

Looking at Quality in Early Childhood Education through an Ecological Lens

Purposes

For decades, early childhood classroom quality has been a focus of researchers, practitioners, and policy makers. This research identified characteristics of quality (i.e. teacher-student ratio, class size, teacher education, teacher-student interactions, curriculum) and the relationship with quality and children's development. Classroom quality is related to children's language, social, and cognitive development (McCartney, 1984; Bryant, Burchinal, Lau & Sparling, 1994; Pianta, et al., 2002; Charlesworth, et al., 1993; Burchinal, Peisner-Feinberg, Bryant, & Clifford, 2000). This research largely ignores the ecological factors that influence classroom quality. Research that found teacher-child ratio, group size, and teacher education only accounted for modest amounts of variance in classroom processes, led researchers to ask: "What else affects classroom processes?" (Scarr, Eisenberg, & Deater-Deckard, 1994)

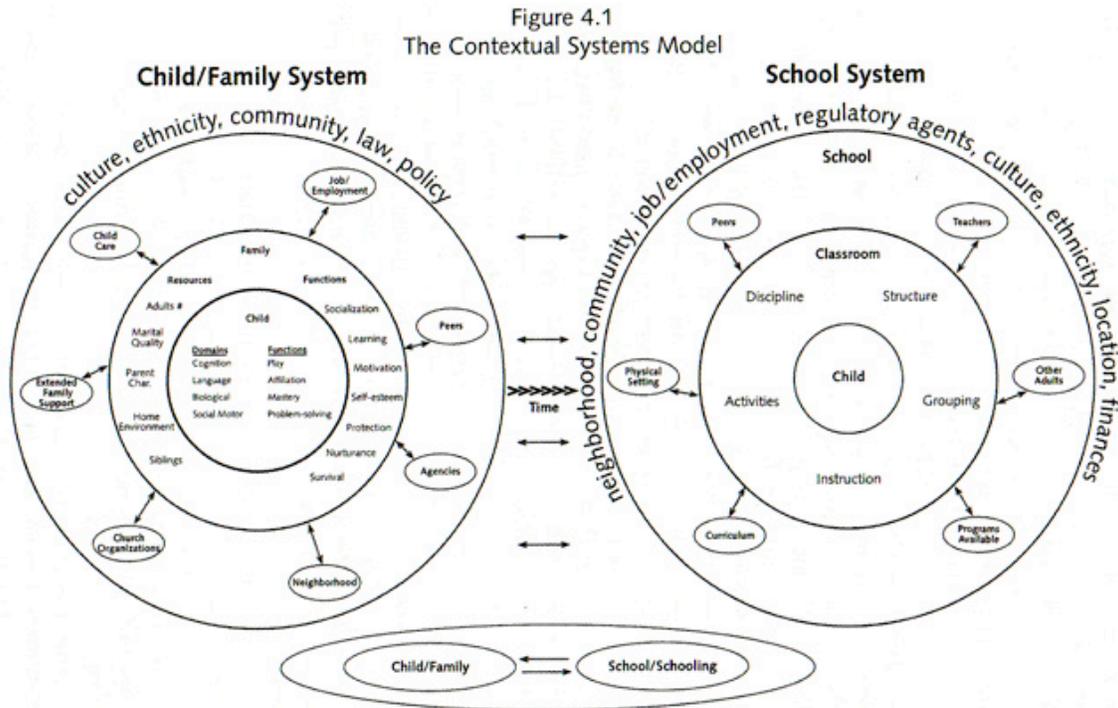
Phillips and colleagues (2000) hypothesized that center leadership, staff morale and stability may affect classroom processes. FACES authors suggested that program level factors may influence teachers and thus explain variations in classroom quality (Zill, et al., 2000). Until now, early childhood research has largely ignored school-level factors, such as the organizational climate, which may impact classroom quality. The *organizational climate* can be thought of in terms of a social-ecological model of behavior that stresses the interactive nature between people and their environments, and describes the unique atmosphere that characterizes different work contexts (Bloom, 1996).

