INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction..

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

ProQuest Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600



Downloaded from SHAREOK. Persistent Handle URL: https://hdl.handle.net/11244/355

THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

A COMPARISON OF ONE-STAR, TWO-STAR, AND ACCREDITED CHILD CARE PROGRAMS IN OKLAHOMA

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

By
SUSAN E. TABOR
UNIVERSITY OF OKLAHOMA
NORMAN, OK
2001

UMI Number: 3018340



UMI Microform 3018340

Copyright 2001 by Bell & Howell Information and Learning Company.
All rights reserved. This microform edition is protected against
unauthorized copying under Title 17, United States Code.

Bell & Howell Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346

© Copyright by Susan Tabor 2001
All Rights Reserved

A COMPARISON OF ONE-STAR, TWO-STAR- AND ACCREDITED CHILD CARE PROGRAMS IN OKLAHOMA

A DISSERTATION
APPROVED FOR THE DEPARTMENT OF
INSTRUCTIONAL LEADERSHIP AND ACADEMIC CURRICULUM

BY

Loraine Dunn (Chair)

Michael J. Langenbach

Jeff Maiden

Deborah Norris

Jon Pedersen

Deborah Burk Rodgers

ACKNOWLEDGEMENTS

I am deeply indebted to my good friend and committee chair, Loraine Dunn. We've become good friends over the years, something I treasure greatly. I can't imagine how anyone has the patience to read through the innumerable drafts, find a way to make sense of the text and be nice enough not to chastise the author. I've enjoyed the challenges associated with graduate school because of you. You've made this project rewarding and even, yes, fun. This has been an amazing effort, and I can't thank you enough.

Thanks also to Deborah Norris, without you, this project could not and would not have been of this caliber. I appreciate your input greatly. Graduate students at the University of Oklahoma have revered Mike Langenbach for many years, and I am one of those people. A true scholar, he has helped me to look at events and issues in a way I never did before. Debbie Rodgers has challenged my thinking, and pressed me to perform at my highest ability, as graduate faculty should. I am forever grateful to her as well. Jeff Maiden and Jon Pedersen have been helpful with criticisms and comments. Thank you.

Thanks to Lisa Monroe for reading the text and offering plenty of healthy criticism. This paper is much stronger thanks to your insight. You've made my day countless times. I'll always be your friend. Donna Hardin and Stacy Dykstra have been great friends throughout graduate school. They demonstrate what great support people can provide one another.

Thanks also to everyone on the research team at the University of Oklahoma, Rachel LeForce, who helped organize, recruit, and enter data, thank you. Rhonda Ramos, Steve Wells, Jenny England and Ronna Finley who gathered data, without you this dissertation would not have been completed. I really never even knew the research team members at Oklahoma State University, and yet I owe them a great debt as well. Thanks to all. What an incredible team effort.

Thanks also to my best friend and sister, Cheryl Goodwillie, whose wise counsel and support is a mainstay in my life and certainly throughout graduate school. To my parents who've always believed in the importance of education, thank you for listening.

I owe so much to my children and husband. My children, Sarah and Bill Amis, are the best. What a wonderfully supportive family I have. This has been a group effort and I know we're all glad to be finished. Most of all, words can never express my love and gratitude to my husband, Mike Tabor. He's done every chore imaginable, run every errand imaginable, provided candlelight dinners when I was exhausted and listened and listened. Thank you.

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	iv
LIST OF TABLES	x
LIST OF FIGURES	xii
ABSTRACT	xiii
CHAPTER 1	
INTRODUCTION	1
The Trilemma	2
Factors Related to Quality	3
Professionalism of Teaching Staff	4
Director Leadership	5
Efforts to Improve Quality	5
The Stars Program	7
Theoretical Framework	8
Problem	9
Purpose	11
Research Questions	11
CHAPTER 2	
REVIEW OF THE LITERATURE	13
Theoretical Influences on Child Care Research	13
Bronfenbrenner's Bioecological Systems Theory	14
The bioecological model	14
The microsystem	14
The mesosystem	15
The exosystem	15
The macrosystem	16
Ecological theory as it frames research	16
Quality in Child Care	20
Child Care Quality Constructs	20
Structural and process quality measures	20
Factors Related to Quality	21
Accreditation	21
Quality features associated with accreditation	23
Work environment in accredited programs	24

The process of accreditation and its relationship to quality. 25
Auspice 26
Variation in auspice by structural and process measures of quality 26
Turnover 27
Turnover and program auspice 28
Turnover and accredited programs 28
Staff wages 29
Teacher:child ratio 30
Teacher:child ratios by auspice/accreditation 31
Teacher:child ratios and children's developmental outcomes. 32
Oklahoma teacher:child ratios. 32
Group sizes. 33
Environment 35
Overall indicators of environmental quality 35
Children's play and the environment 37
Environmental variables and behavior 38
Teacher educational levels 40
Teacher education and interrelationships with quality 41
Teacher behavior and educational level. . . . 41
Child behaviors and their relationship to ece/cd training and teacher educational level 42
Teacher certification status 43
The Child Development Associate 43
Teacher and child behaviors and the Child Development Associate. 45
The Certified Childcare Professional. 46
Training 46
Teacher experience 48
Teacher Developmentally Appropriate Practices 49
Social-emotional outcomes associated with Developmentally Appropriate Practices 49
Cognitive outcomes associated with Developmentally Appropriate Practices 50
Outside factors affecting implementation of developmentally appropriate practices 51
Professionalism in Early Childhood Education 52
Defining professionalism. 52
Defining the knowledge base 53
Training. 55
A model for professionalism 57

Commitment 58
Professional organizations. 58
Ethics. 59
Advocacy. 60
Director Characteristics. 60
Director Educational Level 60
Director Leadership Behavior 62
Leadership theory and research. 63
Leadership styles. 64
Current views of leadership. 66
Leadership as a challenge. 66
The romance of leadership 70
An integrative theory 71
Leading with soul 71
A summary of the leadership literature. 72
Early childhood leadership 72
Theoretical influences 73
Organizational leadership 74
Educational leadership. 75

CHAPTER 3
METHODOLOGY 77
Research Design 77
Sample. 77
Participants 79
Data Collection Instruments 79
Dependent Variables 79
Center Characteristices. 79
Teacher and Director Characteristics. 80
Classroom Quality. 80
Early Childhood Environment Rating Scale - Rev. Ed. 80
Developmentally Appropriate Teacher Beliefs Classroom Practices Inventory 81
Instructional Activities Questionnaire. 82
Teacher Attitudes and Practices Regarding Professionalism. 84
Director Leadership Behavior 87
Procedures 89
Study Limitations 90

CHAPTER 4
RESULTS. 92
Relationships between Center Star Status, Geographic

Region and Auspice 92
Structural Aspects of the Classroom 93
Center characteristics. 93
Teacher characteristics 103
Director characteristics. 109
Process Quality 115
Early Childhood Environment Rating Scale. 121
Developmentally Appropriate Practices 124
Professional Beliefs and Practices. 129
Perceptions of Director Leadership Behavior 129

CHAPTER 5
DISCUSSION 134
Limitations of the Study. 134
A Review of Results. 135
Star Status 135
Accreditation 135
Structural Quality 136
Process Quality 137
Geographic Region 140
Structural Quality 140
Process Quality 141
Auspice. 141
Structural Quality 141
Process Quality 143
Implications for Policy. 143
Quality Improvement Strategies 144
Professional beliefs and practices 148
Leadership theory 149
Bioecological theory. 151
Articulating the model 152
Conclusion 156

REFERENCES 158

APPENDICES. 174

LIST OF TABLES

Table		
1	Professional Beliefs and Practices Principal Components Loadings	86-87
2	Frequency of Programs by Star Status, Region and Auspice	93
3	Means and Standard Deviations for Center Characteristics	94
4	Means and Standard Deviations for Center Characteristics by Star Status, by Region and by Auspice	95
5	Summary of Center Structural Quality Effects	102
6	Means and Standard Deviations for Teacher Characteristics	104
7	Means and Standard Deviations for Teacher Characteristics by Star Status, Region and by Auspice	105
8	Summary of Teacher Characteristic Effects	109
9	Means and Standard Deviations for Director. Characteristics	110
10	Means and Standard Deviations of Director. Characteristic by Star Status, Region and by Auspice	111
11	Summary of Director Characteristics Effects	114
12	Dependent Variable Means and Standard Deviations.	116
13	Dependent Variable Correlations with Structural Quality Components	118
14	Dependent Variable Correlations with Teacher Demographics	120
15	Dependent Variable Correlations with Director. Demographics	121

16 Dependent Variable Means and Standard Deviations. 123
By Star Status, Region and by Auspice

17 Summary of Dependent Variable Effects. 133

LIST OF FIGURES

Figure		Page
1	Teacher:Child Ratio (Interaction Effect for Region by Auspice)	98
2	Master Teacher:Child Ratio (Interaction Effect for Star Status by Region)	100
3	Teacher Child Care Income. (Interaction Effect for Region by Auspice)	107
4	ECERS-R Score (Interaction Effect for Region by Auspice)	125
5	IAS Score (Interaction Effect for Star Status by Auspice)	127
6	Developmentally Appropriate Practices (Multivariate Interaction Effect for Region by Auspice)	128
7	Leadership Practices Inventory – Self	131
8	Child Care and Bioecological Theory	153

ABSTRACT

Some states are implementing programs designed to improve child care program quality through tiered benchmarks. In Oklahoma, where this study was conducted, the program is known as "Reaching for the Stars". The purpose of this study was to explore if and how child care centers in Oklahoma varied as a function of Star status, geographic region and program auspice. At the time data were collected, just two Star levels existed, One- and Two-Star, while accreditation by the National Association for the Education of Young Children was considered a higher status.

The study compared 71 child care centers, matched by geographic region and auspice. It utilized a quasi-experimental design. Chi-square, univariate and multivariate analysis of variance were the primary statistical analyses conducted. Approximately 39% of the centers were rural, and 61% were urban. By auspice, there were no significant differences in the distribution of One-, Two-Star or accredited centers in either rural or urban settings. By region, there were significant differences in the distribution of One-, Two-Star or accredited centers in either non-profit or for-profit settings. Accredited centers in both urban and rural areas were more likely to be non-profit than for-profit. In both rural and urban areas, One- and Two-Star centers were more likely to be for-profit.

Dependent variables included structural aspects of child care environments, e.g., licensed capacity, enrollment, group size, teacher:child ratios, number of Master teachers and teacher and director education, experience, and income. Process quality

dependent variables included environmental quality, developmentally appropriate practices, teacher beliefs about professional beliefs and practices, and director beliefs about leadership as well as teachers' beliefs about their director's leadership.

Structural quality dependent variable analyses indicated accredited centers had larger group sizes, and more Master teachers than other Star levels. Two-Star centers had more Master teachers than One-Star centers. The general education and specialized background in ece/cd of teacher and directors was higher when staff worked in accredited centers, rather than in One- or Two-Star centers. Teacher income from their jobs was higher for those working in accredited centers than those working in One- or Two-Star centers.

Teacher/director specialized education in ece/cd, teacher/director child care income, group size and the number of Master teachers correlated with quality and the presence of developmentally appropriate practices. Director child care income correlated with director leadership.

When centers varied by region, rural centers scored lower, however rural centers were not necessarily worse than urban centers. When centers varied by auspice, non-profits scored lower, however non-profit centers were not necessarily worse than for-profit centers.

Process quality dependent variables analyses indicated accredited programs scored higher on classroom environmental quality (ECERS-R), developmentally appropriate practices (CPI and IAS), and teacher beliefs and practices regarding professionalism (PBP).

CHAPTER 1

INTRODUCTION

Improving the quality of child care is an issue now considered by many people to be of critical importance. Partly due to a heightened awareness of the significance of the early years of life made available through popular magazines (Collins, 1997; Nash, 1997; Smith, 1997), frequent public awareness campaigns, and the White House Conference on Child Care (October 23, 1997), governmental agencies are implementing strategies intended to promote quality components in child care programs. Meanwhile, researchers continue to develop a deeper understanding of the various elements that frequently work together to create a quality child care setting.

Among the more commonly mentioned quality child care components are higher staff salaries, higher educational levels of child care teaching staff, smaller group sizes, and lower ratios of children to teachers (Helburn et al., 1995; Howes, 1997; Phillipsen, Burchinal, Howes, & Cryer, 1997; Ruopp, Travers, Glantz & Coelen, 1979; Whitebook, Howes, & Phillips, 1989). The ability of the director to lead and manage the program may potentially influence child care quality (Jorde-Bloom & Rafanello, 1995).

Teacher characteristics, including beliefs and attitudes regarding classroom practice and professional behaviors, may also be linked to classroom quality. The achievement of professional status in many fields has long been associated with, at a minimum, attainment of a bachelor's degree. Significantly, many child care teachers have not graduated from a university or college. While many elements representing

quality in child care are known, incorporating them into child care settings on a wide scale is difficult due to the historical and economic constraints facing these programs.

The Trilemma

The issues of child care quality, affordability for parents and the high cost of child care are referred to by some early childhood care and education professionals as the early childhood "trilemma" (Bredekamp & Willer, 1996). The use of this word implies the issues are triangular, that each issue affects and is affected by the others, both positively and negatively. Therefore, efforts to improve the status of one may be constrained by another. For example, efforts to improve quality by further educating the workforce add to parent(s)' costs, thereby diminishing affordability.

According to Helburn et al. (1995), the overall level of child care quality is lower than is desirable. However, center-based child care costs are high, even for mediocre quality child care, representing "23% of the 1993 median before-tax earnings of just over $21,000 for families headed by a single parent employed full time" (Helburn et al., p. 7).

Problems presented by low quality child care and high costs are compounded by the fact that child care personnel earn low salaries (Dunn, 1997; Whitebook et al., 1989). A child care center's greatest expenses lie in the salaries paid to the staff, which are nearly always at or just above the national minimum wage. Child care providers themselves often lower the cost of child care in two ways: (1) by making personal donations to their programs and (2) through foregone wages (Helburn et al., 1995). Foregone wages equal the difference between the salary an employee is currently earning and the salary a person would earn in a different field, given the same educational level, gender, age, race and marital status.

Whitebook et al. (1989) reported teacher salaries were the strongest predictor of quality programming. In many occupational fields, higher salaries are associated with achievement of higher educational levels. This is rarely the case in the early care and education field. However, non-profit child care programs funded by publicly operated agencies are sometimes able to provide higher staff salaries (Helburn et al., 1995). Such programs often receive monies in addition to parent paid tuition and fees, enabling them to pay higher salaries to those who have achieved higher educational levels. Thus, it can be seen cost affects quality, which affects affordability, and affordability affects cost. No one piece stands alone. The "trilemma" is therefore important, and early childhood leaders across the country are seeking to resolve the issues through efforts to improve quality and compensation for teachers and child care providers, in the meanwhile attempting to keep child care affordable for families.

Factors Related to Quality

Child care quality is associated with a variety of factors. Studies show teachers with higher levels of education create better quality classrooms for young children (Helburn et al., 1995; Howes, 1997; Ruopp et al., 1979; Whitebook et al., 1989). Phillipsen et al. (1997), report process quality (such as the interactions children have with their teachers or the learning materials and activities available) is higher when teachers have more education. In addition, teachers of infants who have specialized training provide better quality care (Whitebook et al.).

Also associated with higher quality programs are classroom practices. A more active, play-based environment is associated with children exhibiting more complex play. Specifically, environments are considered higher quality when teachers

provide more types of activities, ask more divergent questions and engage in more elaborative interactions, and set fewer limits (Kontos & Dunn, 1993).

Other predictors of quality include staff-to-child ratio (Helburn et al., 1995) and wages. Quality is higher when ratios are more favorable and when wages are higher (Phillipsen et al., 1997; Whitebook et al., 1989). High quality programs are associated with better cognitive and social outcomes for children (Helburn et al.; Weikart, 1990). Associations between quality and child outcomes validate the importance of quality child care.

Professionalism of Teaching Staff

Generally associated with higher levels of teacher knowledge are certain aspects of teacher behaviors, including attitudes and practices regarding professionalism. Individual teacher attitudes and practices would seem to be related to professionalism of the field as a whole. Professionalism in the context of early childhood education is a muddy construct, as the field has only partially completed professionalization efforts. Katz (1988) argues early childhood education cannot consider itself a profession until all of the following elements are evident: the social necessity of early childhood has been verified, the field has become autonomous, prolonged training before entry has become compulsory, and consensus regarding the requisite body of specialized knowledge has been achieved. To Katz's list of standards, Bergen (1992) adds a mandatory credential, commensurate compensation, and an inviolable code of ethics.

Professionalization of the field is widely presumed to be of value to efforts to increase child care quality, and staff salaries as well. However, according to the criteria previously identified, the field of early childhood education cannot currently consider itself to be a profession, although certain segments of the field and/or

individuals themselves may be considered professionals. The role each individual's professional behavior may play in the overall professionalism of the field is unknown. Furthermore, research regarding the linkages between professional attitudes, beliefs and practices of early childhood teachers and quality of the classroom environment is limited.

Director Leadership

The knowledge, beliefs, attitudes and practices of the child care center's director should be related to program quality as well, which is, in turn, related to children's development. As leaders of their programs, directors influence the educational environment experienced by children (Jorde-Bloom & Rafanello, 1995). The director's experience level is related to children's social development (Phillips, McCartney & Scarr, 1987). The director is also partially responsible for furthering the knowledge and promoting the professional development of the staff, which is related to his/her leadership.

The leadership provided by the director may be considered somewhat global in that leadership behaviors are similar across fields, and not limited solely to the field of early childhood education. The ability of the leader of any organization to accept the challenges associated with change, inspire a shared vision, enable others to act, set an example, and encourage others to succeed is critical to its success (Kouzes & Posner, 1995). Research in the field of early childhood education regarding characteristics of leadership is scant.

Efforts to Improve Quality

In response to concerns regarding the quality of child care, the National Association for the Education of Young Children announced its intention to sponsor a

center endorsement effort in 1980. Eventually known as accreditation, the program became operational in 1985. By 1996, more than 4,500 early childhood programs had become accredited, and more than 13,000 were in accreditation process. The accreditation process is associated with improvements in quality (Whitebook, Sakai & Howes, 1997), and "now tops the list of strategies to upgrade services" (Whitebook, 1996, p. 31) in child care.

In some states, governmental regulations regarding child care are changing with the intent of improving the quality of care. In one instance, Florida reduced staff-child ratios. For example, toddler ratios decreased from 1:8 to 1:6. Florida also increased teacher education and/or training requirements. At a minimum, for every 20 children attending a center, a teacher must hold a Child Development Associate credential (CDA; a national competency-based credential) (National Association for the Education of Young Children, 1995). Efforts to evaluate the potential effects on program quality of these policy changes are underway.

In another effort to improve quality, North Carolina implemented a program known as T.E.A.C.H. (Teacher Education and Compensation Helps). This program encourages teachers to earn credit hours toward a credential, associate or bachelor's degree, offering release time while in course work and salary increases or bonuses upon completion of a specified number of hours. The program showed teachers made some improvements in environmental quality (Cassidy, Buell, Pugh-Hoese & Russell, 1995).

In addition to specific quality improvement efforts, other potentially useful strategies have been identified. Helburn et al. (1995) stated the overall level of quality could be improved by (1) increasing financing for child care; (2) helping parents better discern the differences between poor and high quality care, therefore

enabling them to choose high quality settings, (3) implementing higher state child care standards; and 4) increasing investments in staff education and training linked to increased staff compensation.

A variety of initiatives are being implemented to improve the level of child care quality in Oklahoma. One initiative is a tiered system of reimbursement for child care centers receiving government monies for children from low-income families. This initiative includes all of the elements identified by Helburn et al. (1995). Known as the Stars program, both child care centers and family child care home providers are invited to demonstrate attainment of measurable quality indicators, which will influence the number of "Stars" each child care center earns. It is hoped parents will easily recognize centers meeting higher quality standards, as those centers will have attained more than one star.

The Stars Program

Centers meeting current licensing requirements are granted a One-Star rating. They receive the lowest state reimbursement rates for children from low-income families. Centers receiving a Two-Star rating must meet a variety of criteria in order to obtain a higher reimbursement rate (Oklahoma Department of Human Services, 1998). Centers accredited by the National Academy of Early Childhood Programs (a division of the National Association for the Education of Young Children) that have also met Two-Star standards are granted a Three-Star rating. Three-Star centers receive the highest rate of reimbursement.

To achieve a Two-Star rating in 1998 and 1999, center directors needed to earn 40 clock hours of training approved by the Department of Human Services, and a state Director's Credential by the year 2000. Currently, Two-Star centers must provide a Master Teacher (one with a Child Development Associate or Certified

Child Care Professional credential, Associate's or Bachelor's degree) for every 30 children during the first year as a Two-Star center. In subsequent years a Master Teacher must be on staff for every 20 children. All teachers must earn 12 clock hours of training annually, a licensing regulation required of all Star levels. Teaching staff in Two-Star centers must complete 20 clock hours of training annually. Staff must be compensated according to a salary scale based upon educational level attained, credentials earned, amount of training and years of early childhood experience.

Two-Star programs must create and implement weekly lesson plans. They must provide various interest centers in the classrooms that include, but are not limited to, the following: block building, language and literacy, creative activities, manipulative toys and dramatic play. Two-Star centers must also provide for a wide variety of parental involvement activities. The Early Childhood Environment Rating Scale (ECERS; Harms, Clifford, & Cryer, 1998) is used annually by the regulating agency to assess program quality. However, centers seeking the Two-Star rating need not earn any minimum score on this scale in order to become a Two-Star program, and no minimum score has been determined (N. vonBargen, personal communication, May 24, 1998). In conjunction with an annual staff and parent survey of program strengths and weaknesses, findings from the ECERS may also be used to establish annual program goals (see Appendix A for further details regarding the Star program).

Theoretical Framework

The knowledge base concerning just what constitutes quality early childhood programs is substantial (Helburn et al, 1995; Howes, 1997; Ruopp et al, 1979; Whitebook et al, 1989; Willer et al., 1991). Theoretical support can be drawn from

the revised theory of bio-ecology which emphasizes the importance of context on human development, as well as the importance of interactions (Bronfenbrenner & Morris, 1998; Glossop, 1988). The Star program is intended to affect the quality of the child care context in which children, teachers and directors develop and interact, thus the relevancy of bioecological theory .

