associated with higher quality. Teacher education, as measured by the achieved education level, was significantly related to quality scores. Recent studies examining the relationship between teacher education and quality have, however, not consistently supported this finding and have called into question the importance of teachers' education in determining the quality of care they provide. When discussing the lack of association between teachers' education and quality in data from seven major studies, Early et al. (2007) suggest that teachers' degrees may not be the most useful way to explain differences in quality. Indeed, the authors suggest that "a new era of research is needed to address the complexity of teacher quality" (p. 576) and that to more fully understand factors associated with classroom quality, the field must move beyond making simple associations between teachers' education level and the quality of classrooms. Classrooms and teachers are one component within a larger education system. To better understand the factors that influence quality, we must explore other factors that are operative within centers and can affect the quality of care. In this study, we examined two additional factors--teacher stability and directors' qualifications--that could impact classroom quality.

Teacher Stability

Data from this study suggest that stability for teachers may play an important role in the quality of care and education that teachers provide. Indeed, it offers a slightly different perspective on stability and continuity than what is typically found in the literature. The idea that teacher turnover results in detrimental effects on classroom quality has been prevalent and supported by research (Helburn, 1995; Howes, Phillips, & Whitebook, 1992; Whitebook & Sakai, 2003; Whitebook, Sakai, & Howes, 1997). Our data suggest that a relationship may exist between classroom quality and position turnover. Even positive change associated with a promotion or move within the center may bring stress and possible disruption of teachers' abilities to do their jobs. The continuity and stability of working with the same age group may offer less disruption and therefore be associated with teachers' abilities to provide higher quality care.

Katz (1972) identified stages of development experienced by teachers, describing the movement and growth that occurs from the "survival" needs of the beginning teacher to more competent skills that they develop over time and with experience. Fessler and Christiansen (1992) describe an ebb-and-flow among similar stages for teachers and a movement in and out of stages, depending on circumstances in their environment. It seems that directors, too, experience stages of professional development and are affected by the position they hold. Bloom (1997) conducted interviews with directors in child care settings and identified stages of development that were typical for the position, ranging from survival to competence to mentoring/leadership stages. Bloom also reported that directors experienced repeated cycles of development when they moved from one administrative position to another. It seems logical that anyone moving into a new

position, whether as an administrator or a teacher, would undergo a period of instability and learning. The effect this period of instability and learning may have on teachers and on the level of classroom quality needs more study, particularly as it relates to a change in position within a program. Fessler and Christiansen questioned whether there is a relationship between teacher career stages and student achievement; to date, however, there has been little examination in this area.

Given that position change in centers may ultimately be beneficial for both teachers and children, the goal should not be to avoid this change, but rather to find ways to minimize the disruptions. Further thought on how transitions are handled when teachers change positions, even within the same organization, seems warranted. A number of factors should be examined, including the time allocated for the transition, whether it is a gradual process or an immediate change, and the amount of time a teacher needs to adjust to a new position. Furthermore, differences in a teacher's adjustment to position change may be more dramatic for teachers when the change involves moving to a classroom that is considerably different from the teacher's current classroom (as when an infant/toddler teacher moves to a preschool classroom) than when a teacher moves from a classroom that is more similar to the current classroom (such as moving from a classroom of 3-year-olds to a classroom of 4-year-olds). Less dramatic position changes may be associated with fewer disruptions in the quality of care a teacher provides. Finally, it may be important for teachers to receive specialized training and mentoring related to the specific age of children they will be teaching in the new classroom. When a teacher working with one age group switches to another, administrators should not assume that their knowledge gained from working with one age will automatically transfer to their work with another age, and so they should provide targeted training and mentoring to help the person adjust to the new classroom.

Director Education

There is less evidence in the current literature for the role of education level of program directors than for teachers. In this study, however, the directors' education also was an important factor. Directors with higher education levels and directors who had enrolled in college courses during the time between the first assessment and the second assessment had higher quality programs. This suggests that the qualifications of directors have important implications for the quality of care teachers provide. Perhaps directors with additional education are better able to support and guide teachers in providing higher quality care. Directors with more education may indirectly support teachers in providing high-quality care by establishing policies or providing physical resources that help teachers provide higher quality care. Further research is needed to better understand the role that directors play in supporting quality care. Data from this study does, however, suggest that efforts to improve program quality should include efforts to increase the amount of education that directors have completed.

As programs seek to best utilize their resources to achieve higher levels of quality, the results from the current study suggest that providing opportunities for increasing education levels for

both teachers and directors, as well as supporting teachers who transition within programs to new positions, may be useful strategies.

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