Research has found the work environment to influence employee's behavior and attitudes (Forehand and Gilmer, 1964) and be related to productivity (Weakliem & Frenkel, 2006; Anderson, 1982; Joyce and Slocum, 1984). Aspects of a healthy educational organizational climate such as openness, collegiality, professionalism, trust, commitment, and cooperation contribute to a healthy work environment and were identified as potential means to help schools become more productive and effective (Hoy, Tarter, and Kottkamp, 1991). One study of 159 elementary schools found that 72% of the variance in mean school achievement was explained by organizational climate variables (Brookover, Schweitzer, Schneider, Beady, Flood, and Wisenbaker, 1978). Though researchers began to define and measure dimensions of organizational climate in elementary and high schools in the 1950s (Halpin and Croft, 1963; Pace and Stern, 1958), to date, no empirical studies exist that examine the relationship between the organizational climate and classroom quality in early childhood centers as a primary focus of the study.

Theoretical Framework

In the United States, research on quality in early childhood programs has been dominated by developmental psychologists who tend to adopt a highly positivistic, decontextualized and universalizing approach to children and their institutions (Kvale, 1992; Dahlberg, Moss, and Pence, 1999). Traditionally, this perspective sought solutions to a "problem" through manipulation of a single variable in isolation instead of within a framework that accommodates for multiple factors and accounts for the many ways in which they interact (Pianta and Walsh, 1996), thus ignoring ecological influences, such as the school context, which researchers currently acknowledge must be examined. Though no one model could account for all the possible factors or relationships within the school and child/family systems, the Contextual Systems Model (see Figure) shows where and how a specific factor or relationship would fit

within these incredibly complex systems that exist over time (Pianta and Walsh, 1996). Though the factors included in the model are often viewed as static and isolated when researched, Pianta and Walsh (1996) suggest that they are dynamic, interconnected, interdependent, and must be researched as such.



The following empirical study was designed to answer the question: Is there a relationship between the organizational climate and classroom quality in early childhood centers serving low-income children?

Method & Data Sources:

Graduate students trained to reliability used the The Early Childhood Environmental Rating Scale Revised (ECERS-R) (Harms, Clifford, & Cryer, 2005) to observe and measure classroom quality. Teachers completed 1) a demographics survey, 2) the Early Childhood Work Environment Survey (ECWES) (Bloom, 1996) which measured the overall work environment structures, policies, and practices, and 3) the Organizational Description Questionnaire for Elementary Schools (OCDQ) (Hoy, Tarter, & Kottkamp, 1991) which measured aspects of relational organizational climate (e.g., leadership and collegiality). Both the ECWES and the OCDQ were included in all analyses as their intercorrelations were moderate ($r = .63$) and each evaluated different aspects of organizational climate thereby providing multiple measures for data analyses.

The sample included 37 randomly selected Directors, centers, and teachers from low-income day care centers in a large urban area in the northeast (See demographics in Tables 1 & 2). 89% of the Directors were women, all over the age of 35. 91% of the Directors had Masters degrees. 97% of the teachers were women. 78% were over the age of 35. Teachers' experience

ranged from 1-30 years. 67% held or were halfway towards a Masters degree. 33% of classrooms were mostly 3 year olds. 24% were mixed ages (3's & 4's), and 42% were mostly 4 year olds.

Table 1

Center Demographics (n=37)	Min	Max	Mean
Number of Classrooms per center	2	11	5
Number of Full-Time Staff	3	16	9
Number of Part-Time Staff	0	9	4
Years Teachers Employed at Center	3	25	12.5
Years Center Serving Children	8	60	35

Table 2

Director Demographics (n=37)	Min	Max	Mean
Length as Director at Current Center	8 mo	27 yrs	9 yrs
Years Directors at Other Centers	0	27	4
Total Average Years as Director	8 mo	27	13
Years as Preschool Teachers	0	35	13
Years Teaching Other Ages	0	25	6

Results:

Analyses included descriptive statistics for all variables, simple correlations between each of the variables, and a taxonomy of multiple regression models with quality of classroom scores as the outcome and organizational climate scores as the primary predictors. In all models, multiple control variables were included.