According to Bronfenbrenner and Crouter (1983), the child care setting is one of the developing child's microsystems. Each microsystem (the environment in which children actually participate) is affected by the other settings specified by the theory. In this case one microsystem, the child's child care center, should be affected by at least two larger systems. First, the exosystem (a system in which the child does not participate, however the child is still influenced by the system) includes social welfare services such as the Oklahoma Department of Human Services which may, by virtue of the Star program, be influencing the environment that children experience. Secondly, the macrosystem (a system reflecting the attitudes and ideologies of the culture) may influence the child care environment since changes in cultural attitudes regarding child care also impact microsystems (Bronfenbrenner & Crouter, 1983).

Problem

The question posed by this study focuses on the impact of Oklahoma's multi-tiered licensing system. Will those centers that have achieved a Two-Star rating provide higher quality care than One-Star centers? Will those centers that have achieved a Three-Star rating provide higher quality care than One- and Two-Star centers? Ultimately, those involved in implementing this program would probably say they hope so. For the purposes of research, comparing the environments of One-,

Two- and Three-Star centers by means of a variety of indicators to discern if any program differrences exist is relevant. However, program differences may be due to variations in region (rural or urban), and/or center auspice (for-profit or non-profit, large chain or individually owned center, church-sponsored or community based). Thus these factors were included in the research design as well.

Child care quality is reflected in a variety of ways; quality is a multi-faceted construct. The relationship between the director and the program is an important one, as the director sets the tone of the center. The director's leadership behaviors could be related to overall program quality, or other indicators of quality.

Because classrooms are located within centers, usually under the leadership of one administrator, bioecological theory would suggest the beliefs and skills of that person would influence the teachers' attitudes and behaviors regarding professionalism, classroom environments, and therefore, children's experiences. Examining whether or not differences exist between One-, Two- and Three-Star program directors, and the influence directors have over their programs (as suggested by ecological theory) would further our knowledge of quality programs.

Finally, what differences in professional attitudes and practices are exhibited by teachers employed in One-, Two- and/or Three-Star centers? Professional behaviors of teachers in all educational settings are generally considered as an indicator of competence. Evidence indicates teachers with a formal educational background exhibit teacher behaviors associated with appropriate environments for young children (Helburn et al., 1995; Howes, 1997; Ruopp et al., 1979; Whitebook et al., 1989). That teachers will become more professional as they acquire education seems to be a sensible assumption. Because Master teachers in Two-Star centers possess more formal education than those in One-Star centers, it logically follows

they should be more likely to create higher quality environments. Three-Star* teachers do not necessarily have more education than Two-Star teachers, therefore no environmental differences may exist between the two higher tiers.

Purpose

The purpose of this study was to explore if and how child care center program quality, developmentally appropriate practices, as well as the professional attitudes and practices of the teachers and leadership behaviors of directors staffing these programs, vary as a function of the Star program, and how these variables may be related to program region and/or auspice. Although the Star initiative addresses both center-based child care and family child care homes, this study only examined classrooms for three- and four-year old children in center-based programs.

Research Questions

(1) How are child care programs related by Star status, geographic region, and auspice?

(2) What are the differences in structural aspects of the classroom by Star status, geographic region and auspice?

(3) What are the differences in classroom quality by Star status, geographic region and auspice?

(4) What are the differences in developmentally appropriate practices by Star status, geographic region and auspice?

(5) What are the differences in teacher professional beliefs and practices by Star status, geographic region and auspice?

(6) What are the differences in perceptions regarding director leadership behavior by Star status, geographic region and auspice?

*Note: From this point forward, Three-Star programs will be referred to as accredited centers, as the Three-Star rating did not exist when data were collected. The intent was that the Star program would be implemented in stages. At the time data were collected, the Third Star was not yet implemented.

CHAPTER 2

REVIEW OF THE LITERATURE

Theoretical Influences on Child Care Research

High quality child care programs are associated with better cognitive and social outcomes for children (Hagekull & Bohlin, 1995; Helburn et al., 1995; McCartney, 1984; Weikart, 1990; Whitebook et al., 1989); consequently the adequacy of child care as a context for child development is of importance to policy makers and the public. A large body of research conducted since the 1980s informs us of the factors associated with better outcomes for children. The theoretical framework for this research is not so much based in a theory of child care as it is in child development theory.

"There is no formal theory of the environment generally or of child care specifically to guide hypotheses" (McCartney et al., 1997, p. 429). While no specific theory has been proposed to suggest a direction for child care questions, theories guiding child development are relevant to child care, as optimizing the growth and development of children while in and out of the child care setting is of critical importance. Ultimately, researchers and policy makers want to know what factors will create optimal child care settings for children, therefore enhancing their development. Bronfenbrenner's theory of development informs this question; and is described in the following section.

Bronfenbrenner's Bioecological Systems Theory

In 1998, Bronfenbrenner and Morris modified earlier versions of Bronfenbrenner's theory, re-naming it the bioecological model. Like the earlier version, the authors conceive of the ecological environment as a set of nested structures. The nested structures are characterized as a set of Russian dolls, each inside the other. According to Bronfenbrenner's (1979) ecological theory, development occurs through an interaction between the person and the settings in which s/he participates. Development is affected by the relationships between settings or contexts. Development is therefore a function of forces arising from multiple settings and the relations among those settings (Bronfenbrenner & Morris, 1998). The various levels of settings posited by Bronfenbrenner (1979) are described below.

The bioecological model

The microsystem. Beyond the child, the first level is known as the microsystem. This is the "center of gravity" of the bioecological model. The microsystem is a pattern of activities, social roles and interpersonal relations experienced by the developing person in any given face-to-face setting which invites (or inhibits) interactions in the environment (Bronfenbrenner & Morris, 1998). Examples of microsystems include neighborhood, church, playground and child care. At the heart of these interpersonal relationships are the experiences children and their parents have within these settings. Therefore, the quality of the child care setting, teacher educational level, attitudes, teacher beliefs regarding professionalism and the

director's leadership behaviors may be factors operating at the microsystem level that may affect the child's development.

The mesosystem. The next level is the mesosystem, and it consists of the interrelationships among two or more settings in which the child participates, such as home and child care settings. It is a system consisting of two or more microsystems. Interrelationships in a mesosytem are bi-directional in that the child may affect others in the setting as others in the setting affect the child. In addition, the interrelationships between teachers, teachers and the director, and the leadership behavior of the director may affect the quality of the classroom environment and thus, child development.

The exosystem. According to bioecological theory, a third level affecting child development is the exosystem. The exosystem consists of linkages between settings, at least one of which does not contain the developing person. However, the events occurring in this setting influence the processes that occur in the setting in which the developing child lives (Bronfenbrenner & Morris, 1998). In this level, friends of the family, neighbors, the mass media, social welfare services, and legal services may affect the lives of parents, and therefore the child's experiences, resulting in potentially different developmental outcomes for the child. The parent's workplace is included at this level, and the accompanying rules and regulations by which the parent must abide. This level may certainly affect the degree to which parents are involved in the child care setting.

The macrosystem. The final level is that of the macrosystem. Explained as the system incorporating ideologies and attitudes of the culture, the macrosystem also includes governmental regulations. Children themselves do not directly participate at this level (Bronfenbrenner, 1979). The Stars program regulations exist at this level, while children experience child care microsystems at varying Star levels.

Ecological theory as it frames research

In addition to identifying the ecological systems described in the previous section, Bronfenbrenner (1986) described successively more sophisticated research paradigms investigating the influence of the environment on child development. These were described along two dimensions: (1) external systems affecting the family and (2) family processes in context. Research models conducted within the framework of the former constitute a mesosystem model, or research considering the interaction of the settings on developmental processes.

Research models may also be described along the second dimension, which refer to explicitness and complexity of the design. They include: (1) social address models; (2) process-context models; and (3) person-process-context models. Social address models compare the effects on developmental outcomes of living in different locations or differences in social class without making the family processes involved explicit. The research labels the environment without calling attention to what the environment is like, what the child is doing, or the activities taking place in the environment that might affect the child. According to Bronfenbrenner (1986), social

address models are particularly valuable when researching previously unexplored fields.

Process-context models examine the processes that occur in a given context. Such models will provide for assessing the influence of the external environment on distinctive family processes. There is an emphasis on differences in process rather than outcome, and processes are measured over time.

Person-process-context models include the influence of personal characteristics of family members as well as the influence of the external environment on family processes. Particular forms of interaction (known as proximal processes) between the developing person and the environment, operating over a period of time, are posited as the primary mechanisms of development. The power of proximal processes varies by the immediacy and remoteness of the environmental contexts. Proximal processes must occur on a regular basis, continue long enough to become increasingly complex, and involve a certain degree of reciprocity between the parties involved. As the child develops, not only parents, but caregivers, siblings and peers become individuals with whom the child has sustained interactions over time (Bronfenbrenner & Morris, 1998).

The bioecological model (Bronfenbrenner & Morris, 1998) differentiates between environmental factors influencing the developing child and processes influencing the developing child. Traditionally, researchers treated such influences as parent-child interactions as an environmental factor affecting the child's development. In the bioecological model, parent-child interactions are treated as proximal

processes. As stated previously, proximal processes are posited as being the primary mechanism of development. Bronfenbrenner and Morris offer two propositions in support of their model, both of which are interdependent and available for empirical testing.

Proposition I states "human development takes place through processes of progressively more complex reciprocal interaction between an active, evolving biopsychological human organism and the persons, objects, and symbols in its immediate external environment" (Bronfenbrenner & Morris, 1998, p. 996). The interactions must occur on a fairly regular basis over time, become increasingly complex, and involve some degree of reciprocity in order to be effective. They may involve interactions with objects as well. Examples of such proximal processes include playing with a young child, group or solitary play, and caring for others in distress.

Proposition II states "the form, power, content, and direction of the proximal processes effecting development vary systematically as a joint function of the characteristics of the developing person; of the environment...in which the processes are taking place; the nature of the developmental outcomes under consideration; and the social continuities and changes occurring over time through the life course and the historical period during which the person has lived" (Bronfenbrenner & Morris, 1998, p. 996). As children grow older, their capacities increase, therefore proximal processes must expand to accommodate extended potentials. Research models that

allow simultaneous testing of Propositions I and II take the form of a Process-Person-Context-Time model.

In the absence of a theory of child care, the bioecological theory of development may serve as a theoretical base for this study. Ecological theory emphasizes that an important component of explicit and complex research designs is the examination of person/processes/context affecting development. In child care research, proximal assessments include children's actual experiences in the child care environment, or process quality. Distal quality assessments describe experiences potentially available to children, but not their actual experiences (Dunn, 1993a). Bronfenbrenner (1986) describes distal labels such as "average quality" as "social address" or context models of research. Therefore, "by examining proximal and distal features of day care quality, we can attend to both social addresses and processes in day care environments" (Dunn, 1993a, p.168).

In view of Bronfenbrenner's conceptualization of research, this study is conceptualized as conducted at the mesosystem level and as a process-context model. Process quality features are included in the study, as evidenced by the influence of teacher/director beliefs and practices concerning developmentally appropriate interactions, teacher beliefs regarding professionalism, the influence of the director's leadership on the quality of the program, teacher educational level, certification status, experience, and process measures of the environment such as the ECERS. The context is included through a comparison of data by Star status, geographic region, and auspice.

Quality in Child Care

Child care programs vary widely in their potential to enhance child development due to the wide range in quality of care provided (Howes & Rubenstein, 1985; Phillips, McCartney & Scarr, 1987; Ruopp et al., 1979; Whitebook et al., 1989). A large body of research conducted since the early 1980s provides information regarding those factors in the child care setting that characterize quality and hence, facilitate better developmental outcomes for children in child care. Identified factors include higher staff wages, and lower staff turnover rates in combination with accreditation by the National Association for the Education of Young Children (Whitebook, 1996). According to Howes (1997, p. 405) high quality child care is defined as a setting in which "experiences that enhance rather than impede children's social, cognitive, and emotional development" are provided.

Child Care Quality Constructs

Structural and process quality measures

Structural quality refers to aspects of child care that are regulated by governmental agencies, center policies, and economic climate. These may include teacher:child ratio, group sizes, and teacher characteristics such as education level and specialized training. Other structural features that may not be regulated include teacher turnover, enrollment, and profits or surpluses (Phillipsen et al., 1997).

Related to structural quality is process quality. Process quality refers to the child's experiences in the child care setting. Many aspects of process quality measures are correlated with one another, and with measures of structural quality, so

much so, it has been said that "good things go together" in child care (Phillips, 1987). Scarr, Eisenberg, and Deater-Deckard's (1994) research indicates this is so often the case that one of two of the process scores which may be derived from the Early Childhood Rating Scale (ECERS; Harms et al., 1998) might serve just as well as an indicator of overall quality, rather than use of the overall scale. Recent studies of child care quality have often utilized the ECERS as a measure of process quality (Howes & Smith, 1995). Process quality features may be more strongly associated with higher quality levels as measured by the ECERS than are structural quality features (Howes et al., 1992). Structural quality is associated with process quality (Howes, Phillips, & Whitebook, 1992; Phillipsen et al.). Structural variables may influence caregiver behavior and organization of the environment, which are process variables (Kontos & Dunn, 1993).

Factors Related to Quality

Accreditation

Accreditation of early childhood programs is available from several sources, but the National Association for the Education of Young Children sponsors the most widely known and well-respected accrediting body. The National Academy of Early Childhood Programs, a subsidiary of the parent organization, grants accreditation. The accreditation process involves three steps: (1) a self-study, in which the program examines itself to see how well it meets identified criteria, (2) an on-site visit by validator(s), (early childhood professionals who verify the accuracy of the self-study

report), and (3) a decision made by a national commission. The commission consists of a three-person panel of early childhood professionals representing three different states who consider the program's self-study and validator's report. The Commission decision is based upon evidence of substantial compliance with criteria and professional judgment, rather than a point system (National Academy of Early Childhood Programs, 1991).

Accreditation criteria exceed the level of care required by licensing organizations in most states (Whitebook, 1996) including Oklahoma. The research concerning accredited programs is limited, although the widely held belief is that accredited centers are uniformly better programs. The primary data available is from the following studies: (1) National Child Care Staffing Study (Whitebook et al., 1989); (2) Cost, Quality, and Child Outcomes Study (Helburn et al., 1995); (3) Military Child Care Act (Zellman, Johansen, & Van Winkle, 1994); and (4) NAEYC Accreditation as a Strategy for Improving Child Care Quality: An Assessment (Whitebook, Sakai, & Howes, 1997). The assumption that accredited centers are much higher in quality than other centers has resulted in accreditation serving as an indicator of quality to consumers and as a goal for centers to attain. However, accreditation is not an absolute guarantee of quality, and it cannot guarantee the maintenance of a knowledgeable and skilled work force (Whitebook et al., 1997). Furthermore, there may be limitations associated with accreditation due to weaknesses in the validation system (Bredekamp & Copple, 1997; Whitebook et al.). Nonetheless, accreditation is considered an indicator of quality.

Quality features associated with accreditation. A sub-sample of centers used in the original development of the ECERS indicated that at the preschool level, accredited centers provide a more developmentally appropriate environment than non-accredited centers (Harms & Clifford, 1980). More recent studies indicated centers that have recently become accredited or re-accredited paid higher wages and have lower staff turnover (Powell, Eisenberg, Moy & Vogel, 1994; Whitebook et al., 1989; Whitebook et al., 1993). In the National Child Care Staffing Study, teachers in accredited center teachers were more sensitive and less harsh with children and provided more developmentally appropriate activities than teachers in other centers. Accredited programs had better teacher:child ratios, were more likely to overlap shifts and staff rooms with more than one adult, and were less likely to use accordion grouping. Accordion grouping is a staffing strategy in which children change classrooms and adults throughout the day as the number of children present increases and diminishes. It is considered disadvantageous to children (Whitebook et al., 1989).

However, accreditation does not guarantee the highest possible quality. When centers of similar quality were examined by auspice, publicly funded centers and work-site located centers (typically funded by a sponsoring corporation) scored higher than accredited centers on the ECERS (Helburn et al., 1995). The authors acknowledged this analysis of the Cost, Quality, and Child Outcomes study data may be confounded by the fact that some of the publicly funded and work-site centers were accredited, but were counted as a publicly-funded or work-site located centers,

rather than as accredited centers in this analysis. Still, 56% of accredited centers were rated as mediocre in quality on the ECERS scale (Whitebook et al., 1997). Thus, it seems that the level of quality achieved by accrediting programs varies.

Work environment in accredited programs. A different vein of research examines the relationship of the work environment to quality in child care. When examining the differences in accredited vs. non-accredited centers on this issue, Jorde-Bloom (1996) found significant differences between the two on ten facets of organizational climate, including collegiality, professional growth, supervisor support, goal clarity and consensus, reward systems, decision-making, task orientation, physical setting and innovativeness. In addition, job commitment was higher in accredited centers than non-accredited centers.

Teaching staff in accredited centers reported higher levels of satisfaction with their director than staff in non-accredited centers. Accredited programs provided more benefits such as sick leave days on an annual basis, higher percentages of cost-of-living raises, and were more likely to provide merit increases, retirement benefits, paid breaks, lunch, preparation and education time, and overtime.

Accreditation status does not however, predict optimal staffing. Turnover remains high in accredited centers, unless teachers are relatively well-paid. Highly-skilled (or educated) staff are more likely to stay in their child care position only if they earn $2.00 more per hour than those who chose to leave (Whitebook et al., 1997).

The most recently accredited centers had the lowest turnover rates and paid the highest wages of all centers in the sample (Whitebook et al., 1993). However, Helburn et al. (1995) found non-profits that were not accredited reported higher wages. In terms of turnover and wages, centers that opted not to renew accreditation were no different from centers that had never been accredited (Herr, Demars Johnson, & Zimmerman, 1993; Whitebook et al., 1993).

The process of accreditation and its relationship to quality. The process of becoming accredited may itself enhance quality (Herr et al., 1993; Jorde-Bloom, 1996; Powell et al., 1994; Whitebook et al., 1993; Whitebook et al., 1997). Since accreditation is a voluntary process, programs that choose to seek accreditation may be more dedicated to achieving quality. Based on anecdotal information, military-sponsored centers tend to display other indicators of high quality as a result of the accreditation process, including higher staff morale and pride, more well-defined goals, improved caregiving, more respect from superiors, increased parental involvement, a heightened sense of staff empowerment and innovative programs (Zellman et al., 1994).

In accredited centers, children benefit from being under the care of teachers who feel pride in their work and feel empowered. As well, children may benefit from general improvements to the environment including better equipment and greater group stability over the day (Zellman et al., 1994). Again based on anecdotal information, the areas likely to improve the most during the self-study process are curriculum, evaluation and assessment (Herr et al., 1993). In terms of curriculum,

multicultural issues may be considered in greater detail in accredited centers (Zellman et al.). However, the needs of children who speak English as a second language are not met any better in accredited centers than non-accredited centers (Whitebook et al., 1997).

Auspice

Due to the history of child care and the economic market-based structure of the United States economy, child care programs are funded in many different ways. In virtually all full-time child care programs, parents pay fees to cover the cost of care. Some programs are profit-driven, either part of a chain and owned by stock-holders or owned by an individual. Other programs are non-profit, and may be publicly owned (i.e., associated with a college, university or school or community-based) or church-sponsored.

Variation in auspice by structural and process measures of quality.

Center auspice is associated with quality. Often, non-profit centers or worksite-sponsored centers display higher quality than for-profit centers (Helburn et al., 1995; Phillipsen et al., 1997; Whitebook et al., 1989; Willer et al., 1991), although Helburn et al. found fewer differences between for-profit and non-profit centers than did the other studies. Licensing regulations (or the lack thereof) appear to affect these findings. In the Cost, Quality, and Child Outcomes Study conducted in four states, Helburn and her team found that non-profit centers were of significantly higher quality than for-profit centers in the state (North Carolina) in which overall licensing standards were most lax. For-profit centers in that state displayed significantly lower

levels of quality than non-profit centers. Non-profit centers had better adult:child ratios, educational levels, wages, cost and revenues per hour, and overall quality than for-profit centers (Helburn et al., 1995).

Non-profit centers are associated with more desirable structural quality features such as higher staff salaries, and higher director educational level (Helburn et al., 1995; McCartney et al., 1997; Whitebook et al., 1989). They are also more likely than for-profit programs to provide health benefits, paid sick leave days, retirement benefits, paid preparation time, paid breaks (including lunch) and job descriptions (Whitebook et al.).

The Cost, Quality, and Child Outcomes study found teachers have higher educational levels in non-profit centers. Teachers are more likely to have training in early childhood education. Teachers seem to be more satisfied when employed in non-profit centers. They are more likely to view their work as a career, believe their salary is fair, and believe their director is democratic (Helburn et al., 1995).

In another analysis of the Cost, Quality, and Child Outcomes Study, Phillipsen et al. (1997) found higher ECERS scores in North Carolina non-profit centers, further reflecting the differences between for-profit and non-profit programs. Non-profit centers provide a more developmentally appropriate curriculum for children in their care. Teachers are more sensitive and less harsh (Whitebook et al., 1989).

Turnover

Turnover in child care is a consistent problem, leading to poorer outcomes for the children in these settings. For example, children in programs with high turnover

spend more time wandering and less time engaged in social activity with peers (Powell et al., 1994; Whitebook et al., 1989). Turnover is also associated with limited relationships between the teacher and children. This is undesirable as children who have stronger relationships with adults display better peer relationships (Howes et al., 1992). Turnover is not usually as high among the most highly educated teachers, as they typically earn the highest wages. Nevertheless, the turnover rate is high in child care and replacing teachers costs a significant amount in terms of training. When turnover is high, training dollars are spent repeatedly covering essentially the same issues. This leads to increased spending on training that could otherwise be placed into higher staff wages, thereby helping to prevent higher turnover, and, as well, creating better environments for children (Whitebook et al.).

Turnover and program auspice. The rate of turnover varies by center auspice, with higher turnover rates in for-profit (chain and independent) centers. The higher turnover rates of for-profit centers may also be related to the low educational levels of many child care teachers in for-profit programs. The turnover rate in for-profit centers averages about 50% (Willer et al., 1991). Only 30% of the same teachers interviewed by Whitebook et al. in 1988 remained in their positions in 1992 (Whitebook et al., 1993). Those persons earning less than $5.00 per hour in 1988 were the most likely to leave. Low staff wages then, appear to contribute to higher turnover.

Turnover and accredited programs. Accreditation by itself does not appear to prevent turnover. In fact, accredited centers may experience higher turnover rates

than work-site and publicly operated centers (Helburn et al., 1995; Whitebook et al., 1989). Centers that became accredited had a lower staff turnover rate during self-study than centers that did not achieve accreditation. However, accredited centers are just as likely to lose teachers as those centers who do not become accredited. Centers who manage to retain their teachers are significantly more likely to receive good or better ratings of classroom quality. In both accredited and non-accredited centers, the highly trained staff who left their positions, and the highly trained persons hired to replace them, earned less than those who remained in their positions. This suggests turnover will remain high among the highly trained workforce as long as their wages are low (Whitebook et al., 1997).

Staff Wages

Problems presented by low quality child care and high costs are compounded by the fact that child care personnel earn low salaries (Dunn, 1997; Powell et al. 1994; Whitebook et al., 1989). A strong predictor of quality is higher staff wages (Helburn et al., 1995; Phillipsen et al., 1997, Whitebook et al.). In 1988, teachers in accredited centers holding a bachelor's degree in early childhood earned approximately half of that earned by public school teachers with a similar education (Powell et al.). According to Whitebook (1989) average wages were higher in accredited centers than in other centers, although Helburn et al. (1995) found wages were lower in accredited centers.

Child care providers themselves often lower the cost of child care in the form of donations and foregone wages (Helburn et al., 1995). Foregone wages equal the

difference between salary an employee is currently earning and the salary a person would earn in a different field, given the same educational level, gender, age, race and marital status. Higher salaries are associated with achievement of higher educational levels in many occupational fields. However, this is rarely the case in early care and education, the exception being non-profit programs funded by publicly operated agencies (Helburn et al.). Programs such as these may receive monies in addition to parent fees, enabling them to pay higher salaries to those who have achieved higher educational levels.

Staff wages continue to be a good predictor of quality in child care (Phillipsen et al., 1997; Whitebook et al., 1997). Higher wages attract a more qualified staff. Higher staff wages, in conjunction with educational background and low turnover were highly predictive of quality in child care. Higher wages help create work environments that facilitate teamwork, a rewarding work environment, and a stable environment for children. Overall depressed wages in the field contribute to higher turnover (Whitebook et al.).

Teacher:Child Ratio

Higher teacher:child ratios (fewer children per teacher) and lower group sizes are generally assumed to be better for children (Dunn, 1993b). Discussions of teacher:child ratio often become confused due to the use of the terms "higher" and "lower". "Higher" may be interpreted as more teachers per children, or misinterpreted as more children per teacher. The convention in the field is that higher ratios refer to more teachers per children, which is the same as fewer children per

teacher. The use of the terms "better" (fewer children per teacher), and "worse" (more children per teacher) may help prevent misunderstanding and will be used in this document.

Helburn et al. (1995) linked better teacher:child ratios with better process measures of quality. The National Child Care Staffing (NCCSS) study found programs meeting Federal Interagency Day Care Requirements (FIDCR) provisions had smaller group sizes (Whitebook et al., 1989). Results from the NCCSS indicated children in those programs meeting FIDCR standards spent less time wandering aimlessly, were engaged in higher levels of peer play and had higher self-perceptions of competence.

Teacher:child ratios vary by auspice/accreditation. Non-profit program teacher:child ratios are better than for-profit program ratios (Whitebook et al., 1989). Howes (1997) found classrooms in which ratios were poorer than those recommended by the National Association for the Education of Young Children, teacher-child interactions were less responsive and sensitive as measured by the Classroom Interaction Scale (Arnett, 1989). Ratios in accredited programs were better than work-site and publicly operated centers (Helburn et al., 1995). However, as a result of accreditation, there may be more emphasis by the program on managing teacher:child ratios from the child's perspective, with less reconfiguring of groups, and less emphasis on maintaining ratios at minimal acceptable levels as a means of minimizing costs (Whitebook, 1996; Zellman et al., 1994).

Teacher:child ratios and children's developmental outcomes. Ratios also may be considered an important quality indicator because adults mediate children's contact with the social and physical world (Phillips & Howes, 1987). The greater the number of children, the less time the teacher can be involved with each child.

The Bermuda (Phillips et al., 1987) and National Child Care Staffing studies (NCCSS; Whitebook et al., 1989) both found better teacher-child ratios are associated with better social development outcomes for children. While social development is not always shown to be directly related to better teacher:child ratios (Dunn, 1993b; Ruopp et al., 1979), studies do show better ratios are indirectly related to children's attachment to their teachers, and social competence with peers (Howes et al., 1992). It may be that when better ratios are combined with other quality indicators, the best effects for children become more apparent.

Better classroom teacher:child ratios seem to be associated with children's cognitive development by indirect means (Dunn, 1993a). Direct relationships between ratio and children's development have also been noted. In the Bermuda study, better teacher:child ratios were associated with higher scores on an experimental communication task as well as higher teacher ratings of children's language development (McCartney, 1984). Children's verbal interactions increase as the number of adults per child increases (Howes & Rubenstein, 1985).

Oklahoma teacher-child ratios. In Oklahoma, licensing regulations for maximum teacher:child ratios do not vary as a result of participation in the Stars program. One- and Two-Star programs may (and probably will) exhibit the same

teacher:child ratios. In the first year of operation as a Two-Star center, the program must have a Master Teacher present for every 30 children, and one for every 20 children in subsequent years. However, the Master Teacher need not actually be in the classroom with all 30 (or 20) children. Therefore, Two-Star status is not concerned with teacher:child ratios in the traditional sense.

Because recommended teacher:child ratios are more stringent for accredited programs, there may be differences in teacher:child ratio between programs which are licensed by the Oklahoma Department of Human Services and programs that are also accredited. See Appendix A for Two-Star Master Teacher Responsibilities and Qualifications, and Appendix B for the Oklahoma Department of Human Services recommended teacher:child ratios in child care centers, as well as the National Academy of Early Childhood Programs recommended teacher:child ratios in child care centers.

Group sizes

Group sizes are an important indicator of classroom quality (Dunn, 1993b; Howes et al., 1992). Research shows children in classrooms with greater numbers are likely to be in situations with inadequate caregiving and developmentally inappropriate activities (Howes et al.; Whitebook, 1989). Higher quality teacher-child interactions, and better developmental outcomes for children are associated with smaller group sizes (Howes, 1983; Phillips & Howes, 1987; Ruopp et al., 1979). Howes' early study (1983) found larger groups were associated with less social

stimulation and responsiveness, however the study compared family day care providers and center teachers.

Whitebook et al. (1989) found no relationship between group size and developmentally appropriate activities in the classroom. When group sizes do not appear to be directly associated with better child outcomes, indirect associations may be apparent (Dunn, 1993b; Kontos & Fiene, 1987). Contrary to expectations, Clarke-Stewart (1987) found children in large groups did better on tests of social knowledge and were less likely to behave negatively towards unfamiliar peers.

In contrast, while Ruopp et al. (1979) did not find better teacher-child ratios to be associated with better outcomes for children, they did find an association between lower group sizes and better child outcomes. For example, children showed more cooperation, verbal initiative and reflective/innovative behavior, and less hostility and conflict when in smaller group sizes. Ruopp et al. recommend maximum group sizes should be no more than twice the number of children allowed per teacher by the teacher:child ratio, or no more than 18 for three-, four-, and five-year old children.

Group sizes do not appear to differ between for-profit and non-profit programs. According to data from the National Child Care Staffing Study, the programs observed in that study appear to be within federal recommendations for group size, averaging 14.2 for preschoolers. Group sizes may even be diminishing over time (Whitebook et al., 1989).

The Stars program does not address group size. (See Appendix B for the recommended group sizes in child care centers by the Oklahoma Department of

Human Services as well as recommended group sizes in child care centers by the National Academy of Early Childhood Programs.

Environment

Early in this century, Kurt Lewin emphasized the importance of the environment upon children's behavior, including play, emotions, speech, and expression. He believed behavior was a function of the interaction between the person and the environment, summarized in the formula B = f(PE) (Lewin, 1931). The environment is described by some as the "third teacher" (Breig-Allen & Dillon, 1997, p. 128). Dempsey and Frost (1993) identify three reasons why the environment is of importance: (1) children take cues from the environment as to what they can and should do; (2) the environment fosters autonomy in children, thereby making them feel successful, and fostering their self-worth; and (3) the environment serves as the curriculum for young children. They describe the environment as "the interface" (p. 306) between teacher and child.

Early research in child care focused on positive or negative effects of non-maternal child care. As research confirmed that non-maternal care was not inevitably harmful, but that children from high-risk families may actually show improvements in developmental outcomes while in high quality care, attention turned to factors which contributed to positive outcomes for children (Phillips & Howes, 1987). The environment is one of those factors.

Overall indicators of environmental quality. Ratings of day care quality predict children's behavior (Holloway & Reichhart-Erickson, 1988). Global measures

of the classroom environment help indicate the distinctions between good and poor quality child care settings. Most classrooms are barely adequate in terms of overall quality. Centers participating in the CQO study (Helburn et al., 1995) averaged 4.0 on the ECERS (a four is considered above adequate but not good). According to Whitebook et al., (1989), in the NCCSS, preschool classrooms averaged an ECERS score of 3.56; scores ranged from 1.10-6.90.

Infant/toddler classroom scores were lower in both studies. In the CQO study, 92% of infant /toddler classrooms were less than good quality (5.0), and 40% of all infant /toddler classrooms were less than minimal (3.0) (Helburn et al., 1995). In the NCCSS, scores on the infant version of the ECERS ranged from 1.51 to 5.88 (Infant Toddler Environmental Rating Scale; ITERS; Harms, Cryer, & Clifford, 1986, as cited in Whitebook et al., 1989). Toddler room scores ranged from 1.16-6.13. For all ages, approximately one-third of all classrooms were below the minimally adequate score of 3.0, and at least two-thirds fell below a 4.0 (Whitebook et al.).

As noted earlier, structural quality is related to process quality. The overall classroom environment, as measured by indicators such as the ECERS, is related to the quality of teacher-child interactions (Whitebook et al., 1989). Classrooms with better teacher:child ratios are associated with more developmentally appropriate activities. Teachers in those classrooms are more sensitive, less harsh, and less detached. Better teaching practices are associated with fewer amounts of accordion grouping, more overlapping teaching shifts, and more teachers present in the classroom (Whitebook et al.).

Quality of the classroom environment is related to children's social development. In a Swedish study of child care (Hagekull & Bohlin, 1995), where overall quality is notably better than in much of rest of the Western world, children showed more positive emotional expression in better quality centers. Overall quality also predicted fewer internalizing/social withdrawal problems and more ego strength. Boys showed fewer concentration problems in higher quality settings. While there were no correlations between high quality centers and higher-quality environments in this study as has been found in other studies (see a review in Dunn, 1993b), the differences may be due to the overall higher levels of quality in Sweden. Social outcomes have been related to the quality of the environment (Dunn, 1990). For example, higher levels of social competence and social adjustment were associated with overall quality in the Bermuda Study (Phillips, McCartney, & Scarr, 1987).

Overall environmental quality is also associated with children's language and cognitive development. McCartney (1984) showed highly significant relationships between overall levels of quality and children's vocabulary, language and cognitive test scores and an overall communication task test score.

Children's play and the environment. A prevalence of free play available throughout the day is associated with high quality programs (Kontos & Dunn, 1993). Children's interactions with peers are enhanced when adequate space is present for play without interference from others, an adequate number of toys is present, and small enclosed spaces are available for smaller group interactions (Phyfe-Perkins, 1980). About five items per child are required during a free choice

session to enable a program to function well (Prescott, 1994). Getz & Berndt (1982) found higher levels of child involvement with caregivers, peers, and play with or without props and equipment when greater amounts of toys and activities are available. Peer conflict also occurred with less frequency.

Kritchevsky, Prescott & Walling (1977) suggest the amount of equipment in the classroom as measured by type of play unit, whether simple, complex, or super helps determine if an adequate number of toys exist. Simple play units have one obvious use, and do not possess sub-parts or allow for a juxtaposition of materials, enabling a child to manipulate the toy in innovative ways. Complex play units are composed of sub-parts or juxtaposed materials that allow manipulation or improvisation of the toy by the child. Super units are complex units with one or more additional materials added. Therefore super units consist of three or more juxtaposed play materials.

Environmental variables and behavior. Dempsey & Frost (1993) distinguish between two main environmental variables, molar and molecular. Molar variables influence children's perceptions of the environment and therefore how they choose to play in it. Molar variables include such factors as the child 's nationality, culture and socioeconomic status. Molecular variables include the space arrangement, materials and equipment (and the quantity of those items) and the spatial density

Phyfe-Perkins (1980), in her review of research on the influence of physical environment on behavior, describes two types of density. The first is called social density, and it refers to an increasing number of people in space. The second is

known as spatial density, in which the numbers of people are held constant, but the amount of space is decreased. Children spend less time observing and more time in focused, solitary play in a more spacious environment (Holloway & Reichhart-Erickson, 1988).

The Phyfe-Perkins review (1980) concludes that there are no generalized effects of increased spatial density, although anything below 15-25 sq. ft. per child is likely to result in increased aggression and non-involvement, and decreased social interaction. Oklahoma licensing standards currently recommend a minimum of 35 sq. ft. per child. However, conflict may be culturally specific, as Spanish-speaking Mexican children have been observed playing without conflict in very small spaces, and Jewish children as well (Kritchevsky et al., 1977). Children from family cultures that are described as warm by Kritchevsky, may function at least as well if not better in small spaces as a result of historical or present family living patterns. Although children may, in some cultures, not require as much square footage per child or even toys and equipment, in general, research indicates greater amounts of each fosters better outcomes for children.

While cultural values and community expectations derived from these values influence decisions regarding curriculum and the environment, measures of the environment may serve as an indicator of quality. Examining the environment through a commonly used measure such as the ECERS should serve as a reflection of quality. Also, the Classroom Practices Inventory Plus (CPI; Hyson, Hirsh-Pasek &

Rescorla, 1990) that measures the focus of the program and the emotional climate of the environment is an appropriate instrument to measure classroom quality.

Teacher Educational Levels

A serious impact of the low educational levels of teachers in child care settings is that children may participate in poor quality care settings which may be damaging to healthy development (Helburn et al., 1995). On a national basis, the educational level of child care teachers is high. Almost 75% of lead teachers have some college course work, as compared to less than one-half of all women in the labor force. More than one-half of all those who had acquired specialized training in early childhood education had received it at the college level. However, only one-fourth of those had earned certification of some sort in any field (Whitebook et al., 1989).

According to Whitebook et al. (1989), the number of teachers with a degree declined from 29% in 1977 to 22% in 1988. However, Willer et al. (1991) report 47 % of all early childhood teachers in 1990 had earned a college degree. In Oklahoma, caregivers in center-based child care average one year of education beyond high school, obtained in either two- or four-year institutions (Dunn, 1997). Approximately 21% of those who had attended a four-year college were more likely to have earned their credit hours in a child-related field. About 27% of those surveyed in Oklahoma at that time possessed a Child Development Associate (CDA) credential.

Teacher education and interrelationships with quality. Children in classrooms with better educated teachers tend to be in classrooms with better ratios. Higher teacher educational levels are associated with higher quality care (Berk, 1985; Cassidy et al., 1995; Helburn et al., 1995; Howes, 1997; Phillipsen et al., 1997; Ruopp et al., 1979; Whitebook et al., 1989). Higher quality care consists of appropriate teacher behaviors such as sensitivity and responsiveness to children and less harshness and/or detachment in interactions with children. Teachers with higher educational levels are more responsive and sensitive (Howes, 1997). Higher educational levels are associated with knowledge of developmentally appropriate practices (Snider & Fu, 1990). Phillipsen et al. (1997) report higher ECERS scores in classrooms where the teacher possesses a bachelor's degree or at least some college.

Teacher behavior and educational level. Berk (1985) studied the relationships between teacher behaviors toward children and teacher characteristics including formal education, child-oriented attitudes, employment satisfaction, child-oriented attitudes and commitment to the field. When compared to teachers possessing only a high school diploma, college educated teachers have higher scores on the Minnesota Teacher Attitude Inventory (MTAI; Cook, Leeds, & Callis, as cited in Berk). Teachers with a college degree, with or without a major in ece/cd, showed similar teaching practices, specifically less restriction and more encouragement, regard for development of children's verbal skills, and indirect methods of guidance. This suggests additional formal education, with or without specific knowledge of early childhood education, brings about more responsive behaviors in teachers.

According to Whitebook et al. (1989) formal education is the strongest predictor of appropriate teacher behavior. Howes' (1997) analysis of data obtained from the Cost, Quality, and Child Outcomes Study and the Florida Quality Improvement Study found the greater the education of the teacher, the greater the teacher's effectiveness. This research compared teachers with less than a high school education, high school diplomas, some college or a college degree in early childhood education. Those with a college degree interacted in a more sensitive and responsive way. Teachers with a bachelor's degree were observed to have the highest percentages of responsive involvement. They offered encouragement and acted in less harsh and detached ways with children than other teachers. Teachers with at least an AA degree in early childhood education/child development were also more sensitive and responsive and less harsh and less detached in their responses to children.

Child behaviors and their relationship to ece/cd training and teacher educational level. Studies indicate child behaviors are related to training in ece/cd and teacher educational level. Ruopp et al. (1979), found children in classrooms of teachers with specialized preparation in child development show more compliance and cooperation, and are less frequently uninvolved in activities. These children also had higher achievement scores than children in classrooms where the teacher had no such preparation. According to Howes (1997) children engaged in more complex peer interactions when in classrooms taught by persons holding a CDA credential. Teachers with a CDA credential initiated positive involvement more frequently than

did all other teachers. Children scored higher on the measures of receptive language and overall achievement when their teachers possessed a CDA credential.

Children engaged in more complex peer interactions when in classrooms taught by persons holding a baccalaureate degree. Children scored higher on receptive language and academic achievement when their teachers possessed a bachelor's degree. The greatest amount of complex interaction with objects and the highest levels of creativity in children were in those classrooms taught by teachers possessing a bachelor's degree (Howes, 1997).

Teacher Certification Status

Certification generally serves to identify those persons who display minimum competencies for successful teaching (Spodek & Saracho, 1988) as determined by completion of a bachelor's degree program in education. However, in child care, the term also refers to one of various credentials earned without a bachelor's degree, which were originally created to upgrade the quality of programs for young children. In early childhood education, certification is generally earned through the Child Development Associate (CDA) or the Certified Childcare Professional (CCP) credential programs. The CDA and CCP curriculums are generally based upon completing a combination of fieldwork, course work and a final evaluation (CDA; Phillips, 1991a; CCP; National Child Care Association, 1992).

The Child Development Associate. The Child Development Associate (CDA; Phillips, 1991b) credential was created as an alternative means to demonstrate competence teaching young children. Rather than following the traditional

educational path demonstrated by earning a degree, teachers could complete training by a variety of methods. The credential was created to improve the quality of early childhood teacher competence in 1971, especially the competence of Head Start teachers. Today, Head Start teachers, child care center teachers and directors, family child care providers and others may hold the CDA credential.

The program was originally created to provide a teaching credential for the educationally disenfranchised, i.e., those individuals who might not succeed in traditional baccalaureate programs (Powell & Dunn, 1990). As well, the CDA program intended to document the quality of teaching in early childhood/child development programs (Barbour, Peters, & Baptiste, 1995). "The CDA was proposed as an alternative to meet a need, not (to) replace existing systems" (Pettygrove, 1981, p. 52). As of 1991, 65,000 persons had earned a CDA (Phillips, 1991b). However, this number is small in proportion to the total number of early childhood personnel (Phillips, 1991b). Only 2% of the teachers participating in the National Child Care Staffing Study possessed a CDA in 1988 (Whitebook et al., 1989).

Early research on the CDA focused on teacher characteristics rather than behaviors. Peters and Sutton (1984) found no differences between CDA trainees and undergraduates at the student teaching level on self-reported measures of teacher beliefs. Whether or not these beliefs were actually implemented in a classroom setting was not examined by this study. Second-year CDA trainees in this study were

more likely than first-year trainees to "endorse cognitively oriented child-centered beliefs" (Peters & Sutton, p. 257).

Until recently, little research documented the effectiveness of the CDA credential. Howes' (1997) data indicates persons holding a CDA credential may provide settings that promote language development, complex peer interactions, compliance, cooperation, and involvement with activities.

Teacher and child behaviors and the Child Development Associate. According to Pettygrove (1981), CDA credentialed persons scored better than non-credentialed persons on two of six objective measures of practice. She indicated the test was not a "direct index of competence, but may be interpreted as evidence of knowledge about competent practices" (p. 48). This early research appears to indicate CDA training is certainly better than no training at all, yet observation of teacher interactions with children, measures of the classroom environment, and measurements of child behaviors, are needed to verify that the CDA credential results in higher quality programs and more desirable child outcomes (Granger & Gleason, 1981).

Florida Quality Improvement Study (Howes, 1997) data indicated teachers holding a CDA or a bachelor's degrees generally scored higher on the ECERS than teachers with a high school education or some early childhood education at the college level. CDA credentialed teachers engaged in more interactions with children than did other teachers, but they were not more responsive. Howes suggests teachers

may need more education than a CDA credential to provide individualized care for children.

The Certified Childcare Professional. The Certified Childcare Professional (CCP; National Child Care Association, 1992) is another credential available to child care personnel. It is sponsored by the National Child Care Association, a trade association representing private (for-profit) child care. While often anecdotally described as equivalent to the CDA, the CCP is rarely mentioned in the research literature.

While one cannot assume child and teacher behaviors are similar; both the CDA and CCP are acceptable credentials for Master teacher status in the Oklahoma Stars program. Basic requirements for the CCP credential are similar to the CDA credential, although the CCP candidate is required to document more contact hours with children and clock hours of training than the CDA candidate. However, alternative paths to the credential are permitted. For example, if the CCP candidate lacks the requisite training hours, the candidate would not be discouraged from applying for the credential if additional experience hours are available.

Training

Training is different from a credential in that it is not as formal a process as that required in obtaining a degree or credential. The definition of training may vary from clock hours obtained at conferences, to completion of a vocational-technical course, to college hours. Merely obtaining training is not enough for a teacher to become a Master Teacher in a Two-Star program, however it is enough to remain a

lead teacher in One-Star programs. In Oklahoma, teaching staff must obtain 12 clock hours of training per employment year in a One-Star program. Teaching staff must obtain 20 clock hours of training annually to maintain status as a Two-Star center (Oklahoma Department of Human Services, 1998). The content of training should be varied, appropriate to the teacher's needs, and build upon previous training (Oklahoma Department of Human Services, 1997). The intent is to ensure that teachers have knowledge in all relevant areas because training often does not cover the full spectrum of needs of early childhood personnel (Morgan et al., 1993).