Table 3

Descriptive Statistics (n=37)

MEASURES	Min	Max	Mean	Std. Deviation
Total Classroom Quality (ECERS-R) (possible range 23-151)	58	146	121	19
Work Environment (ECWES) (possible range 0-100)	37	90	69	15
Relational Organizational Climate (OCDQ) (possible range -52 to 82)	2	52	28	11

A significant correlation was found between total classroom quality (ECERS-R) and the overall work environment (ECWES) ($r=.348, p<.05$). Programs with better work environments also had higher quality classrooms. Significant correlations were also found between the Activities/Materials factor of classroom quality with both measures of the early childhood work environment (ECWES: $r=.404, p<.05$; OCDQ: $r=.357, p<.05$). Centers with higher quality work environments also had better activities and materials in their classrooms. Additionally, significant correlations were found between subscales of the work environment and total classroom quality, such as professional growth (ECWES: $r=.362, p<.05$), reward system (ECWES: $r=.325, p<.05$), physical environment (ECWES: $r=.455, p<.01$), supportive leadership (OCDQ: $r=.407, p<.05$), and intimate relationships with colleagues (OCDQ: $r=.439, p<.01$).

This means that centers with better opportunities for professional growth, a better reward system, more supportive leadership, and more intimate relationships with colleagues also had classrooms of higher-quality.

Further analyses found that when controlling for teacher education, Director experience, Director education, and teacher/child ratio, a significant association between overall organizational climate (as rated on the ECWES) and total classroom quality was found ($\beta=.435$, $p < .05$). Both work environment measures predicted variance in total classroom quality (ECWES: $r^2=.121$, $\beta=.438$, $p < .05$; OCDQ: $r^2=.098$, $\beta=.538$, $p = .059$). When examining the standardized effects, the effect of organizational climate on classroom quality was twice that of the teacher-child ratio. These findings translate as further evidence of the relationship between the organizational climate and classroom quality in early childhood centers. The relationship exists after controlling for other variables that may have influenced the relationship, and the strength of the relationship is twice as strong as the relationship between teacher-child ratio and classroom quality. This means that there is a significant relationship between both the overall work environment (ECWES) and the relational organizational climate (OCDQ) and classroom quality (ECERS-R).

A significant interaction between years of teaching experience and work environment as measured by the ECWES showed a stronger relationship between work environment and classroom quality among teachers with more teaching experience ($\beta = .106$, $p < .05$). This finding suggests that teachers with more teaching experience are more affected by the work environment as it relates to their classroom quality than teachers with less work experience. This might be explained by more experienced teachers' feeling less tolerant of lower quality work environment policies, practices, and relationships. These more experienced teachers have worked with more teachers and possibly more directors, often in various centers, so have more previous experiences to compare their current situation to. On the other hand, this finding might also be explained by newer teachers' naiveté, enthusiasm for the new position, or lack of previous experiences with which they could compare their current work environment. New teachers may also be more focused on themselves as new teachers, rather than the work environment, as suggested by Frances Fuller's work on teachers' stages of development (1969).

Lastly, a significant interaction between the education level of the teachers and the work environment as measured by the ECWES showed a weaker association between the work environment and classroom quality among teachers with more education ($\beta = -.376$, $p < .05$). This means the more educated teachers were the less the work environment seemed to be related their classroom quality. This might be a result of less educated teachers feeling more dependent on colleagues or leadership to help them establish their classroom environment and support their classroom quality (e.g., with help planning lessons, tips for classroom management). On the other hand, more educated teachers may be equipped with more knowledge and resources to improve their classroom quality. It can be hypothesized that the teachers' educational background provides her with strategies for creating a high-quality classroom, irrespective of the organizational climate. Teachers with more education may feel independent of the larger work context for support and may be more able to ignore outside influences of the work environment.