Training has been shown to be associated with higher quality teacher behaviors. An early study of the quality of the child care environment (Ruopp et al., 1979) found training to be more influential on child outcomes and teacher behaviors than the quality of the physical environment or teacher educational level. Teachers with specialized training in early childhood education, child development or child care showed higher frequencies of positive social interactions with children, and praised, comforted, responded, questioned and instructed more than teachers without specialized training. The children in classrooms with these trained teachers performed better on standardized tests, and were more cooperative, paid attention to tasks and activities and seemed to be less isolated. Arnett (1989) found the level of authoritarian teacher behaviors decreased as the level of training increased.

However, the effect of training on child care quality is a complex one. The effects of training may be over-estimated. Howes et al. (1992), found that teachers with little training were more likely to provide a sensitive environment than

appropriate activities. In a study of a statewide local or regional training program, researchers found caregivers with a low to moderate amount of training provided inappropriate activities more often than did caregivers with no training, but more activities overall (Dunn & Whiting, 1995).

A frequent complaint concerning training is that it is entry-level, repetitive and not organized in a manner that will carry participants further in their education (Morgan et al., 1993). For this reason, these teachers may make few improvements in their classroom as a result of the training they receive. Clarke-Stewart also reminds us that training is not a guarantee of good care, because "taking ten courses is not necessarily better than five" (1993, p. 98); what matters is the content, quality and variety of the courses. Langenbach (1988) points out that training is adequate for occupations where specific tasks are to be performed, and specific skills can be identified and taught to address those skills. However, effective teaching does not consist of merely demonstrating skills. Teachers of young children must possess a knowledge base and reflect upon that knowledge. Thus, the extent to which training (as opposed to education) can be expected to improve quality may be limited.

Teacher Experience

Early studies indicated experience may not have much of an effect at all on quality of programs for young children (Ruopp et al., 1979; Whitebook, 1989). More recent findings suggest a moderate amount of experience is associated with higher child care quality scores. For example, less than 37 months of experience was associated with higher ECERS scores, but more than that was associated with lower

ECERS scores (Phillipsen et al., 1997). In Oklahoma, the typical caregiver has been employed longer than three years. She has been employed in her present position for four years and in the field of child care for seven years (Dunn, 1997). The relationship between teacher experience and child care quality in Oklahoma is still unknown.

Teacher Developmentally Appropriate Practices

The developmentally appropriate practice guidelines (Bredekamp & Copple, 1997) stem from child development research based in Piagetian and Vygotskian theory. The National Association for the Education of Young Children first published the guidelines as position statements in 1986 and 1987. They were designed with two purposes in mind: (1) to provide guidance to personnel in programs seeking accreditation, and (2) as a response toward to the growing trend towards more formal, academic instruction of young children. The revised 1997 document reflects current understandings based on research, values, and goals of the early childhood profession concerning best practice for young children.

Social-emotional outcomes associated with Developmentally Appropriate Practices

The LSU (Charlesworth, Hart, Burts, & DeWolf, 1993) studies indicate developmentally appropriate practices are beneficial in several ways. Children in developmentally appropriate practice (DAP) preschool and kindergarten classrooms exhibit fewer stress behaviors. Developmentally appropriate classrooms feature limited amounts of time in structured group settings, free choice of activities, and

feature ample amounts of free play, which is valued as a medium of learning. In contrast, developmentally inappropriate classrooms (DIP) emphasize seat work, worksheets, and teacher-led group work. Low SES African-American children exhibited more stress in developmentally inappropriate classrooms than did low SES Euro-American children. Males of both high- and low-SES exhibit more stress behaviors in developmentally inappropriate classrooms. Children in developmentally appropriate classrooms may have more choices to make, thus empowering them and contributing to their lower stress level. Also, teachers in more developmentally appropriate classrooms were more warm and responsive to children than those in didactic or developmentally inappropriate classrooms, which may also be a factor in reducing the stress level of children (Stipek et al., 1992; Whitebook et al., 1989).

Cognitive outcomes associated with Developmentally Appropriate Practices

Kindergarten children in developmentally appropriate classrooms score the same on the California Achievement Test, whether high or low in SES. However, low SES children in developmentally inappropriate classrooms appear to be at a disadvantage in that they score lower on the California Achievement Test than do high SES children in DIP classrooms. It appears that children in DAP classrooms do better, and that low SES African-American males are at risk when placed in DIP classrooms. Children who attended DAP kindergarten also appear to have higher achievement scores when in primary grades (Charlesworth et al., 1993).

A comparison of classrooms featuring more developmentally appropriate and more "academic" preschool classrooms showed children were more creative in

developmentally appropriate classrooms. Children were more anxious in developmentally inappropriate classrooms. While children in developmentally appropriate classrooms initially scored moderately lower on academic measures, these differences disappeared when researchers controlled for parental beliefs regarding "academics" for young children. In addition, in a follow-up sub-sample project, all children performed competently (Hyson et al., 1990).

Outside factors affecting implementation of developmentally appropriate practices

While research seems to highlight the benefits of developmentally appropriate practices for young children; parents, policy makers, administrators and teachers may not always agree on the benefits of such practices. On a national level, trends indicate sentiments may represent a "back to the basics" mood, which could well feature fewer developmentally appropriate practices. Hatch and Freeman's (1988) ethnographic research indicates kindergarten classrooms are becoming less developmentally appropriate, although not all individuals implementing these practices agreed that their strategies are in the best interests of children. Teachers may believe in developmentally appropriate practices yet be unable to implement them due to pressures from parents and administrators.

A study of kindergarten teachers' beliefs and practices found teachers who believe in developmentally appropriate practice feel they have greater control over planning and implementing instruction than do teachers with inappropriate beliefs (Charlesworth, Hart & Burts, 1991). However, these teachers also believe that

parents and principals are more in charge of the curriculum decisions affecting their classrooms. Teachers who believe in developmentally appropriate practices but do not practice them also believe principals affect curriculum decisions more than they do. Teachers' educational level was not associated with their beliefs concerning developmentally appropriate practice (Stipek et al., 1992).

Professionalism in Early Childhood Education

Defining professionalism

Willer and Bredekamp (1993) describe the early childhood professional as one who is "well-paid and knowledgeable and demonstrates high quality performance, which results in better outcomes for children" (p. 63). The goal of achieving a definition of the term "professional" is to ensure competent and informed professional practice for the field. Today, as the lines between education and caregiving continue to blur, the field of early childhood education struggles to define just what being a professional means.

Howsam, Corrigan, Denemark, and Nash (as cited in Spodek & Saracho, 1988) listed 12 characteristics of a profession. Among those characteristics are commitment, agreed upon standards for admission and continued practice and an extended period of university study. In the field of early childhood education, standards for admission vary by employment setting. For example, public school teachers must earn a degree and become certified, while the only requirement to

become a lead teacher in an Oklahoma child care center is to possess a high school diploma or general equivalency diploma.

Katz (1988) identified eight essential characteristics of a profession. Her explanation of each of these characteristics attempted to explain the fit between the field of early childhood education and each of these characteristics. They are (1) social necessity, (2) altruism, (3) autonomy, (4) a code of ethics, (5) distance from the client, (6) standards of practice, (7) prolonged training, and (8) specialized knowledge. She argued the field as a whole cannot consider itself professional in that the social necessity of early childhood education has not yet been verified, autonomy has not been achieved, prolonged training before entry is not a requisite, and a body of specialized knowledge has not been agreed upon. Fromberg (1995) identifies six similar characteristics for the early childhood profession by collapsing many of those previously identified together, and adding commensurate compensation and a professional organization. Bergen's (1992) concerns regarding professionalism in the early childhood field include ethics, appropriate identification of a body of specialized knowledge and prolonged training, compensation, requisite credentials and amount of practical experience as a criterion for entry.

Defining the knowledge base

Possession of a unique knowledge base is often mentioned as a key element of a profession (Fromberg, 1995; Silin, 1988). Without education in the field, persons outside the profession cannot possess the knowledge base. Some characteristics of a professional knowledge base are that it is abstract, it consists of

principles which may be considered as generalizations for practice, and the ultimate end of these principles are oriented toward practical concerns which rationalize techniques for the profession (Katz, 1988). Possession of such a knowledge base enables members of the profession to establish a monopoly over the service provided by the profession (Spodek & Saracho, 1988).

Since future early childhood teachers may well have had personal educational experiences that differ from currently advocated best practice, reflection is an important strategy utilized in formulating and solidifying the knowledge base. According to Spodek & Saracho (1988), effective teachers are professional teachers. Teachers become effective through reflection upon a theory base. Isenberg (1995) also emphasizes the importance of reflection upon professional development. Regarding alternatives, teachers must understand the context within which young children learn, and be able to provide rationales for choosing the context they will provide within the classroom. Finally, since early childhood requires advocating for children, families and programs, future teachers must be made aware of the importance of this dimension of teacher preparation.

The kind of knowledge viewed as indispensable for teaching young children has not been agreed upon. Some argue a liberal-arts base is essential (Fromberg, 1995; Morrison, 1995), while others would argue knowledge of development (Caldwell, 1984; Feeney & Kipnis, 1992) and developmentally appropriate practice is the most critical. Standards for entry into the early childhood profession as a teacher certified by the state of Oklahoma emphasize teachers must possess a liberal arts

background, and knowledge of child development and developmentally appropriate practice. However, no such standard exists for teachers working in Oklahoma child care centers.

Training

The main concern related to the length of training required for entry into the profession is that this relates to how one acquires a body of specialized knowledge, which is an essential part of being a profession. Rather than acquiring ece/cd knowledge through the formal educational process, persons entering the field without a bachelor's degree obtain their knowledge through training that is often, at best, lacking in cohesiveness and depth. Since teaching in child care centers has been an occupation open to anyone with a high school or General Equivalency diploma, the time, effort and expense required by individuals to gain the knowledge necessary for membership in other professions may not be a part of many early childhood professionals' personal history.

Thus, the problem becomes defining "Who is a professional in the field of early childhood education?". The solution applied to this problem has been to "apply the term (professional) to all who work with young children in whatever capacity" (Morrison, 1995, p.18). Some would argue that the problem with this approach is that individuals are included who should not be. Consequently, the status of the profession is low. Since everyone practicing in the field of early care and education is included, the solution to the divergence of opinion in Oklahoma was the creation of the early childhood professional development ladder (Center for Early Childhood

Professional Development, 1998). Significantly, the implicit assumption underlying the creation of this model is that no one practicing in the early childhood field could be excluded regardless of salary level, educational level, or ability to demonstrate possession of a knowledge base.

Discussion of a model for professional development is underway at the national level and in many states as well. The National Association for the Education of Young Children has long sought to improve professional preparation and practice. In 1994, NAEYC published suggested guidelines for professional standards with The early childhood career lattice: Perspectives on professional development (Johnson & McCracken). These guidelines defined competencies required for membership in various levels of professional categories. As well, it opened the discussion for states to define professional standards and effective professional development strategies by describing models working in various locations throughout the country.

One of the problems with which states struggle is the need for seamless training (Morgan et al., 1993). Problems exist for those individuals desiring to earn college credit for training/experience and in transferring credit between various educational systems, including technology center programs, and higher education at both two- and four-year institutions. A survey of early childhood teacher educators indicated the majority of those professionals surveyed (83%) are aware professionalization movement (Surbeck, Jarrell & Kelley, 1994). However, only 33% of those surveyed agreed that transferring credit at the higher education level is

inhibiting career development progress nationally. Those interviewed cited low status of early childhood education (45%) as the major barrier to career development.

A model for professionalism

In Oklahoma, the professional development model is conceptualized as a pyramid (See Appendix C; Center for Early Childhood Professional Development, 1998). Two-Star Master teachers are located at least at the second (Credential) level of the professional development model. The model is intended to justify salary increases commensurate with training, and encourage personnel to pursue additional training.

Entry is permissible at any point in the model. Educational level determines the point of entry. Therefore, many persons employed as child care teachers enter via the two lowest tiers of the professional development model. Not all professionals agree that allowing entry into the profession at any level is a valuable strategy. According to Surbeck et al. (1994), only 17% of a sample of the members of the National Association of Early Childhood Teacher Educators believe an associate's degree qualifies an individual as a professional, while 51% believed a bachelor's degree would. The early childhood field may need to be defined in a diverse manner, allowing for one or many types of credentials, and various combinations of course work, and experience (Bergen, 1992). Those individuals with less than a bachelor's degree will often earn lower salaries and are placed at a lower point of entry into the professional development ladder than those with a full degree.

Since higher teacher salaries are associated with quality programs (Whitebook et al., 1989) and with professional status, the Oklahoma professional development model (Center for Early Childhood Professional Development, 1998) linked salaries to each level. However, no mechanisms are currently in place to ensure salaries actually paid to individuals comply with the recommendations of the model. (See Appendix C).

Commitment

Another issue related to professionalism is that of commitment. Commitment to one's profession is one frequently identified characteristic of a profession (Howsam et al., as cited in Spodek & Saracho, 1988). According to Whitebook et al. (1989) commitment to the early childhood field is strong, especially among persons who have specialized training in ECE. However, fully one-third of those who participated in the National Child Care Staffing Study (34%) viewed their positions as temporary. In Oklahoma, 61.7% of center caregivers surveyed intend to stay in the field indefinitely. Over half (56.5%) viewed their current position as their chosen occupation, 23% considered their current position to be a stepping stone to another ECE position, and only 15% considered their current position as a temporary one (Dunn, 1997).

Professional organizations

In general, members of a profession belong to one or more professional organizations representative of the profession. Professional organizations are responsible for disseminating new information via scholarly journals, newsletters,

conferences and workshops in order to keep its membership informed of new knowledge, trends, practice, and theory (Katz, 1988). Only 14% of the child care staff in the Whitebook et al. (1989) study held membership in professional organizations; approximately one-third (35%) of Oklahoma center caregivers held membership in professional organizations (Dunn, 1997). Those who belonged to professional organizations tend to have more formal education. However, there is no link between membership in professional organizations and commitment to child care as a career (Whitebook et al., 1989).

Ethics

Professionals have a responsibility to serve their clients as ethically as possible. Teachers make decisions every day in their interactions with children, their families, and other staff that require consideration of moral and behavioral issues. In early childhood in particular, the standards for ethical behavior are based on core values firmly established in the field. These values include: (1) appreciating childhood as a unique and valuable stage of life; (2) basing work on knowledge of child development; (3) appreciating and supporting the ties between the child and his/her family; (4) recognizing that children are best understood in the context of family, culture, and society; (5) respecting the dignity, worth, and uniqueness of each individual (child, family member and colleague); and (6) helping children and adults to achieve their full potential in the context of relationships based on trust, respect and mutual regard (Feeney & Kipnis, 1992).

Advocacy

Finally, an issue related to professionalism is that of advocacy for young children, their families, and the profession. Fromberg (1995) identified knowledge of advocacy techniques for the early childhood field as a key dimension of the knowledge base teachers of young children must possess. Advocacy is identified as a major purpose of the National Association for the Education of Young Children. According to Jones (1994), like it or not, the challenge of the early childhood profession is to change things. Since early childhood professionals work in a variety of settings, they must understand the need for collaboration among settings, as well as administrative and legislative strategies which are designed to foster quality of early childhood programs.

Director Characteristics

Director Educational Level

Studies have shown the educational level of the director to be a very strong predictor of quality (Jorde-Bloom, 1989). Directors are generally better educated than teaching staff. In the NCCSS, 42% of all directors held a bachelor's degree (Whitebook et al., 1989). The Illinois Directors Study found 72% of all directors in that state held a bachelor's degree. They averaged 28 semester hours of credit in early childhood education or child development (Jorde-Bloom, 1989). In contrast, directors in Oklahoma center-based programs averaged about two years of education beyond high school. Less than 50% of those surveyed in Oklahoma had attended a

four-year institution; slightly more than 50% of that number had earned credit in a child-related field.

Studies show a salient predictor of program quality is specialized director training in program administration (Jorde-Bloom, 1990; Whitebook et al., 1989). As directors experience training, they gain self-confidence, stronger professional convictions, and renew their enthusiasm for their careers (Jorde-Bloom & Sheerer, 1992). Strategies for implementing director training should include (1) basing training on perceived needs; (2) emphasizing problem-centered and site-specific training; and (3) a systems perspective (Jorde-Bloom & Rafanello, 1995).

Typically recommended is course work in early childhood administration, accompanied by a degree in either child development or early childhood education (Jorde-Bloom, 1990). Key content areas should focus upon the director as a change agent, a model of best practice, as a provider of staff development training and a planner for the parents' role in child care programs and the upon the management and leadership roles of the director (Jorde-Bloom & Rafanello, 1995; Rosenthal & Shimoni, 1994).

An intensive program of director training implemented on a limited basis in Illinois by Jorde-Bloom and Sheerer (1992) included personal and professional self-knowledge, child development and early childhood programming, organizational theory, leadership style, legal and fiscal issues, parent and community relations/public policy/advocacy, and research and technology. After completion of the program, significant changes were noted in the centers of participating directors in the

following areas: clarity of program policies, degree of program innovativeness, opportunities for professional growth, staff perceptions regarding impact upon decision-making, interactions among staff and children, curriculum, health and nutrition, the physical environment and overall classroom quality programming.

Director Leadership Behavior

A quick glance at the number of library shelves devoted to leadership reveals the concept has been much discussed in the business literature. Until recently, early childhood education ignored the business concepts of leadership and leadership development. In early childhood education, management was equated with leadership, therefore directors of early childhood programs were leaders, regardless of their knowledge of the leadership role and overall level of education.

Several problems were associated with this perspective. First, with no formal definition of leadership, directors did not always view themselves as leaders. Secondly, the view was that early childhood education differed from other fields, therefore the knowledge and expertise of others was not applicable to early childhood educators; consequently little information was shared with early childhood professionals. Thirdly, as a whole, early childhood professionals were not comfortable with the idea of authority and power, so the tendency was to repress the idea of accepting leadership and undervalue its importance (Morgan, 1997).

The prevailing view of the importance of leadership and the director's role in it today is a much broader one. Directors are responsible for managing day-to-day tasks such as budgeting, record-keeping and developing policies, as well as

supervising and mentoring staff, all of which keep their programs operational. However, these tasks are just a small portion of an early childhood program director's responsibilities.

Leadership theory and research

Leadership research conducted prior to World War II focused on identifying personality traits of leaders (Bass, 1981). Later, leadership theorists argued leadership is dependent upon the situation, and had nothing to do with personality traits. Eventually, leadership theorists adopted the position that personality traits and the situation interact to determine how successful leaders will be within organizations.

The able leader (or director) is one who persuades others to follow her (Bass, 1981). Leading is defined as "the process of directing and influencing others through example, talent, information, and personal interaction skills" (Hildebrand, 1993, p. 145). Leaders elicit behavior from their followers which is beyond that required by a manager of her staff. Leaders create a climate for change. Leaders are essential to revitalizing organizations, creating new enterprises, and renewing healthy communities (Kouzes & Posner, 1995).

Studies show leaders typically have had prior success in the role. Leaders display a spontaneity which is contagious, they protect the weak, encourage participation of less capable persons, tolerate the deviant, possess an abundant amount of energy, accept a wide range of personalities, and are often described as confident (Stogdill, 1974; Chemers, 1997). Leaders seem to be in possession of great

amounts of information concerning the task at hand. Emergent leaders are likely to be the ones in a group who talk the most, often because they know more about the subject at hand (Bass, 1981).

Leadership styles

Leadership styles (sometimes referred to as leadership dichotomies) have frequently been used to describe how leaders deal with subordinates. Identified leadership styles include democratic/autocratic, participative/directive, relations/task oriented, initiating structure/consideration, and laissez-faire/motivation to manage. Each style (or dichotomy) is usually placed on a continuum. These constructs grew out of the Ohio State Leadership Studies of the 1950s under Shartle, Hemphill, and Stogdill, which resulted in the Leadership Behavior Development Questionnaire (LBDQ; Stogdill, 1974). Stogdill's work is still referred to widely in the literature.

Democratic/autocratic leadership style refers to the way power is distributed within the organization, whose needs are being met (the leader's or the follower's), and the way decisions are made. Democratic leadership usually requires more maturity and some education. It often involves making decisions based on the will of the majority. The democratic leader provides members of the group freedom to determine their own policies, and initiate their own tasks and interactions. Autocratic leaders may depend on coercion and their ability to persuade others. An autocratic leader may use the power of the position to convince others to follow him or her.

Participative/directive leadership refers to how decisions are made. Participative leaders may consult with subordinates before deciding upon a plan of action, or even totally delegate decision-making. Directive leaders expect unquestioning obedience from their subordinates; at most participation in making decisions is minimal.

Relations oriented/task oriented leadership refers to whose needs are being met within the organization. Leaders may differ in their concern for group goals and the means by which these goals should be met. Relations-oriented leaders may be concerned about the task at hand, yet they are also concerned about the welfare of the group members. They try to maintain friendly, supportive relationships with followers. They are people-centered, concerned for group maintenance, and interaction-oriented. Task-oriented leaders emphasize production, and goal achievement. They may keep their distance from members of the group.

Initiating structure is related to group unity and consideration to low levels of absenteeism, grievances, turnover and bureaucracy. Initiating structure refers to the extent to which leaders initiate the group's activities, organize these activities, and define the manner in which work will be completed. Considerate supervisors express appreciation for work done well, stress job satisfaction, treat subordinates as equals, are approachable, utilize subordinates' suggestions, and obtain subordinates' approval before proceeding. They are characterized by friendliness, mutual trust, and respect.

The Laissez-faire/motivation to manage dichotomy concerns the extent to which the leader avoids or attempts to manage. Laissez-faire leaders avoid

attempting to influence subordinates, shirk their supervisory duties, may bury themselves in paperwork, do not set clear goals, and do not make decisions to facilitate the group's ability to make decisions. Leaders who are motivated to manage maintain good relationships with supervisors, are active and assertive father figures (even when women), exercise appropriate power, and visibly stand-out from subordinates (Bass, 1981).

Blank (1995) argues that attempting to identify leadership style is ultimately pointless, as no one can foresee the future. Instead, the leader should focus on paying attention to those who will follow and remember that leaders think differently from others. The leader integrates information in new ways, and moves beyond what worked in the past (Blank, 1995; Capowski, 1994). However, in the process, the leader must balance his/her actions with the thinking of the followers. The notions of leadership style have evolved into leadership behaviors. Many of the words used to describe good leaders are the same now as those used earlier, however they are now used in the context of behaviors as opposed to style.

Current views of leadership

Leadership as a challenge. Kouzes and Posner (1995) developed the Leadership Practices Inventory (LPI; 1995) based upon a triangulation of quantitative and qualitative research studies. Their results suggest the following leadership constructs (regardless of the specific field) are worthy of examination: challenging the process, inspiring a shared vision, enabling others to act, modeling the way, and encouraging the heart.

To challenge the process requires people to venture beyond the status quo. Leaders search for the chance to grow, change, innovate and improve. Leaders are also risk takers. When they take risks they learn from their mistakes. Leaders welcome these opportunities. Kouzes and Posner (1995) believe that more than anything else, leadership is creating a new way of being. They suggest three critical elements are a part of challenging the process: (1) arousing intrinsic motivation, (2) balancing the need for routines, and (3) looking outside the organization for stimulation and information. These three elements are key to leadership in early childhood programs. Especially since early childhood teachers are paid low wages, they may not be inclined to contribute more than is minimally necessary to their jobs, and may be inclined to leave for another job as soon as one becomes available. The director of child care programs must be especially alert to arousing intrinsic motivation in her staff.

Leaders inspire a shared vision. Leaders see something "out there" that others do not. They imagine extraordinary events are possible, and that the ordinary can be something extraordinary. The future is grand for organizations led by leaders with a vision. Leaders want to do something significant, and they are able to do this by enlisting the aid of others. They are able to make significant accomplishments by appealing to others' values, interests, hopes and dreams.

Leaders enable others to act. They recognize leadership is a team effort. Leaders promote cooperative goals and mutual trust. This is achieved by listening, sharing information and resources. Most importantly, leaders share power; they make

other people feel strong. By sharing information, they enable followers to create solutions to problems. They provide choices, develop competence in others, assign critical tasks, and offer visible support. Leaders who enable others to act ensure the authors of projects are recognized. In educational settings, teachers may not receive credit for an idea or successful implementation of a project, leaders make sure credit is received and acknowledged where it is due.

Leaders model the way by setting an example; they are credible to others. This is accomplished by following through with commitments, while including the followers in the process. They are not afraid to do any task that others in the organization are required to do, including menial ones. A shared value system serves as a framework for accomplishing goals. Values can't be imposed, they must be created by the team. Leaders also make sure their team experiences small wins on their way to impressive successes.

To encourage the heart, leaders recognize the contributions each individual makes to the success of projects, and they celebrate significant events. Rewards are actually linked to performance. Social support networks are critical to the success of sustaining the followers willing to serve, and leaders make sure a support system exists for everyone in the organization. Kouzes and Posner (1995) emphasize the importance of love to the success of organizations and leadership in general. People must feel passionate about their work; love creates loyalty and teams.

Current literature emphasizes the importance in the workplace of creativity, risk-taking, and innovation. A passion for the work is critical to success of the

organization. By promoting cooperation, commitment, sharing power, and setting an example, leaders in any organization ensure its success. Leaders who implement high standards, celebrate accomplishments, encourage systems thinking and build organizations which are learning organizations are more likely to be successful. Leaders have a vision for the future. Such leaders create trust, the most crucial element of success (Blank, 1995; Capowski, 1994; Kouzes & Posner, 1995; McLean & Weitzel, 1991; Senge, 1996).

Leaders who demonstrate these behaviors have been shown to be more effective in meeting job-related demands, creating higher-performing teams, fostering loyalty and commitment, increasing motivational levels and willingness to work hard. Such leaders possess credibility (Kouzes & Posner, 1995). Job-related demands are many for child care teachers, their leaders implementing these leadership behaviors might strengthen the staff's performance, thereby improving the children's experiences in the child care setting. Virtually all early childhood settings are staffed by teachers in need of more education, if only to update themselves on the newest educational practice and theory. Many require far more basic education. Leadership behaviors are also associated with reduced absenteeism, turnover and dropout rates. As discussed earlier, turnover is a continual problem in child care settings (Whitebook et al., 1989). Again, adopting leadership behaviors identified by Kouzes and Posner (1995) that may be related to reducing problems like turnover and absenteeism might benefit child care programs.

Calder (as cited in Chemers, 1993) argues leadership is an internal quality that cannot be measured. Rather, it can only be inferred from observed behaviors or events. He suggests it is the perception of leadership, not the leadership itself that is important. Furthermore, he argues that leadership processes are strongly influenced by cognitive processes that are subject to bias and distortion. The very idea of leadership itself is dubious and of little value. He argues people see leadership and its effects only because they expect to see leadership anyway.

The romance of leadership. One current view of leadership argues Kouzes and Posner (1995), among others, have fallen into a trap described as the "romance of leadership" (Chemers, 1997, p. 110). According to Chemers, when theories focus on the romance of leadership, too much attention is focused on the leader as the cause of everything that happens in his/her organization. He argues the roles of culture and gender need to be considered concerning the value of leadership in organizations. Especially important in considering culture are the roles values play in making up an effective leader, and how they influence the needs and expectations that the followers possess as a result of the values they hold. Also important is that relationship structures and interpretation of behaviors will vary by culture. Issues specifically related to gender seem to be related more to stereotypes regarding expectations for men and women (Chemers, 1997). Chemers' notion that too much emphasis is placed on the role of the leader as the cause of everything that happens in an organization is an interesting one, and in contrast to Jorde-Bloom's (1990) suggestion that the role of

the director is a powerful one in influencing the child care center, both as a workplace for staff and as an educational setting for children.

An integrative theory. Chemers proposes an integrative theory of leadership (1997) based on the premise that the functional aspects of leadership can be grouped into three facets. The facets of leadership identified by Chemers are not completely independent of each other, but they do represent separate and distinct components. The first is image management. "The primary goal of image management is to establish a legitimate basis for the leader's attempts to influence others" (p.153). By accepting the leadership of another, the follower sacrifices some autonomy, therefore the leader must facilitate the group's progress toward its goals. The second facet of leadership is relationship development. In relationship development, leaders must motivate and direct the activities of others. The third facet of leadership, resource utilization, acknowledges that leaders are responsible for the organization's performance, which depends on the leader's ability to apply the resources of the group to accomplishment of the task.

Leading with soul. Bolman and Deal (1995) consider the spiritual component of leadership to be critical to solving problems in the workplace and the community. They suggest courage, spirit and hope lie at the heart of leadership. People who lead with soul create passion and purpose in themselves and their followers. Leaders who offer love and power, ensure authorship of projects and provide for perpetuation of significant events lead with soul.

A summary of the leadership literature. To summarize current thinking regarding leadership, leaders articulate a vision, set goals, and enable their followers to create their organizations (Capowski, 1994; Jorde-Bloom, 1997; Sergiovanni, 1984). Establishing trust is essential to effective leadership. Leaders are able to influence others (Capowski, 1994; Rodd, 1994). They must have a passion for their organization, and create passion in their followers. They, along with their followers, set values for their organizations (Bolman & Deal, 1995; Kouzes & Posner, 1995).

According to Sergiovanni (1984), management tasks such as planning, organizing and scheduling form the foundation for leadership tasks. In educational settings, leadership tasks are initially associated with programming formulation, proceed into public relations and progress into playing the role of "chief". Leadership tasks culminate with symbolic activities such as articulating a vision, and creating a culture that focuses on continuous improvement. However, leadership behaviors are not confined by organizational type. The behaviors of leaders in the field of early childhood education are probably quite similar to those of business, political, volunteer and community leaders.

Early childhood leadership

Jorde-Bloom (1991) recommends child care directors consider using a systems model to describe and define their organizations. As the person ultimately responsible for the quality of the center, directors must affect all components of the program, and the interrelationships between all those components as well. For this reason, she proposes systems theory as a means of explaining the "significance of

day-to-day practice in early childhood programs" (p. 314), especially regarding the impact of change and anticipated outcomes of practice.

Theoretical influences. The key elements of this theory are the interrelationships between the people, the structure and the processes that are embedded in the culture of the program, which are framed by the external environment. Systems theory emphasizes that events and actions occurring within one subsystem of the organization will affect other subsystems of the organization, and ultimately, the outcomes of the organization. In the child care setting, outcomes may include the reputation of the program, its fiscal viability, internal efficiency, job satisfaction and turnover, children's social and cognitive competence and health, and parental satisfaction. Jorde-Bloom (1991) suggests this model of systems theory draws upon the work of Bronfenbrenner (1979). Bronfenbrenner places the child's development at the center of ecological theory, however systems theory considers the child's development as just one of the outcomes of the system.

She suggests directors utilizing systems theory will be in a better position to manage change within their program and take advantage of its particular strengths. As directors must be able to manage their programs in order to lead their programs, the viability of such a systems approach is evident. Also, continuous improvement or change is an essential component of quality programs (Jorde-Bloom, 1996). Implementing change is a leadership function.

Research indicates directors influence their programs in two ways: (1) as a workplace for the staff, and (2) as an educational environment for children (Jorde-

Bloom & Rafanello, 1995). The most successful leaders are able to accomplish the task of the group, while building member satisfaction and inter-member loyalty (Bass, 1981). The director should also possess strong interpersonal skills to promote a positive workplace.

Organizational leadership. Interpersonal skills affect the director's leadership behaviors. The director should understand organizational theory, the fiscal and legal issues related to child care, as well as how to promote relationships with the board (if there is one), parents and the community (Jorde-Bloom, 1990). Director training (for as little as 16 months) can improve employee perceptions of organizational climate, including clarity of program policies and procedures, degree of program innovativeness, and opportunities for professional growth (Jorde-Bloom & Sheerer, 1992).

Supervisors in other fields are also responsible for management tasks such as staff evaluation and feedback concerning practice and work performance (McLean & Weitzel, 1991). This is true of child care center directors. Many times teachers become fearful and perform more poorly when being evaluated, often because the measures used in the evaluation process do not reflect best practices in the early childhood field (Vartuli & Fyfe, 1993). The director must view the teacher as a decision-maker, and provide supervision as well as formative evaluation. Supervision involves providing feedback to improve teaching practice. The director provides a formative evaluation as a benchmark of performance, and provides the teacher with an opportunity to reflect upon areas needing improvement.

Educational leadership. Since the director is responsible for the center's educational environment, it makes sense that the director have, if not the greatest amount of education of the group, at least a strong knowledge of the field of early childhood education (Jorde-Bloom, 1992). The director should understand child development and related theories. Therefore, s/he must understand the implications of child development for child care settings, including health and safety issues, guidance techniques, and room arrangement (Jorde-Bloom, 1990).

As the Leadership Behavior Development Questionnaire (LBDQ) constructs seem to be relevant to early childhood programs, Montgomery and Seefeldt (1986) used the LBDQ (LBDQ; Stogdill, 1974) in their 1986 study, which measured consideration and initiating structure. They reported little or no relationship between supervisory style and teachers' behaviors. Regardless of whether or not supervisors scored high or low on consideration (friendliness, mutual trust, respect, and warmth) or initiating structure (defining the relationship between supervisor and other members of the group, patterns of organization, getting the job done) the teachers were equally as likely to foster development of a child-centered environment. The supervisors in this study all held master's degrees in early childhood education/child development. All teachers held bachelor's degrees in ece/cd. However, since the teachers all possessed ece/cd degrees (which is not representative of all early childhood programs), they may have been able to implement developmentally appropriate classrooms regardless of their feelings concerning the director, due to their own knowledge base.

Still, Stipek, Daniels, Galluzo, and Milburn (1992) show no association between developmentally appropriate practice beliefs and teacher educational level. Results might not be the same with lesser-educated caregivers or with a different instrument. Director training is able to influence quality of classroom environments in the areas of teacher-child interactions, classroom curriculum, arrangement and use of the physical environment and health, safety and nutritional practices (Jorde-Bloom & Sheerer, 1992).

Both management and leadership skills are essential for directors. In educational organizations such as child care, the leader must understand that teaching is the most important function of the organization, then rouse the resources to improve that function. To paraphrase Capowski (1994), directors must attract good teachers and then free them to educate. The first responsibility of the educational leader is to the students (Heller, 1982) or in the case of child care, the children and their families.

CHAPTER 3

METHODOLOGY

Research Design

The study utilized a quasi-experimental design to examine if and how child care program quality, as well as the professional attitudes and practices of the teachers and leadership behaviors of directors staffing these programs, varied as a function of the Stars program and accreditation. Study participants were teachers and directors in One-Star, Two-Star and accredited centers.

Participants were assigned to comparison groups based upon their employment in One-Star, Two-Star or accredited centers. Independent variables were geographic region, auspice and Star status. Dependent variables were (a) structural quality aspects of classrooms and centers; (b) process quality indicators of classroom environments; (c) developmentally appropriate practices; (d) teacher's professionalism beliefs; and (e) director leadership practices.

Sample

A total of 86 child care centers were contacted. From that total, 71 agreed to participate, for a participation rate of 83%. Of the total number of participating centers, 25 (35%) were One-Star, 21 (30%) were Two-Star, and 25 (35%) were accredited.

Due to the newness of the Stars program, the number of Two-Star programs was limited. Also, there were few accredited programs in the state; therefore all existing Two-Star and accredited programs were invited to participate. As the study focuses on Oklahoma child care licensing/reimbursement policy, the emphasis was placed on matching One-Star and accredited centers to the Two-Star programs during sample selection. When possible, One-Star and accredited programs were matched to Two-Star programs, in order of priority, by region and auspice. Within large metropolitan communities, region was matched within city quadrants, sometimes to distances of less than a mile. Within these constraints, One-Star programs were randomly selected.

Each center was recruited via telephone. Procedures of the study were explained to the center director. The director, or other individual so designated by the center, decided whether or not the program would participate in the study.

Based upon region (specifically the county in which a center is located), the Oklahoma Department of Human Services, Division of Child Care, provides a differential child care subsidy reimbursement rate to programs. Subsidies assist low-income families in paying for child care. The highest reimbursement rates are granted to programs located in urban areas. High rate counties include Tulsa, Washington, Kay, Kingfisher, Cleveland, Canadian, and Oklahoma (S. Pallotta, personal communication, May 1, 2000). For this study, programs in these counties were designated urban. All remaining counties and the programs in them were designated rural.

Programs were also coded for auspice, or sponsorship. During the recruitment interview, recruiters questioned directors in order to categorize each center as non-profit, for-profit (independent), for-profit (chain/franchise), church affiliated, military, or university lab. If more than one auspice applied, it was so indicated. For the purposes of this study, non-profit, church affiliated, military, and university lab centers were coded as non-profit. Independent profit and chain/franchise centers were coded as for-profit.

Participants

In Two-Star and accredited programs, a classroom of three- or four-year olds taught by a Master teacher was selected for observation. If more than one eligible Master teacher was available within a center, the participating Master teacher was randomly selected. The lead teachers in One-Star programs were matched to the Two-Star and accredited program Master teachers on the basis of age of children served. Again, if more than one teacher was eligible, random selection procedures were used to select the target teacher. All identified target teachers agreed to participate. Also participating in the study were the directors of the centers and 404 additional non-target teachers.

Data Collection Instruments

Dependent Variables

Center Characteristics

Data regarding center auspice, licensed capacity, full-time enrollment, the number of full- and part-time teachers, and the number of Master teachers was

gathered from directors during the initial telephone interview. Directors also reported typical group sizes.

Teacher and Director Characteristics

Teachers and directors participating in the study were asked to describe their years of experience and educational background. They were asked to describe the nature of any specialized early childhood training obtained, whether they had earned a credential, and the nature of the credential. They were asked to indicate whether they had obtained a degree, at what level and the type of degree. Finally, they were asked questions about their socio-economic status, gender, marital status, racial/ethnic background, and household and child care income. Copies of all instruments used in the study are located in Appendix D.

Classroom Quality

Early Childhood Environment Rating Scale-Revised Edition. To obtain a global measure of classroom quality, the "Early Childhood Environment Rating Scale-Revised Edition" (ECERS-R; Harms, Clifford, & Cryer, 1998) was utilized. This is a revised edition of the widely used observational instrument. It includes subscales for space and furnishings, personal care routines, language-reasoning activities, teacher-child interactions, program structure, and parents and staff. The revised edition sought especially to make the following improvements over the earlier edition: (1) to make the indicators more inclusive and culturally sensitive; (2) to deepen the content of some indicators; and (3) to make the scoring system consistent

with that used in other similar measures, e.g., the Infant-Toddler Rating Scale, etc. (Clifford, 1998).

The observer rates each of the numbered items on a Likert-type scale from 1 (inadequate) - 7 (excellent). A score of 3 is considered minimal, and a 5 is good (it is also frequently characterized in the field as representing developmentally appropriate practice). The authors indicate scoring should always begin with a rating of 1 and proceed from there. The guidebook gives specific directions for scoring. The authors report ECERS-R Kappa reliability for individual subscales ranging from .54 - .90, with the exception of the language and reasoning subscale (.28). In this sample, internal consistency was .92 (Cronbach's alpha) for the total scale. Inter-rater reliability was established at 93% prior to data collection, and maintained throughout the study at 90%. The total scale score was used in analyses.

Developmentally Appropriate Practices

Classroom Practices Inventory. The Classroom Practices Inventory (CPI; Hyson, Hirsh-Pasek, & Rescorla, 1990) was the first measure of developmentally appropriate practices used in the study. The CPI is an observational 26-item Likert-type scale based on the 1987 edition of NAEYC's developmentally appropriate practice prescriptions. Classroom Practices Inventory items reflect NAEYC's revised edition (Bredekamp & Copple, 1997), as well.

Six items measure emotional climate. Of the remaining twenty, ten are positively worded items concerning developmentally appropriate curriculum practices, and the rest are negatively worded describing developmentally

inappropriate curriculum practice. An example of a developmentally appropriate (positive) item follows: "Teachers ask questions that encourage children to give more than one right answer." The developmentally inappropriate (negative) form of that item follows: "Teachers expect children to respond correctly with one right answer. Memorization and drill are emphasized." The CPI utilizes a Likert-type scale. The scale ranges from (1) Not at all like this classroom, to (5) Very much like this classroom.

The scale authors report that the Classroom Practices Inventory consists of four factors: (1) choice, concreteness, creativity; (2) rote learning, isolated skills, extrinsic rewards; (3) positive emotional climate and positive discipline; and (4) physical activity and individualized learning. However, 53% of the variance was accounted for by the first factor, and the authors suggest developmental appropriateness as operationalized in the CPI may be viewed as a single factor. In this sample, negative items were reverse scored and all items were summed to create a total score. Internal consistency (Cronbach's alpha) of the scale was .96. Inter-rater reliability was established at 93% prior to data collection, and maintained throughout the study at 90%. The total scale score was used in analyses.

Instructional Activities Scale. The Instructional Activities Scale (IAS; Buchanan, Burts, Bidner, White & Charlesworth, 1998) is a Likert-type scale questionnaire. It is completed by the teacher and describes developmentally appropriate practices used in the classroom. It was the second measure of developmentally appropriate practice used in this study. The instrument is a recent

revision of an earlier one (see Charlesworth, Hart, & Burts, 1991). It consists of a total of 38 statements, however the study included only the first 34 items that focus on curriculum. The final four statements refer to practices regarding children with special needs, and were excluded from the study.

Activities in which children participate in early childhood education classrooms are presented on the questionnaire and the teacher is asked to rate how often 1 (almost never - less than monthly) - 5 (very often - daily) children are engaged in them. Block building, singing, and playing with manipulatives are examples of developmentally appropriate classroom activities. Developmentally inappropriate items include "use flashcards with ABCs, sight words, &/or math facts", and "practice handwriting on lines".

To create the total score of the instrument negative items were reverse scored and all items summed. Items (16) and (24) may be open for discussion regarding their developmental appropriateness/inappropriateness. Both items were scored negatively as inappropriate. While children do need to engage in rote counting in order to construct their knowledge of numeracy (refer to item 16), children should engage in such counting spontaneously, rather than as a formal part of daily lessons. Item 24 refers to losing special privileges for unacceptable behavior. The revised Developmentally Appropriate Practice in Early Childhood Programs, (Bredekamp & Copple, 1997), indicates such practices are inappropriate. The authors declare some practices to be inappropriate, as they are either harmful or waste children's time. Punishments that are not relevant to children's actions are described as such.

As factor analysis is ongoing by the IAS authors, this study used the total scale score rather than factor or subscale scores. Cronbach's alpha coefficient for the total scale was .71 in this sample. Since wording of all items is nearly identical to wording of the earlier version, (for readability, changes were made in verb tense) problems with the scale were not anticipated, and did not occur.

Teacher Attitudes and Practices Regarding Professionalism

A scale was developed specifically for this study in accordance with current literature concerning professionalism, e.g., Feeney & Kipnis, 1992; Fromberg, 1995; Isenberg, 1995; Morrison, 1995. Key issues related to the study of professional attitudes and practices in early childhood today include concern for (1) following accepted standards of practice, (2) following a code of ethics, (3) amount of education/training/specialized knowledge, (4) commitment to the field (5) adequate compensation, (6) view of self as a professional, and (7) advocacy. Therefore, a total of 44 statements concerning these *a priori* factors were developed. Both negative and positive forms of the statements were created, and randomized throughout the questionnaire. Using a Likert-type scale, respondents were asked to rank their responses on a scale from 1 (I strongly disagree with this statement) - 4 (I strongly agree with this statement). Utilizing just four points on a Likert-type scale forces respondents to choose either a positive or negative stance regarding each statement. Following the Likert-type scale items were questions referring to membership in professional organizations that did not utilize a Likert-type scale. The questions

referring to membership in national or state organizations were scored as yes = (1), or no = (0).

A total of 27 persons teaching three- and four-year old children in child care programs in Oklahoma City, Norman and Purcell were invited to participate in the pilot testing of this instrument. All invited participants responded within two weeks. They were asked to respond to the statements and, as well, to make any comments regarding clarity or relevance of the statements. The instrument was revised according to their feedback.

While target teachers completed all questionnaires, and participated in the observational portion of the study, data from more teachers was needed to complete a factor analysis of the newly developed Professional Beliefs and Practices (PBP) instrument. Therefore, target teachers, as well as other teachers in the center, were asked to complete the professionalism questionnaire. A total of 404 questionnaires were returned and usable. The response rate from non-target teachers in One-Star centers was 71%, 70% from Two-Star centers, and 85% from accredited centers.