In addition, two teachers with similar backgrounds (education and experience) were "profiled" as they illustrated these statistical findings. Teacher A had poor classroom quality (2.5 on ECERS) and low work environments. Teacher B had good classroom quality (5.7) and high ratings on both work environment measures. Teacher B noted "My Director very frequently listens to and accepts teachers' suggestions and treats teachers as equals." Teacher A rated her

Director as rarely doing those things. Teacher A noted that “problems are not addressed” whereas Teacher B noted the Director “implements needed changes, regularly looks at new educational approaches, and tries out new ideas.” Teacher A said teachers do not provide strong social supports for colleagues or respect the professional competence of their colleagues. Teacher B had the polar opposite experience. This more qualitative examination of these teacher’s experiences brings the statistical data to life.

A limitation of the current study is the small sample size which sometimes restricts researchers’ ability to find significant effects. Yet, despite the relatively small sample size, this study’s statistically significant findings suggest an area of research ripe for further exploration.

Significance of Work:

The findings of this study have various implications for practice and research. First, professional development efforts typically focus solely on teachers in their classrooms. These findings suggest that professional development include early childhood leadership and focus on the work environment. “Teachers do not work in a vacuum but instead are part of a larger educational system. Classroom quality and positive child outcomes are influenced by a host of other system components” (Early, et al., 2007, p. 577) as shown in the Contextual Systems Model. When teachers and classrooms are viewed through an ecological lens, it becomes clear that teachers and classrooms need to be supported within the context of the school work environment. Questions for future research include: What strategies are effective in enhancing the quality of the work environment? If the quality of the work environment increases dramatically, is there a corresponding increase in classroom process quality? Do centers with higher quality work environments for teachers also demonstrate increased growth in children’s outcomes over time?

These quantitative findings suggest a complex relationship between the work environment and classroom quality. The early childhood field could benefit from further qualitative research, including interviews with teachers and observations of work environment interactions such as staff meetings and classroom consultation visits with directors and teachers. Research could also focus on the relative influences of practice and policy changes on classroom quality, as compared to improvements in relationships within the organizational climate.

As improving classroom quality is a goal for the field, further study of the early childhood work environment and its relationship to classroom quality seems imperative. “The way child care workers experience their workplace must certainly have an effect on their teaching and ultimately the quality of the programs they provide” (Kontos & Stremmel, 1988, p. 78). As a result, research and professional development projects must begin to include a focus on the work environment.