A principal components analysis was performed to determine the integrity of the instrument and identify possible subscales, using the data from the non-target teachers as well as the target teachers. The principal components analysis indicated the presence of just one component in the scale, contrary to the multiple *a priori* factors originally intended. The item-loading criterion was set at .3 or greater as

Table 1

Professional Beliefs and Practices Principal Components Loadings

Scale Item No.	Item Text	Factor Loading
22.	I read journals like Young Children and Dimensions.	.63
18.	I plan to be working in early childhood ten years from now.	.54
35.	I don't have the time to read journals and newsletters.	.51
27.	I see myself as a professional.	.49
41.	Are you a member of any state professional organization? (for example, Early Childhood Association of Oklahoma, Friends of Child Care, Oklahoma Child Care Association)	.48
34	Conferences are a time to learn more about young children.	.47
11.	I will do whatever is required to continue working with young children.	.46
29.	I plan to leave the early childhood field within one year.	.45
15.	I read the journal Oklahoma Child Care Quarterly.	.44
13.	I believe it's important to continue learning.	.41
6.	I observe the children in my care before planning curriculum.	.40
39.	College courses are not important for child care staff.	.40
30.	I always speak to children at their eye level.	.40
21.	Early childhood conferences are a waste of my time.	.39
24.	I am interested in telling my legislator what I know about children's care and my job.	.39
33.	A degree in early childhood/child development is helpful for teachers in childcare.	.39
38.	I don't believe early childhood professionals need to advocate with their legislators.	.37
31.	I don't maintain a record of my professional development because it is too much of a hassle.	.36

Table 1, continued

Professional Beliefs and Practices Principal Components Loadings

Scale Item No.	Item Text	Factor Loading
40.	Are you a member of any national professional organization? (for example, NAEYC, NCCA, ACEI)	.34
36.	Being able to tell others what is best for children is important.	.33
28.	Children with special needs function better in special classrooms.	.32
37.	I believe parents should be involved in planning educational programs for their children.	.31
12.	I worry that children aren't learning if they don't participate at group time.	.31

recommended by Tabachnick and Fidell (1983). A total of 24 of the original 41 items loaded on the component (see Table 1), and were summed to create the Professional Beliefs and Practices total scale score. Calculation of Cronbach's alpha indicated the 24-item scale was internally consistent, .80.

Director Leadership Behavior

Research conducted by Kouzes and Posner (1995) resulted in the Leadership Practices Inventory (LPI; 1997). The assessment consists of a 30-statement self-report scale (LPI-Self) for leaders (in this case the center director) that is complemented by an instrument completed by other persons who work with that leader (LPI-Observer), (in this case the target teachers and all other non-target teachers in the center). The instrument includes subscale scores for five leadership behaviors: (1) Challenging the Process; (2) Inspiring a Shared Vision; (3) Enabling

Others to Succeed; (4) Modeling the Way; and (5) Encouraging the Heart. Items are completed by responding on a 10-point Likert-type scale, ranging from (1) almost never to (10) almost always.

The authors (Kouzes & Posner, 1977) report internal consistency (Cronbach's alpha) on the LPI-Self subscales range from .71 - .85 and from .82 - .92 on the LPI-Observer subscales. Utilizing the LPI-Observer, the authors performed a regression analysis with leadership effectiveness as the dependent variable and the five leadership practices as the independent variables. Results indicated these leadership practices explained over 55% of the variance of observer estimates of leaders' effectiveness thus providing evidence of scale validity. In this sample, none of the subscales were internally consistent; therefore the total score was used (Cronbach's alpha coefficient for the LPI-Observer scale was .98, and for the LPI-Self was .78). The total scale score can be characterized as representing democratic leadership, with higher scores being more democratic.

For aggregation purposes in this study, not only did the target teachers complete this questionnaire, but non-target teachers as well. The LPI-O scores of target and non-target teachers were aggregated by center for data analyses. Directors completed the LPI-Self (LPI-S), a self-report questionnaire. Thus, there were two leadership scores for each director, one self-report and the other an aggregate score of teacher responses.

A total of 381 LPI-O questionnaires were returned and usable; a total of 66 LPI-S questionnaires were returned and usable. The response rate for the

LPI-O was 54% from One-Star centers, 62% from Two-Star centers, and 70% from accredited centers.

Procedures

A list of Two-Star centers was obtained from the Oklahoma Department of Human Services. A list of accredited centers was obtained from the National Academy of Early Childhood Programs (a subsidiary of the National Association for the Education of Young Children). All Two-Star and accredited centers were invited to participate. One-Star centers were randomly selected from a list of Oklahoma licensed child care centers. Whenever possible, both One-Star and accredited centers were matched to Two-Star centers by community, and again by auspice, as noted earlier.

Centers were initially invited to participate via telephone. At this time, recruiters explained the study, gained the center's consent, obtained basic information about the center, and identified the target teacher. A second telephone contact involved the target teachers, i.e., the Master teachers of three- and four-year olds in Two-Star and accredited programs, and lead teachers of three- and four-year olds in One-Star programs. During this interview, the study was explained to the target teacher and verbal consent to participate was obtained. Data collectors then made two visits to each center. During the first visit, child care staff members completed consent forms, and were assured of confidentiality of responses (See Appendix E). A trained observer completed the ECERS-R and CPI. Questionnaires to be completed

by the director and staff were delivered at the time of the first visit. A member of the research team retrieved these questionnaires during a second site visit.

Distributions of the variables were checked for normality. The LPI-Observer distribution deviated from normal, so a square root and then a logarithmic transformation were performed as recommended by Tabachnick and Fidell (1983). The resulting distribution was still not normal. Therefore, per Tabachnik and Fidell, raw scores were retained and used for analyses, as further transformation was likely to increase difficulty of interpretation. All other distributions were normal.

In the first stage of data analyses, demographic data regarding target teachers were examined to ascertain relationships among participants' characteristics and the dependent variables. Dependent variables included structural quality classroom characteristics, developmentally appropriate practices, master/lead teacher attitudes and practices regarding professionalism, and director leadership behaviors.

In the second stage of data analyses, a series of 3-way analysis of variance (ANOVA) equations were employed to determine the differences between groups on the dependent variables. Star status, region and auspice served as the grouping variables.

Study Limitations

Due to the newness of the Stars program, and the consequent lack of a large number of centers at Two-Star and accredited levels, totally random selection of centers was impossible. In addition, teachers could not be randomly assigned to the centers. Random assignment is the best technique available to assure initial

equivalence between groups (Gall, Borg, & Gall, 1996). Randomization allows each potential participant an equal chance of participation. The study reflects the center population available when the data were collected. A large number of measures can result in spurious correlations. Therefore, with the number of instruments included, the possibility exists that some measures may indeed be correlated by chance.

Also, the study of leadership behavior is a highly complex one. Successful leadership may be achieved in a number of different ways. The method by which it was measured in this study is just one way of looking at leadership.

CHAPTER 4

RESULTS

Relationships between Center Star Status, Geographic Region and Auspice

The first research question of this study sought to calculate the distribution of child care programs by Star status, region and auspice. Approximately 39% of the centers were rural, and approximately 61% of the centers were urban. A 2 (region) by 3 (Star status) by 2 (auspice) chi square analysis was performed to answer the first question. The chi-square is a test of the significance of the proportion of variables to one another (Ary, Jacobs, & Razavieh, 1985). Findings indicated that controlling for auspice, there were no significant differences in the distribution of One-, Two-Star or accredited centers in either rural or urban settings.

Controlling for region (see Table 2), there were significant differences in the distribution of One-, Two-Star or accredited centers in either non-profit or for-profit settings. Accredited centers in both urban, $\underline{X}^2(2) = 7.00$, $\underline{p} < .05$ and rural areas, $\underline{X}^2(2) = 9.02$, $\underline{p} < .01$ were more likely to be non-profit than for-profit. In both rural and urban areas, One- and Two-Star centers were more likely to be for-profit.

The sample size was slightly smaller than desirable for the above analyses, particularly in rural areas. Sample size should allow for the possibility of at least five centers per cell. However, the data were collected when the Stars program was new, and the number of Two-Star and accredited centers was limited. Therefore, as the study is limited in this way, the data above should be interpreted with caution.

Table 2

Frequency of Programs by Star Status, Region and Auspice (N = 71)

	Total Sample	One-Star	Two-Star	Accredited
Rural				
Non-profit	13	3	2	8
For-profit	14	7	6	1
	27			
Urban				
Non-profit	19	5	3	11
For-profit	25	10	10	5
	44			
Totals				
Rural	27	10	8	9
Urban	44	15	13	16
	71			
Non-profit	32	8	5	19
For-profit	39	17	16	6
	71			

Structural Aspects of the Classroom

The second research question sought to determine if differences existed in classroom structural quality between Star status, region and auspice.

Center Characteristics.

Center characteristics are illustrated in Tables 3 and 4. For the total sample, licensed capacity averaged slightly fewer than 100 children. Full-time enrollment averaged about 81 children. Classroom group size averaged about 15 and the overall ratio was one teacher for every ten children. The number of full-time employed teachers averaged between nine and ten teachers. On the average, centers employed

Table 3

Means and Standard Deviations for Center Characteristics N = 71

Center Characteristics	Total Sample	One-Star	Two-Star	Accredited	Rural	Urban	Non-Profit	For-Profit
Licensed capacity	96.54 (53.52)	88.96 (43.99)	87.86 (35.42)	111.4 (70.83)	88.00 (33.18)	96.79 (34.25)	75.57 (41.75)	109.21 (25.67)
Full-time enrollment	81.14 (49.54)	77.00 (43.87)	87.14 (51.08)	9.08 (5.56)	61.40 (24.45)	89.84 (41.74)	58.32 (30.99)	92.92 (35.20)
Full-time teachers	9.49 (6.18)	9.36 (4.58)	9.95 (7.07)	9.24 (6.97)	6.6 (3.03)	11.37 (9.20)	6.74 (4.55)	11.22 (4.60)
Group size	15.00 (5.29)	13.20 (5.11)	14.62 (4.47)	17.12 (5.53)	11.44 (2.66)	16.68 (4.52)	14.45 (3.04)	15.33 (4.13)
Ratio[a]	10.15 (3.28)	10.26 (3.11)	11.14 (3.54)	9.21 (3.07)	8.98 (1.92)	10.78 (2.85)	9.81 (2.67)	9.96 (2.10)
Master teachers	3.81 (3.78)	1.59 (3.00)	3.52 (1.50)	6.00 (4.55)	3.38 (1.64)	4.07 (2.96)	3.21 (2.29)	4.23 (2.31)
Master teacher ratio[a]	25.47 (20.54)	47.80 (33.18)	27.59 (16.35)	15.75 (10.23)	17.80 (7.00)	29.67 (13.94)	27.44 (13.62)	20.03 (7.32)

[a]the stated figure indicates the number of children per individual teacher

Table 4

Means and Standard Deviations of Center Characteristics by Star Status, by Region, and by Auspice N = 71

	One-Star				Two-Star				Accredited			
	Rural		Urban		Rural		Urban		Rural		Urban	
	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit
Licensed capacity	53.67 (10.79)	65.00 (27.68)	82.60 (33.86)	119.50 (46.84)	64.50 (21.92)	91.67 (33.70)	59.33 (31.72)	65.50 (36.68)	103.13 (104.95)	150.00 (.)	90.18 (47.27)	163.60 (9.10)
Full-time enrollment	43.00 (12.12)	62.29 (35.04)	67.40 (37.55)	102.30 (48.34)	48.50 (2.12)	82.33 (37.53)	59.67 (35.80)	106.00 (61.12)	67.25 (59.89)	65.00 (.)	64.09 (38.46)	139.60 (29.19)
Full-time teachers	4.33 (1.53)	8.57 (4.20)	9.60 (7.27)	11.30 (2.67)	5.00 (2.83)	8.67 (3.98)	8.33 (6.11)	12.20 (8.95)	5.00 (2.62)	8.00 (.)	8.18 (6.93)	18.60 (3.21)
Group size	7.67 (1.53)	13.57 (4.89)	13.20 (2.17)	14.60 (6.20)	15.00 (.00)	11.00 (3.58)	19.00 (4.58)	15.40 (4.09)	16.38 (5.95)	15.00 (.)	15.45 (4.03)	22.40 (6.02)
Ratio[a]	7.67 (1.53)	10.43 (2.94)	10.80 (4.60)	10.65 (2.75)	15.00 (.00)	7.75 (2.04	8.50 (3.12)	13.20 (2.30)	8.02 (5.00)	5.00 (.)	8.86 (1.79)	12.70 (2.54)
Master teachers	.00 (.00)	1.83 (4.49)	1.80 (2.17)	1.88 (2.90)	2.50 (.71)	3.17 (1.17)	3.67 (2.08)	3.90 (1.66)	3.75 (3.45)	9.00 (.)	7.55 (5.32)	5.60 (3.65)
Master teacher ratio[a]	.00 (.)	9.55 (.)	61.27 (38.03)	39.93 (22.38)	35.72 (26.99)	25.58 (1.53)	26.50 (9.97)	16.28 (1.80)	16.67 (.)	19.26 (13.46)	24.47 (6.71)	9.59 (4.77)

[a]the stated figure indicates the number of children per individual teacher

nearly four Master teachers, or an average of one Master teacher for every 25 children.

To compare center structural quality by Star status, region and center auspice, a series of 3 (Star status) by 2 (region) by 2 (auspice) Analysis of Variance equations were utilized. The dependent variables included licensed capacity, full-time enrollment, group size, teacher:child ratio, full-time teachers, number of Master teachers, and the Master teacher:child ratio. With a total N of 71, cell sizes were small, a limitation of the study.

Looking first at licensed capacity, a main effect for Star status was found, $F(2, 59) = 3.77$, $p = .05$, $\eta^2 = .11$. Levene's test was significant, meaning there was unequal variance across groups, therefore Dunnett's T3 post hoc test was utilized to determine differences in means, since Dunnett's T3 does not assume equal variances. Accredited centers' licensing capacity averaged about 111 children, while One-Star centers averaged 89 children and Two-Star centers averaged 88 children. However, the post hoc multiple comparison did not reveal statistically significant differences between the groups.

A main effect was also found for center auspice, $F(1, 59) = 6.64$, $p < .01$, $\eta^2 = .10$. Licensed capacity of non-profit centers was found to be lower than for-profit centers. No other main effects for licensed capacity were found, nor were any interaction effects found.

Regarding full-time enrollment, no main effect was found for Star status. There was a main effect for region, $F(1, 59) = 4.32$, $p < .05$, $\eta^2 = .07$. Rural center

full-time enrollment was lower than urban center full-time enrollment. There was also a main effect for auspice, $F(1, 59) = 6.39$, $p < .01$, $\eta^2 = .10$. Non-profit center full-time enrollment was lower than for-profit center full-time enrollment. No interaction effects were found for full-time enrollment.

Results followed a similar pattern for the number of full-time teachers employed. A significant main effect was not found by Star status, however there was a significant main effect for region, $F(1, 59) = 8.00$, $p < .01$, $\eta^2 = .12$. The average number of full-time teachers in rural areas was lower than in urban areas. A significant main effect was also found for auspice, $F(1, 59) = 7.05$, $p < .01$, $\eta^2 = .11$. Non-profit centers averaged fewer full-time teachers than for-profit centers. No interaction effects were found.

A main effect was found by Star status for group size, $F(1, 59) = 4.39$, $p < .05$, $\eta^2 = .13$. Levene's test was not significant, therefore a post hoc test of equal variance was utilized. The Student-Neuman-Keuls test indicated that group size was larger in accredited centers than One- and Two-Star centers. A main effect was also found for region, $F(1, 59) = 6.22$, $p < .05$, $\eta^2 = .02$. Group sizes in rural classrooms were lower than urban classroom group sizes. A main effect was not found for auspice, nor were interaction effects found.

Significant main effects were not found for teacher:child ratio by Star status or auspice, although a main effect was found for region, $F(1, 56) = 4.88$, $p < .05$, $\eta^2 = .08$. A significant interaction effect (see Figure 1) was found between region and

Teacher:Child Ratio
(Interaction Effect for Region X Auspice)

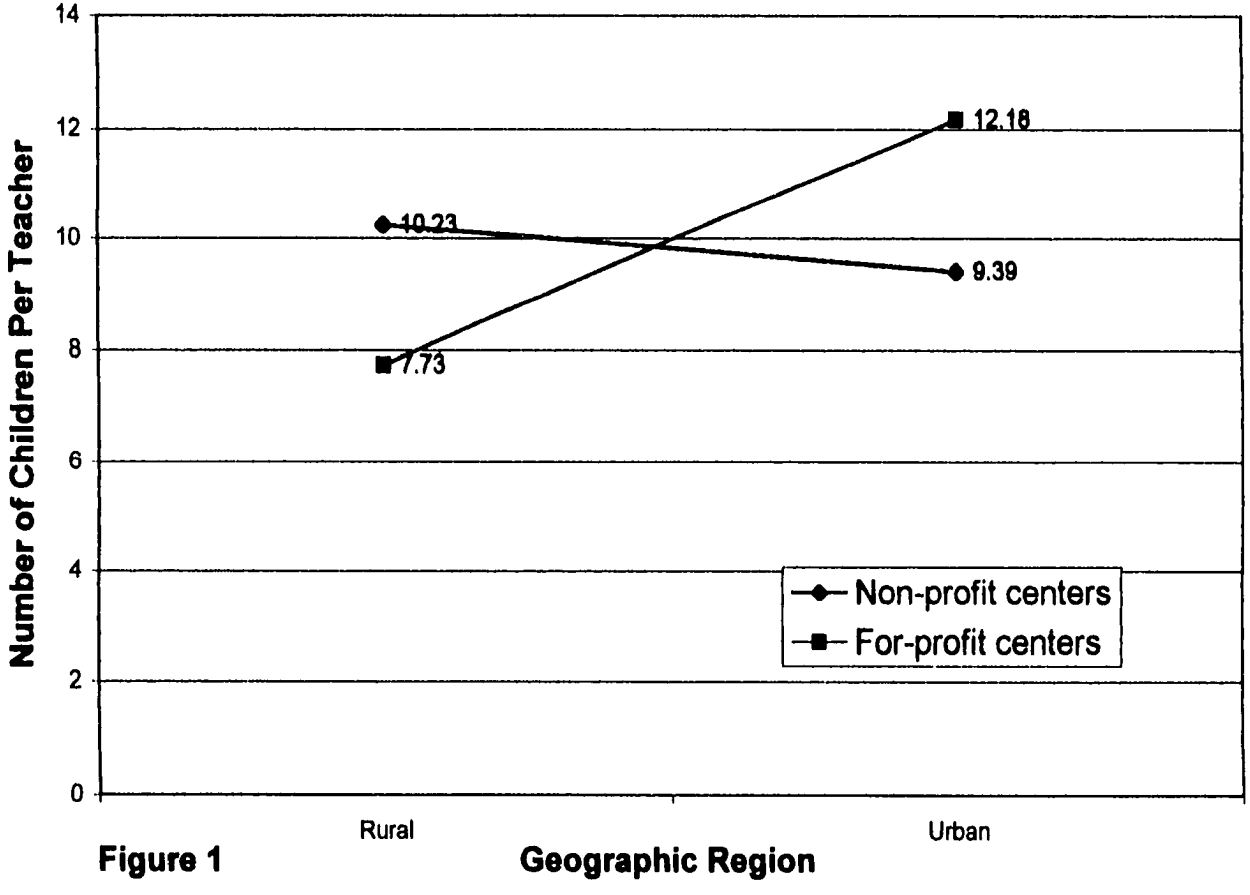


Figure 1

auspice, $F(1, 56) = 10.47$, $p < .002$, $\eta^2 = .15$. The assumption in the field is that the fewer the number of children per teacher, the better the ratio (Dunn, 1993b). In non-profit settings, the average teacher:child ratio was similar across geographic region, although it was slightly worse in rural centers. Urban for-profit centers had more children per teacher than the other settings. The number of children per teacher was the lowest in rural for-profit centers. Therefore, ratios were better in rural non-profits centers than urban non-profits. No other interaction effects were found.

A main effect was found for Star status for number of Master teachers, $F(2, 56) = 8.13$, $p < .001$, $\eta^2 = .23$. Using Dunnett's T3 post hoc test, results showed accredited centers had more Master teachers than did One- or Two-Star centers. Two-Star centers had more Master teachers than did One-Star centers. Note that the typical One-Star rural non-profit center participating in this study did not report the presence of a Master teacher (see Table 4). No other effects, main or interaction, were found regarding the presence of Master teachers.

No main effects were found for ratio of children to Master teacher by Star status, region or auspice. However, an interaction effect (see Figure 2) was found for Star status by region, $F(1, 40) = 3.75$, $p < .05$, $\eta^2 = .16$. One-Star programs located in urban areas had more children per teacher than One-Star rural programs. There was less of a difference between the ratios for rural and urban centers at the Two-Star level. In this case, urban centers had better (fewer children per teacher) ratios. At the accredited level, there was little difference in rural and urban center ratio of Master

Master Teacher:Child Ratio
(Interaction Effects for Star Status X Region)

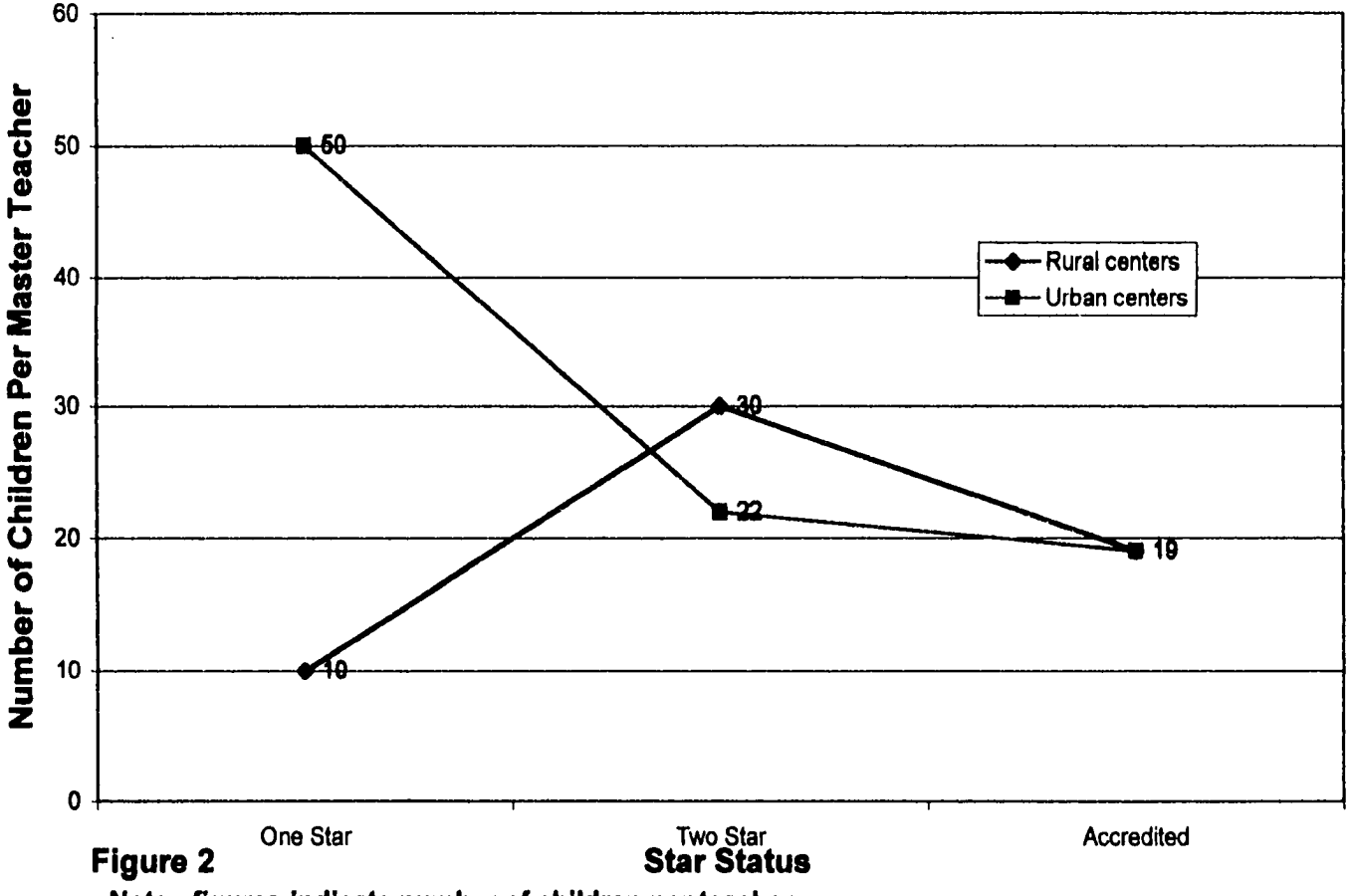


Figure 2

Note: figures indicate number of children per teacher

teachers to children. Two-Star programs were meeting regulations regarding Master teacher ratio, with Two-Star urban centers close to the ratio required for centers in the second year of implementation of the Stars program (1:20 in second year, 1:30 in first year). Two-Star rural centers were meeting first year implementation standards. The number of children per Master teacher in Two-Star rural programs was much higher than in One-Star rural programs. However, One-Star centers are not required to meet the higher educational level that is required of Two-Star programs. In addition, rural programs were lower in full-time enrollment, which should affect ratio. At the accredited level, both rural and urban centers may have been able to hire and retain Master level teachers more readily than One- or Two-Star centers.

Table 5 summarizes the center characteristic findings:

1) For-profit centers were licensed for greater numbers of children.
2) Non-profit centers had lower enrollments and fewer full-time teachers than for-profit centers, and rural centers had lower enrollments and fewer full-time teachers than urban centers.
3) Accredited centers had larger group sizes than One- or Two-Star centers. Urban centers had larger group sizes than rural centers.
4) Non-profit rural teacher:child ratios were slightly worse than non-profit urban centers. For-profit rural centers ratios were better, while for-profit urban center teacher:child ratios were the worst.

Table 5

Summary of Center Structural Quality Effects

Structural Quality Characteristics	Main Effect Star Status	Main Effect Region	Main Effect Auspice	Interaction Effect
Licensed Capacity	sig F, n.s. post hoc		↓Non Profit ↑For Profit	
Full time enrollment		↓Rural ↑Urban	↓Non Profit ↑For Profit	
Full time teachers		↓Rural ↑Urban	↓Non Profit ↑For Profit	
Group size	One, Two < Accredited	↓Rural ↑Urban		
Ratio		↓Rural ↑Urban		Region by Auspice
Master teachers	One < Two < Accredited			
Master teacher:child ratio				Star Status By Region

5) There were more Master teachers in accredited programs than One-Star and Two-Star programs, and more Master teachers in Two-Star programs than One-Star programs.

6) One-Star programs located in urban areas had more children per teacher than One-Star rural programs. There was less of a difference between the ratios for rural and urban centers at the Two-Star level. In this case, urban centers had

better (fewer children per teacher) ratios. At the accredited level, there was little difference in rural and urban center ratio of Master teachers to children.

Teacher Characteristics

Aside from classroom characteristics such as licensed capacity, group size, and teacher:child ratios, structural quality components may also include teacher characteristics, such as the teacher's experience in the field and in the center, educational level and educational background, and income.

To compare teacher characteristics by Star status, region and center auspice, a series of 3 (Star status) by 2 (region) by 2 (auspice) Analysis of Variance equations were utilized. Teacher characteristics are illustrated in Tables 6 and 7. For the total sample, teacher experience in the center averaged about five years. Teacher experience in the field averaged eight – nine years. The highest educational level achieved by teachers averaged some college. The amount of education in the field of ece/cd averaged almost 12 credit hours. Teachers' child care incomes were low, averaging between $7,501 and $15,000 annually. Teachers' household incomes were moderately higher, averaging between $22,501 and $30,000 annually.

No main effects or interaction effects were found for teacher experience, either in the center or in the field. Regarding teacher education, there was a main effect for Star status, $F(2, 57) = 4.08$, $p < .05$, $\eta^2 = .13$. Levene's test was not significant, therefore a post hoc test assuming equal variance was utilized. The Student-Neuman-Keuls test indicated the education level of teachers was higher in

Table 6

Means and Standard Deviations for Teacher Characteristics N = 71

Teacher Characteristics	Total Sample	One-Star	Two-Star	Accredited	Rural	Urban	Non-Profit	For-Profit
Years exp center	5.04 (5.09)	4.80 (5.55)	4.57 (5.31)	5.68 (4.57)	3.66 (2.61)	5.08 95.09)	4.93 (3.97)	3.81 (3.73)
Years exp field	8.52 (6.54)	8.71 (7.16)	7.58 (7.15)	9.08 (5.56)	8.33 (4.95)	8.29 (6.81)	9.95 (7.12)	6.67 (4.64)
Highest educ level[a]	3.25 (1.63)	2.60 (1.55)	3.00 (1.81)	4.13 (1.15)	3.58 (1.23)	13.32 (1.37)	3.60 (1.24)	3.30 (1.36)
Specialized education[b]	1.80 (1.56)	1.00 (1.14)	1.71 (1.57)	2.61 (1.53)	2.19 (1.06)	1.51 (1.26)	1.63 (1.01	2.08 (1.32)
Teacher child care income[c]	2.16 (67)	1.85 (.37)	1.94 (.44)	2.80 (.77)	2.36 (.22)	2.14 (.41)	2.18 (.35)	2.32 (.28)
Teacher household income[c]	3.94 (2.15)	3.52 (2.25)	3.59 (1.94)	4.61 (2.10)	4.11 (1.31)	3.60 (1.96)	3.14 (1.21)	4.57 (2.06)

[a] (0) = less than high school, (1) = high school, (2) = vocational school, (3) = some college, (4) = two-year degree, (5) = four-year degree, (6) = graduate

[b] (0) no college hours in ECE/CD, (1) 1-11 college hours in ECE/CD, (2) 12 college hours in ECE/CD, (3) two-year degree in ECE/CD, (4) four-year degree in ECE/CD, and (5) graduate degree in ECE

[c] (1) under $7,500; (2) $7,501 - $15,000; (3) $15,001 - $22,500; (4) $22,501 - $30,000; (5) $30,001 - $37,500; (6) $37,501 - $45,000; (7) $45,001 - $52,500; (8) $52,501 - $60,000; (9) $60,001 - $67,500; (10) $67,501 - $75,000; (11) $75,001 - $82,500; (12) $82,501 - $100,000; (13) over $100,000

Table 7

Means and Standard Deviations of Teacher Characteristics by Star Status, by Region, and by Auspice N =71

	One-Star				Two-Star				Accredited			
	Rural		Urban		Rural		Urban		Rural		Urban	
	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit
Teacher Experience Center	1.00 (.00)	5.79 (6.11)	2.95 (3.13)	5.60 (6.40)	3.00 (1.41)	2.78 (1.52)	8.58 (9.89)	4.78 (5.63)	8.36 (6.59)	1.00 (.)	5.66 (2.82)	2.90 (2.70)
Teacher Experience Field	4.00 (4.24)	8.57 (5.44)	7.83 (7.01)	10.00 (8.94)	17.50 (10.61)	4.20 (2.49)	9.67 (8.96)	6.56 (6.58)	10.71 (6.92)	5.00 (.)	9.96 (4.95)	5.70 (4.41)
Teacher education[a]	3.33 (1.53)	2.86 (1.86)	2.60 (1.82)	2.20 (1.32)	3.50 (.71)	2.33 (2.16)	4.00 (1.00)	3.00 (1.94)	4.43 (1.13)	5.00 (.)	3.73 (1.27)	4.40 (.89)
Teacher ed in ece/cd[b]	.67 (.58)	1.83 (1.60)	.50 (.58)	.75 (.89)	1.50 (.71)	2.00 (2.16)	1.67 (1.15)	1.63 (1.77)	3.14 (1.35)	4.00 (.)	2.27 (1.68)	2.25 (1.50)
Teacher child care income[c]	1.67 (.58)	2.00 (.00)	2.00 (.00)	1.71 (.49)	2.00 (.)	2.00 (.00)	2.00 (.)	1.89 (.60)	2.50 (.71)	4.00 (.)	2.89 (.78)	2.33 (.58)
Teacher household income[c]	2.00 (1.00)	3.83 (2.14)	3.00 (1.87)	4.11 (2.76)	2.00 (.)	4.50 (2.65)	2.33 (.58)	3.78 (1.86)	5.33 (2.07)	7.00 (.)	4.18 (1.72)	4.20 (2.95)

[a] (0) = less than high school, (1) = high school, (2) = vocational school, (3) = some college, (4) = two-year degree, (5) = four-year degree, (6) = graduate degree

[b] (0) no college hours in ECE/CD, (1) 1-11 college hours in ECE/CD, (2) 12 college hours in ECE/CD, (3) two-year degree in ECE/CD, (4) four-year degree in ECE/CD, and (5) graduate degree in ECE

[c] (1) under $7,500; (2) $7,501 - $15,000; (3) $15,001 - $22,500; (4) $22,501 - $30.000; (5) $30,001 - $37,500; (6) $37,501 - $45,000; (7) $45,001 - $52,500; (8) $52,501 - $60,000; (9) $60,001 - $67,500; (10) $67,501 - $75,000; (11) $75,001 - $82,500; (12) $82,501 - $100,000; (13) over $100,000

accredited centers than in One- and Two-Star centers. No other main or interaction effects for teacher education were found.

Similarly, regarding teacher ece/cd specialized education, a main effect for Star status was found, $F(2, 49) = 6.21$, $p < .01$, $\eta^2 = .13$. Levene's test was not significant, therefore a post hoc test of equal variance was utilized. The Student-Neuman-Keuls test indicated the specialized education level of teachers was higher in accredited centers than in One- and Two-Star centers. No other main or interaction effects for specialized education in ece/cd were found.

While teacher child care incomes were not high, teacher child care income did vary by Star status, $F(2, 39) = 12.00$, $p < .001$, $\eta^2 = .38$. An effect size (η^2) greater than .33 is considered to be of practical significance, in other words, the intervention was large enough to make a difference in the outcome (Gall et al., 1996). This study did not utilize an intervention in its design; it examined the effects of a policy. The effect size of .38 observed here suggests the difference in income across groups is substantial. Using Dunnett's T3 post hoc test, results showed teachers in accredited centers had higher child care incomes than did teachers working in One- or Two-Star centers. No other main effects were found.

An interaction effect for teacher child care income (see Figure 3) was found between region and program auspice, $F(1, 39) = 5.26$, $p < .05$, $\eta^2 = .12$. Non-profit rural center salaries were similar to that of non-profit urban center salaries. However, for-profit rural center teachers' salaries were higher than for-profit urban teachers' salaries. Teachers employed by rural for-profit centers earned the highest salaries.

Annual Teacher Child Care Income
(Interaction Effect for Region X Auspice)

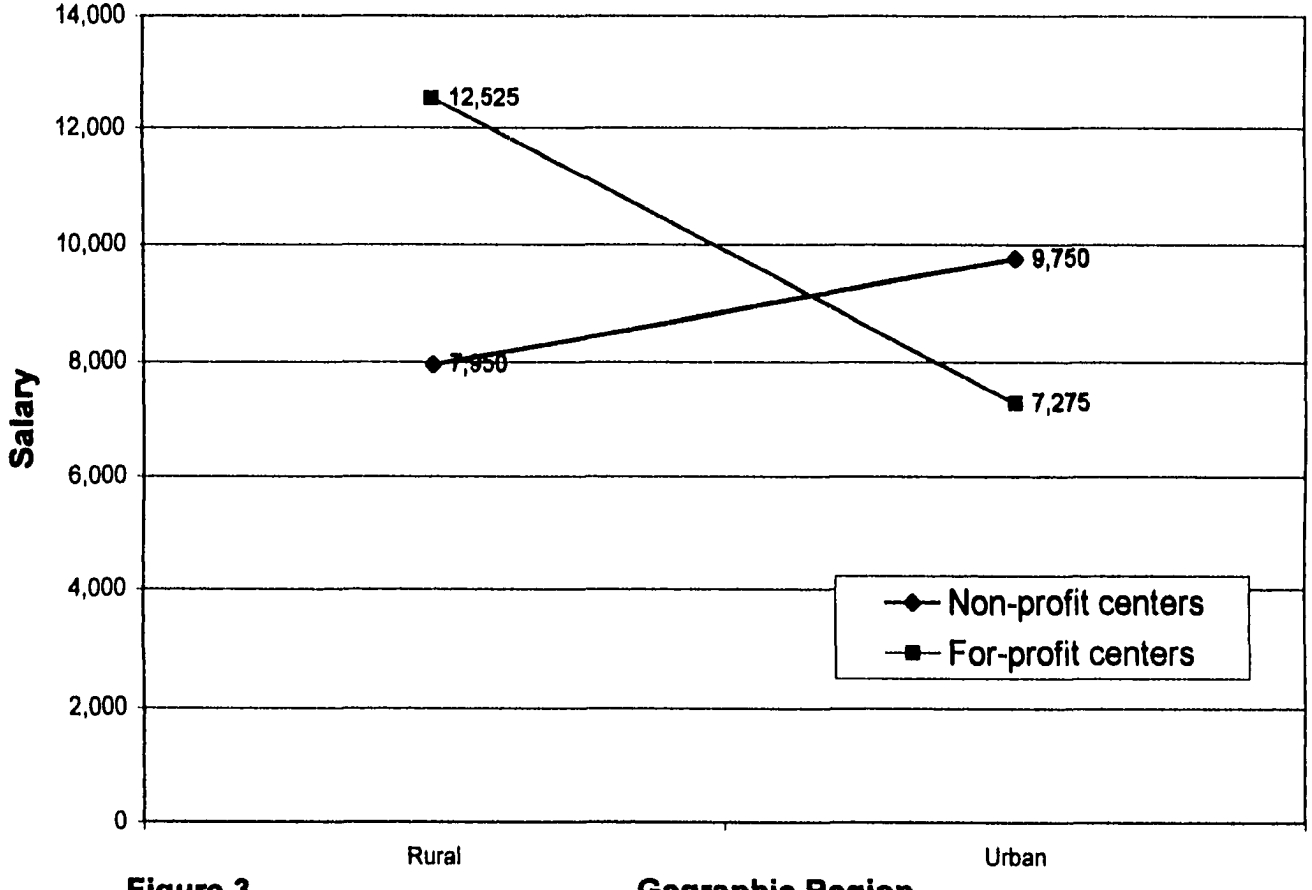


Figure 3

Teachers employed in urban for-profit centers earned the lowest salaries. No other interaction effects were found.

A main effect was found for teacher household income by Star status, $F(2, 51) = 3.37$, $p < .05$, $\eta^2 = .12$. Levene's test was not significant, therefore a post hoc test of equal variance was utilized. The Student-Neuman-Keuls test was not significant. Therefore, while the means suggest that teacher household income was higher for teachers working in accredited centers than those working in One- and Two-Star centers, the post hoc analysis did not confirm this finding. A main effect was also found for household income by auspice, $F(1, 51) = 4.03$, $p < .05$, $\eta^2 = .07$. Household incomes of teachers working in non-profit centers were lower than household incomes of teachers working in for-profit centers. No region or interaction effects were found.

Table 8 summarizes teacher characteristic main effects. The table indicates teachers working in accredited centers had more overall education, more specialized education in ece/cd, and higher incomes from their jobs than teachers working in One- or Two-Star centers. When comparing region by auspice, teachers employed by rural for-profit centers earned the highest salaries. The family incomes of teachers working in non-profit centers were lower than the incomes of for-profit center teachers.

Table 8

Summary of Teacher Characteristic Effects

Structural Quality Characteristics	Main Effect Star Status	Main Effect Region	Main Effect Auspice	Interaction Effect
Teacher experience center				
Teacher experience field				
Teacher highest education	One, Two < Accredited			
Teacher ece/cd education	One, Two < Accredited			
Teacher child care income	One, Two < Accredited			Region by Auspice
Teacher household income	sig F, n.s. post hoc		↓Non Profit ↑For Profit	

Director Characteristics

Aside from structural center characteristics such as licensed capacity, group size and ratio, other structural quality components may also include director characteristics, including the director's experience in the field and in the center, education level and educational background in ece/cd, and income. Director characteristics are illustrated in Tables 9 and 10. For the total sample, director

Table 9

Means and Standard Deviations for Director Characteristics N = 65

Director Characteristics	Total Sample	One-Star	Two-Star	Accredited	Rural	Urban	Non-Profit	For-Profit
Years exp center	5.40 (5.73)	4.94 (6.37)	5.42 (6.65)	5.56 (4.44)	8.02 (6.59)	4.05 (3.38)	5.81 (6.18)	6.26 (3.80)
Years exp field	14.92 (7.89)	13.07 (7.18)	14.97 (8.07)	16.65 (8.32)	13.64 (7.47)	16.26 (7.83)	14.19 (9.25)	15.71 (6.05)
Highest educ level[a]	4.15 (1.52)	3.64 (1.53)	3.50 (1.10)	5.17 (1.31)	3.93 (0.83)	4.26 (1.38)	4.26 (1.05)	3.93 (1.16)
Specialized education[b]	2.63 (1.73)	2.06 (1.43)	1.74 (1.28	3.75 (1.65)	1.84 (.84)	2.48 (1.24)	2.17 (.88)	2.15 (1.20)
Director child care income[c]	4.57 (2.47)	3.50 (2.07)	3.77 (2.52)	5.95 (2.14)	3.83 (1.91)	4.03 (1.03	4.45 (1.71)	3.41 (1.23)
Director household income[c]	7.65 (3.09)	6.82 (2.74)	7.70 (3.67)	8.38 (2.78)	6.86 (2.44)	8.16 (3.13)	7.75 (2.75)	7.27 (2.83)

[a] (0) = less than high school, (1) = high school, (2) = vocational school, (3) = some college, (4) = two-year degree, (5) = four-year degree, (6) = graduate degree

[b] (0) no college hours in ECE/CD, (1) 1-11 college hours in ECE/CD, (2) 12 college hours in ECE/CD, (3) two-year degree in ECE/CD, (4) four-year degree in ECE/CD, and (5) graduate degree in ECE

[c] (1) under $7,500; (2) $7,501 - $15,000; (3) $15,001 - $22,500; (4) $22,501 - $30,000; (5) $30,001 - $37,500; (6) $37,501 - $45,000; (7) $45,001 - $52,500; (8) $52,501 - $60,000; (9) $60,001 - $67,500; (10) $67,501 - $75,000; (11) $75,001 - $82,500; (12) $82,501 - $100,000; (13) over $100,000

Table 10

Means and Standard Deviations of Center Directors by Star Status, by Region, and by Auspice N = 65

	One-Star				Two-Star				Accredited			
	Rural		Urban		Rural		Urban		Rural		Urban	
	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit
Director Experience Center	2.00 (1.00)	9.57 (9.00)	3.24 (2.32)	3.76 (4.60)	14.90 (20.00)	7.00 (4.53)	3.67 (3.79)	3.26 (3.04)	4.63 (5.03)	10.00 (.)	6.43 (4.93)	3.95 (1.61)
Director Experience Field	3.83 (3.40)	14.29 (8.28)	12.40 (6.69)	16.29 (4.61)	17.00 (16.97)	13.30 (7.16)	20.00 (11.36)	13.78 (6.24)	14.43 (9.00)	19.00 (.)	17.50 (8.05)	17.60 (10.01)
Director education	3.33 (1.53)	2.86 (1.68)	4.80 (.45)	3.71 (1.60)	3.00 (.00)	3.00 (.71)	3.67 (2.31)	3.80 (.92)	5.38 (1.06)	6.00 (.)	5.40 (.97)	4.20 (2.05)
Director ed in ece/cd	.67 (.58)	2.50 (1.91)	3.50 (.58)	1.50 (.84)	.00 (.)	1.60 (1.14)	.67 (1.15)	2.30 (1.16)	4.25 (1.39)	2.00 (.)	3.90 (1.60)	3.00 (2.12)
Director child care income[c]	2.50 (.71)	3.60 (3.65)	3.80 (.84)	3.50 (1.29)	4.75 (4.19)	(.00)	3.00 (.)	3.38 (1.60)	7.14 (2.91)	5.00 (.)	5.50 (1.60)	5.00 (.82)
Director household income[c]	8.00 (2.65)	6.29 (3.59)	7.40 (1.82)	6.43 (2.70)	4.00 (2.83)	7.60 (3.21)	10.33 (3.79)	7.70 (3.80)	8.25 (2.38)	7.00 (.)	8.50 (3.03)	8.60 (3.65)

[a] (0) = less than high school, (1) = high school, (2) = vocational school, (3) = some college, (4) = two-year degree, (5) = four-year degree, (6) = graduate degree

[b] (0) no college hours in ECE/CD, (1) 1-11 college hours in ECE/CD, (2) 12 college hours in ECE/CD, (3) two-year degree in ECE/CD, (4) four-year degree in ECE/CD, and (5) graduate degree in ECE

[c] (1) under $7,500; (2) $7,501 - $15,000; (3) $15,001 - $22,500; (4) $22,501 - $30,000; (5) $30,001 - $37,500; (6) $37,501 - $45,000; (7) $45,001 - $52,500; (8) $52,501 - $60,000; (9) $60,001 - $67,500; (10) $67,501 - $75,000; (11) $75,001 - $82,500; (12) $82,501 - $100,000; (13) over $100,000

experience in the center (N = 65) averaged about 5 years. Director experience in the field (N = 64) averaged about 15 years. The highest educational level achieved by directors (N = 66) averaged some college. Director education (N = 60) in the field of ece/cd averaged almost 12 credit hours. Director child care incomes were higher than teacher incomes, averaging between $22,501 and $30,000. Director household income averaged between $45,001 and $52,500 annually.