WORKS CITED

- Anderson, C. (1982). The search for school climate: a review of the research. *Review of Educational Research, 52*(3), 368-420.
- Bloom, P. J. (1996). *Improving the Quality of Work Life in the Early Childhood Setting: Resource Guide and Technical Manual for the Early Childhood Work Environment Survey*. Illinois: National-Louis University.
- Brookover, W. B., Schweitzer, J. H., Schneider, J.M., Beady, C. H., Flood, P. K., & Wisenbaker, J. M. (1978). Elementary school social climate and school achievement. *American Educational Research Journal, 15*(2), 301-318.
- Bryant, D. M., Burchinal, M., Lau, L. B., & Sparling, J. J. (1994). Family and classroom correlates of Head Start children's developmental outcomes. *Early Childhood Research Quarterly, 9*(3-4), 289-309.
- Burchinal, M. R., Peisner-Feinberg, E., Bryant, D. M., & Clifford, R. (2000). Children's social and cognitive development and child-care quality: Testing for differential association related to poverty, gender, or ethnicity. *Applied Developmental Science, 4*(3), 149-165.
- Charlesworth, R., Hart, C. H., Burts, D. C., Thommason, R. H., Mosley, J., & Fleege, P.O. (1993). Measuring the developmental appropriateness of kindergarten teachers. *Early Childhood Research Quarterly, 8*, 255-276.
- Dahlberg, G., Moss, P., & Pence, A. (1999). *Beyond Quality in Early Childhood & Care: Postmodern Perspectives*. PA: Taylor & Francis.
- Early, D., Maxwell, K., Burchinal, M., Bender, R., Ebanks, C., Henry, G., et al. (2007). Teachers' education, classroom quality, and young children's academic skills: Results from seven studies of preschool programs. *Child Development, 78*(2), 558-580.
- Forehand, G. A., & Gilmer, B. H. (1964). Environmental variation in studies of organizational behavior. *Psychological bulletin, 62*, 361-382.
- Fuller, F. F. (1969). Concerns of teachers: A developmental conceptualization. *American Educational Research Journal, 6*(2), 207-226.
- Halpin, A. W., & Croft, D. (1963). *The organizational climate of schools*. Chicago: Midwestern Administration Center of the University of Chicago.
- Hoy, W., Tarter, C. J., Kottkamp, R. B. (1991). *Open Schools/Healthy Schools: Measuring Organizational Climate*. California: Sage Publications.

- Joyce, W. F., & Slocum, J. W. (1982). Climate discrepancy: Refining the concepts of psychological and organizational climate. *Human Relations*, 35, 951-972.
- Kontos, S. & Stremmel, A. J. (1988). Caregivers' perceptions of working conditions in a child care environment. *Early Childhood Research Quarterly*, 3(1), 77-91.
- Kvale, S. (Ed.) (1992). *Psychology and Postmoderism*, London: Sage.
- Lower, J. K., & Cassidy, D. J. (2007). Child care work environments: The relationship with learning environments. *Journal of Research in Childhood Education*, 22(2), 189-204.
- McCartney, K. (1984). Effect of quality of day care environment on children's language development. *Developmental Psychology*, 20(2), 244-260.
- Pace, C. R., & Stern, G. C. (1958). An approach to the measure of psychological characteristics of college environments. *Journal of Educational Psychology*, 49, 269-277.
- Phillips, D., Mekos, D., Scarr, S., McCartney, K., and Abbott-Shim, M. (2000). Within and beyond the classroom door: Assessing quality in child care centers. *Early Childhood Research Quarterly*, 15(4), 475-496.
- Pianta, R.C., la Paro, K. M., Payne, C., Cox, M. J., & Bradley, R. (2002). The relation of Kindergarten classroom environment to teacher, family, and school characteristics and child outcomes. *The Elementary School Journal*, 102(3), 225-238.
- Pianta, R. C. & Walsh, D. J. (1996). *High-risk children in schools: Creating sustaining relationships*. New York: Routledge.
- Pope, S., & Stremmel, A. (1992). Organizational climate and job satisfaction among child care teachers. *Child and Youth Care Forum*, 21(1), 39-51.
- Scarr, S., Eisenberg, M., Deater-Deckard, K. (1994). Measurement of quality in child care centers. *Early Childhood Research Quarterly*, 9(2), 131-151.
- Weakliem, D. L., & Frenkel, S. J. (2006). Morale and workplace performance. *Work and Occupations*, 33(3), 335-361.
- Weikart, D. P., Bond, J. T., & McNeil, J. T. (1978). *The Ypsilanti Perry Preschool Project: Preschool Years and Longitudinal Results Through Fourth Grade*. Monographs of the High/Scope Educational Research Foundation, Number Three. Ypsilanti, MI.

Zill, N., Resnick, G., Kim, K., O'Donnell, K., Sorongon, A., McKey, et al. (2003). Head Start FACES 2000: A whole-child perspective on program performance. Fourth Progress report. Washington, DC: Administration for Children, Youth, and Families.