Aside from structural center characteristics such as licensed capacity, group size and ratio, other structural quality components may also include director characteristics, including the director's experience in the field and in the center, education level and educational background in ece/cd, and income. To compare director characteristics by Star status, region and center auspice, a series of 3 (Star Status) by 2 (region) by 2 (auspice) Analysis of Variance equations were utilized.

A main effect was found for director experience in the center by region $F(1, 53) = 5.45$, $p < .05$, $\eta^2 = .09$. Directors of urban areas averaged less center experience than directors of rural areas. No other main effects or interactions were found. No main effects or interaction effects were found for director experience in the field of early care and education.

Regarding director education, there was a main effect for Star status, $F(2, 54) = 7.42$, $p < .001$, $\eta^2 = .22$. Dunnett's T3 post hoc analysis indicated directors of accredited centers had more education, averaging a bachelor's degree, while directors of One- and Two-Star centers averaged a two-year degree. No other main or interaction effects were found. Again, regarding director ece/cd specialized

education, a main effect by Star status was found, $F(2, 48) = 6.53$, $p < .003$, $\eta^2 = .21$. An interaction effect was found between Star status and program auspice, $F(1, 48) = 3.53$, $p < .05$, $\eta^2 = .13$.

There was a three-way interaction effect for director ece/cd specialized education by Star status, region and auspice $F(2, 48) = 3.29$, $p < .05$, $\eta^2 = .12$. As seen in Table 10, in One-Star programs, directors of rural for-profit centers and urban non-profit centers had the greatest amount of specialized education in ece/cd. In Two-Star centers, directors of for-profit centers located in both rural and urban areas had the greatest amount of specialized education in ece/cd. In accredited programs, directors of non-profit centers located in both rural and urban areas had the greatest amount of specialized education in ece/cd. However, results regarding this interaction should be interpreted with caution, as cell sizes were small.

A trend toward a main effect for director child care income was noted, $F(2, 38) = 3.01$, $p = .06$, $\eta^2 = .14$. Directors of accredited centers reported earning higher incomes than directors of One-or Two-Star centers. Sample size was lower ($N = 49$) for this particular item due to director refusal to respond, possibly affecting the power of the statistical analysis. No main or interaction effects were noted for director household income.

Table 11 summarizes director characteristic main effects.

1) Director experience in the center was greater in rural areas.
2) Directors had the highest educational level and the most coursework in ece/cd when they worked in accredited centers.

Table 11

Summary of Director Characteristic Effects

Structural Quality Characteristics	Main Effect Star Status	Main Effect Region	Main Effect Auspice	Interaction Effect
Director experience center		↑Rural ↓Urban		
Director experience field				
Director highest education	One, Two < Accredited			
Director ece/cd education	One, Two < Accredited			Star Status by Auspice Star Status by Auspice by Region
Director child care income				
Director household income				

(3) In One-Star programs, directors of rural for-profit centers and urban non-profit centers had the greatest amount of specialized education in ece/cd. In Two-Star centers, directors of for-profit centers located in both rural and urban areas had the greatest amount of specialized education in ece/cd. In

accredited programs, directors of non-profit centers located in both rural and urban areas had the greatest amount of specialized education in ece/cd.

Process Quality

Relationships Between Structural Quality and Dependent Variables

The remaining questions of this study attempted to discern if differences in classroom environmental quality, developmentally appropriate practices, teacher professional beliefs and practices, and director leadership behaviors varied by Star status. However, before differences were calculated by means of ANOVA and MANOVA equations, dependent variable means were examined and correlations between structural quality variables and dependent variables were calculated.

Dependent variable means

In this sample, the total ECERS-R mean score of 5.18 (SD = 1.23) (See Table 12) was approximately 1 point higher than that observed in recent national samples (Helburn et al., 1995; Whitebook et al., 1989). The mean obtained in this sample may have been higher due to the presence of a number of accredited centers having a higher mean. Means obtained from the CPI and IAS indicated classrooms were moderately developmentally appropriate, as the mean scores were 3.82 and 3.76 respectively, based on a Likert scale of 1-5. The Professional Beliefs and Practices (PBP) instrument was designed to gauge teacher beliefs regarding professionalism issues. There is no national sample for the PBP as this instrument is newly developed. The mean PBP rating was 2.83 (SD = .25) indicating teachers reported

Table 12

Dependent Variable Means and Standard Deviations

Dependent Variable	Total Sample	One-Star	Two-Star	Accredited	Rural	Urban	Non-Profit	For-Profit
ECERS-S	5.18	4.36	4.89	6.24	4.80	5.36	4.97	5.20
N = 71	(1.23)	(1.16)	(1.02)	(.49)	(.78)	(.72)	(.64)	(.85)
CPI	3.82	3.25	3.68	4.49	3.62	3.95	3.65	3.92
N = 70	(.90)	(.91)	(.84)	(.39)	(.71)	(.57)	(.62)	(.66)
IAS	3.76	3.45	3.64	4.15	3.66	3.77	3.77	3.66
N = 70	(.45)	(.38)	(.29)	(.31)	(.23)	(.30)	(.27)	(.26)
PBP	2.83	2.74	2.75	2.97	2.82	2.85	2.88	2.79
N = 69	(.25)	(.27)	(.20)	(.21)	(.14)	(.23)	(.16)	(.20)
LPI-S	7.93	7.44	8.08	8.30	7.47	8.08	7.39	8.16
N = 66	(1.31)	(1.86)	(.87)	(.76)	(1.13)	(.71)	(1.14)	(.70)
LPI-O	7.54	7.29	7.57	7.87	7.89	7.59	7.85	7.63
N = 66[a]	(1.43)	(1.63)	(1.26)	(1.34)	(1.05)	(1.28)	(1.12)	(1.21)

[a] aggregated to center level

moderately professional beliefs and practices. The LPI instruments were designed to help the leader assess whether s/he assists his/her staff to accept the challenges associated with change, inspire a shared vision, enable others to act, set an example, and encourage others to succeed. In a word, such leadership might be described as democratic. The LPI mean ratings of 7.93 (SD = 1.31) on the LPI-S and 7.54 (SD = 1.43) on the LPI-O indicate directors and teachers viewed directors' leadership as democratic.

Associations between structural quality and dependent variables

Center characteristics. Higher licensed capacity, larger group sizes and the presence of more Master teachers were associated with ECERS-R quality and developmentally appropriate practices (See Table 13). The correlation between Master teacher ratio and ECERS-R scores was negative. Higher teacher:child ratios are interpreted as better for children, meaning that fewer children per teacher indicate better teacher:child ratios. Therefore, negative correlations between the ECERS-R and Master teacher ratio indicated higher quality is present when the number of children per Master teacher is lower. In other words, when ratios were better, quality scores were better.

As noted earlier, there were significant differences in Master teacher:child ratios across Star status, with more Master teachers in Two-Star centers than One-Star centers, and more Masters in accredited centers than One- or Two-Star centers. Since Master teachers have higher educational requirements than lead teachers in One-Star centers, the association between the number of Master teachers

Table 13

Dependent Variable Correlations with Center Characteristics N = 71

Components	ECERS-R Total	CPI Total	IAS Total	PBP Total	LPI-S Total	LPI-O Total
Licensed capacity	.30*	.26*	.26*	.21	.18	.01
Full-time enrollment	.21	.18	.11	.15	.23	.02
Full-time teachers	.18	.15	.10	.09	.14	-.09
Group size	.35**	.31**	.42**	.23	.10	.20
Ratio	-.14	-.07	.05	-.10	.05	-.08
Master teachers	.52**	.40**	.47**	.29*	.29*	.05
Master teacher ratio	-.38**	-.28	-.29	-.16	-.05	-.12

*p<.05
**p<.01

and higher ECERS-R, CPI, and IAS scores suggest that the presence of more educated teachers is associated with higher quality and developmentally appropriate practices. The presence of Master teachers, and more educated teachers may have also helped to offset the larger numbers of children in terms of environmental quality. Associations with education are explored further below.

The PBP and the LPI-S also correlated positively with the number of Master teachers, again suggesting that education is important. However, only one significant correlation was found for each of these dependent variables. Given the number of

correlations computed, the associations reported may be spurious, and should therefore be interpreted with caution.

Teacher and director characteristics. Correlations with other structural quality variables, including teacher and director characteristics were also calculated. ECERS-R quality and developmentally appropriate practices were higher when teachers had more ece/cd education and higher child care incomes. Teacher reports of developmentally appropriate practices in their classrooms were also more favorable when teachers had higher levels of overall education. In this sample, experience was also correlated with environmental quality, i.e., ECERS-R and developmentally appropriate practices. These findings on quality and developmentally appropriate practices echo associations between education and quality found in earlier studies (i.e., Helburn et al., 1995; Phillipsen et al., 1997, Whitebook et al., 1989) (see Table 14).

Both measures of classroom practices were more developmentally appropriate when teachers had more experience. Teachers reported more professional beliefs when they had more experience in the field, and higher levels of both education and specialized education in ece/cd. Apparently, teachers earning higher incomes from their jobs create higher quality environments, utilize developmentally appropriate activities, and espouse more professional beliefs and practices. Alternatively, centers paying teachers more may also provide other resources (in addition to staff salaries) leading to these same process quality features.

Table 14

Dependent Variable Correlations with Teacher Characteristics N = 71

Teacher Characteristics	ECERS-R Total	CPI Total	IAS Total	PBP Total	LPI-S Total	LPI-O Total
Years exp center	.24	.28*	.26*	.18	-.09	.16
Years exp field	.21	.27*	.27*	.32*	.02	.15
Highest education level	.16	.23	.35**	.25*	.11	-.17
Ece/cd education	.38**	.36**	.44**	.33*	.15	-.15
Teacher child care income	.48**	.51**	.43**	.27	.23	.10
Teacher household income	.22	.16	.25	.20	.06	-.11

* p<.05
** p<.01

Similar to teacher characteristics, ECERS-R quality and developmentally appropriate practices were higher when directors had more education, more specialized education in ece/cd and higher child care income (see Table 15). Classroom Practices Inventory scores were higher when directors had more experience in the field. Directors viewed themselves as more democratic when their child care incomes were higher. Staff viewed directors as more democratic when directors had more years experience in the center. Perhaps the view of staff regarding directors is somewhat predicated upon their length of association with each other. However, since teacher experience in the center was not related to perceptions of director leadership, this connection is only speculative.

A correlation between LPI-S and LPI-O scores was also computed. The scores did not correlate. Apparently, the teachers' perceptions of their leaders were different from those of their director.

Table 15

Dependent Variable Correlations with Director Characteristics N = 71

Director Characteristics	ECERS-R Total	CPI Total	IAS Total	PBP Total	LPI-S Total	LPI-O Total
Years exp center	.00	.09	.04	-.08	.01	.29*
Years exp field	.19	.27*	.20	-.06	.14	.01
Highest education level	.48**	.39**	.38**	.23	.17	.12
Ece/cd education	.37**	.33*	.42**	.16	-.07	.12
Director child care income	.35*	.38**	.38**	.19	.51**	.20
Household income	.30*	.30*	.24*	.15	-.07	.12

*p <.05
**p <.01

Summary. In this study, higher quality was present when teachers had specialized education in ece/cd and higher child care income, and directors had higher levels of education, more specialized education in ece/cd, and higher child care and household income. In addition, developmentally appropriate practices were more often observed when directors had more years experience in the field (see Table 15). Director characteristics appear to have an impact on quality and the presence of developmentally appropriate practices. Perhaps directors with more education and

experience were able to hire more qualified staff and had higher expectations for their staff's classroom practices. In summary, results from the correlation analyses support the notion that "good things go together" in child care.

Early Childhood Environment Rating Scale

The study's third question attempted to determine whether differences in classroom environmental quality by Star status, geographic region and auspice were present. The Early Childhood Environment Rating Scale-Revised (ECERS-R) was used to measure classroom environmental quality. Throughout analyses, the ECERS-R total score was utilized.

A series of 3 (Star status) by 2 (region) by 2 (auspice) Analysis of Variance equations were computed to determine if there were differences in classroom environmental quality across Star status (see Tables 12 and 16). A main effect was found showing significant differences in classroom environmental quality by Star status, $F(2, 59) = 22.50$, $p < .001$, $\eta^2 = .43$. One- and Two-Star centers were similar, while accredited centers scored higher on the ECERS-R. A main effect was also found by geographic region, $F(1, 59) = 4.56$, $p < .04$, $\eta^2 = .07$. No main effect was found for auspice.

A significant interaction between region and auspice (see Figure 4) was also revealed $F(1, 59) = 7.55$, $p < .008$, $\eta^2 = .11$. Results showed non-profit centers located in rural areas were lower in quality than urban non-profit centers. Rural non-profit centers scored the lowest, and urban non-profit centers scored the highest on

Table 16

Dependent Variable Means and Standard Deviations by Star Status, by Region, and by Auspice

	One-Star				Two-Star				Accredited			
	Rural		Urban		Rural		Urban		Rural		Urban	
	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit	Non-profit	For-profit
ECERS-R	2.81	4.42	4.51	4.71	4.01	4.80	5.89	4.81	6.17	6.61	6.44	5.82
N = 71	(1.30)	(1.20)	(.74)	(1.03)	(.40)	(1.40)	(.69)	(.76)	(.37)	(.)	(.36)	(.71)
CPI	2.28	3.49	2.98	3.51	3.17	3.40	4.49	3.77	4.39	4.96	4.56	4.38
N = 70	(1.04)	(.77)	(.55)	(.98)	(1.12)	(.92)	(.29)	(.77)	(.43)	(.)	(.30)	(.52)
IAS	3.25	3.40	3.26	3.65	3.99	3.49	3.77	3.62	4.14	3.70	4.22	4.12
N = 70	(.18)	(.34)	(.37)	(.40)	(.20)	(.28)	(.24)	(.28)	(.39)	(.)	(.24)	(.27)
PBP	2.75	2.68	2.83	2.75	2.81	2.63	2.90	2.77	3.01	3.04	2.98	2.85
N = 69	(.29)	(.21)	(.30)	(.32)	(.)	(.15)	(.)	(.25)	(.17)	(.)	(.21)	(.29)
LPI-S	4.28	7.38	8.35	8.12	7.67	8.35	7.41	8.14	8.36	8.77	8.26	8.22
N = 66	(3.71)	(.78)	(.40)	(.95)	(.66)	(.81)	(.41)	(1.01)	(.79)	(.)	(.87)	(.63)
LPI-O	7.33	6.91	7.95	6.90	8.98	7.73	7.43	7.20	7.45	8.96	7.96	8.10
N = 66[a]	(1.0)	(1.48)	(.29)	(2.35)	(.77)	(1.31)	(1.69)	(1.12)	(1.72)	(.)	(1.22)	(1.02)

[a] aggregated to center level

the ECERS-R. For-profit rural centers' scores were similar to for-profit urban centers' scores. No other interaction effects were found.

Developmentally Appropriate Practices

The study's fourth question attempted to determine whether differences in developmentally appropriate practices (DAP) by Star status, geographic region and auspice were present. The Classroom Practices Inventory (CPI) and the Instructional Activities Survey (IAS) were used to measure DAP. Throughout the analyses, the total CPI and IAS scores were utilized.

Developmentally appropriate practice differences were computed by means of a 3 (Star status) by 2 (region) by 2 (auspice) Multivariate Analysis of Variance (MANOVA) equation. The CPI and IAS were the dependent variables.

There was a significant multivariate effect for Star status, Wilks-Lambda = .55, $F(4, 114) = 9.81$, $p < .001$, $\eta^2 = .26$. Univariate analyses revealed significant main effects for both the CPI, $F(2, 58) = 16.56$, $p < .001$, $\eta^2 = .36$ and the IAS, $F(2, 58) = 15.70$, $p < .001$, $\eta^2 = .35$.

There was a significant multivariate interaction effect for Star status and auspice, Wilks-Lambda = .84, $F(4, 114) = 2.60$, $p < .05$, $\eta^2 = .08$. Univariate analyses

Early Childhood Environment Rating Scale - Revised
(Interaction Effects for Region X Auspice)

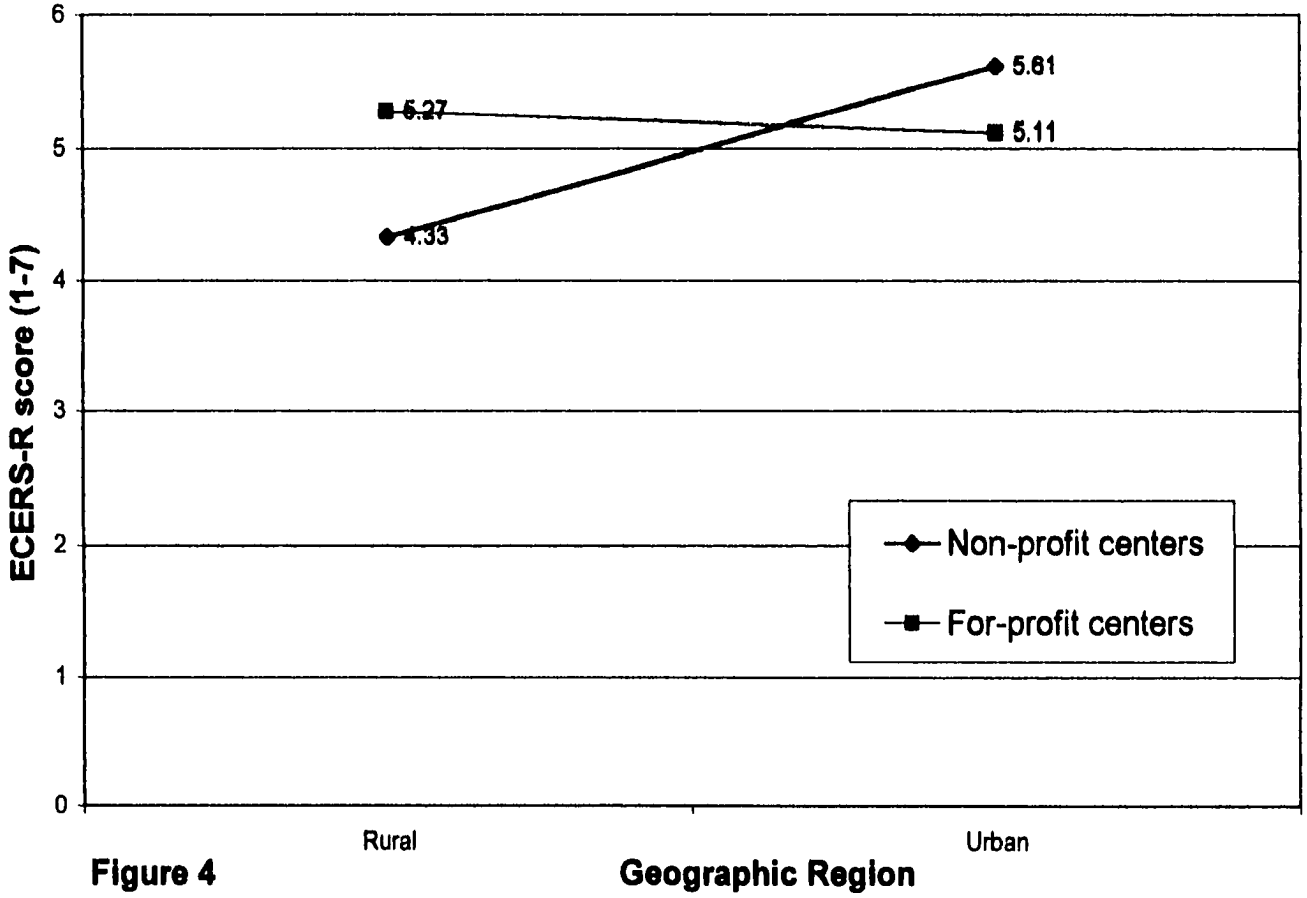


Figure 4

indicated there was a significant interaction effect on the IAS (see Figure 5), $F(2, 58) = 4.505$, $p < .01$, $\eta^2 = .14$, but not the CPI between Star status and auspice. Recall that the IAS is a self-report instrument. Regarding non-profit centers, One-Star centers' scores were the lowest, Two-Star centers' scores were higher, and accredited centers' scores were the highest. Non-profit IAS scores followed a linear trend, becoming slightly higher at each succeeding Star level. In contrast, for-profit One- and Two-Star centers' IAS scores were similar while accredited for-profit centers' scores were higher. Overall, One-Star non-profit centers scores were the lowest, while accredited non-profit centers' scores were the highest.

There was a significant interaction effect for region and auspice, Wilks-Lambda = .86, $F(2, 57) = 4.72$, $p < .01$, $\eta^2 = .14$ (see Figure 6). Univariate analyses for both the CPI and the IAS failed to reveal significant interaction effects. To further explore this issue, a composite developmentally appropriate practices construct was created and examined. To create the composite scores, the CPI and the IAS were summed. Since both scales are based on a scale of 1 to 5, standardization was not necessary. A region by auspice graph was created using this composite DAP score. (See Figure 6). No significance testing was attempted; therefore the association depicted in Figure 6 is suggestive, not definitive. As seen in Figure 6, rural scores were lower for both for-profit and non-profit centers, with rural non-profit centers being the lowest. Urban for-profit and non-profit centers were similar. No other main or interaction effects were found.

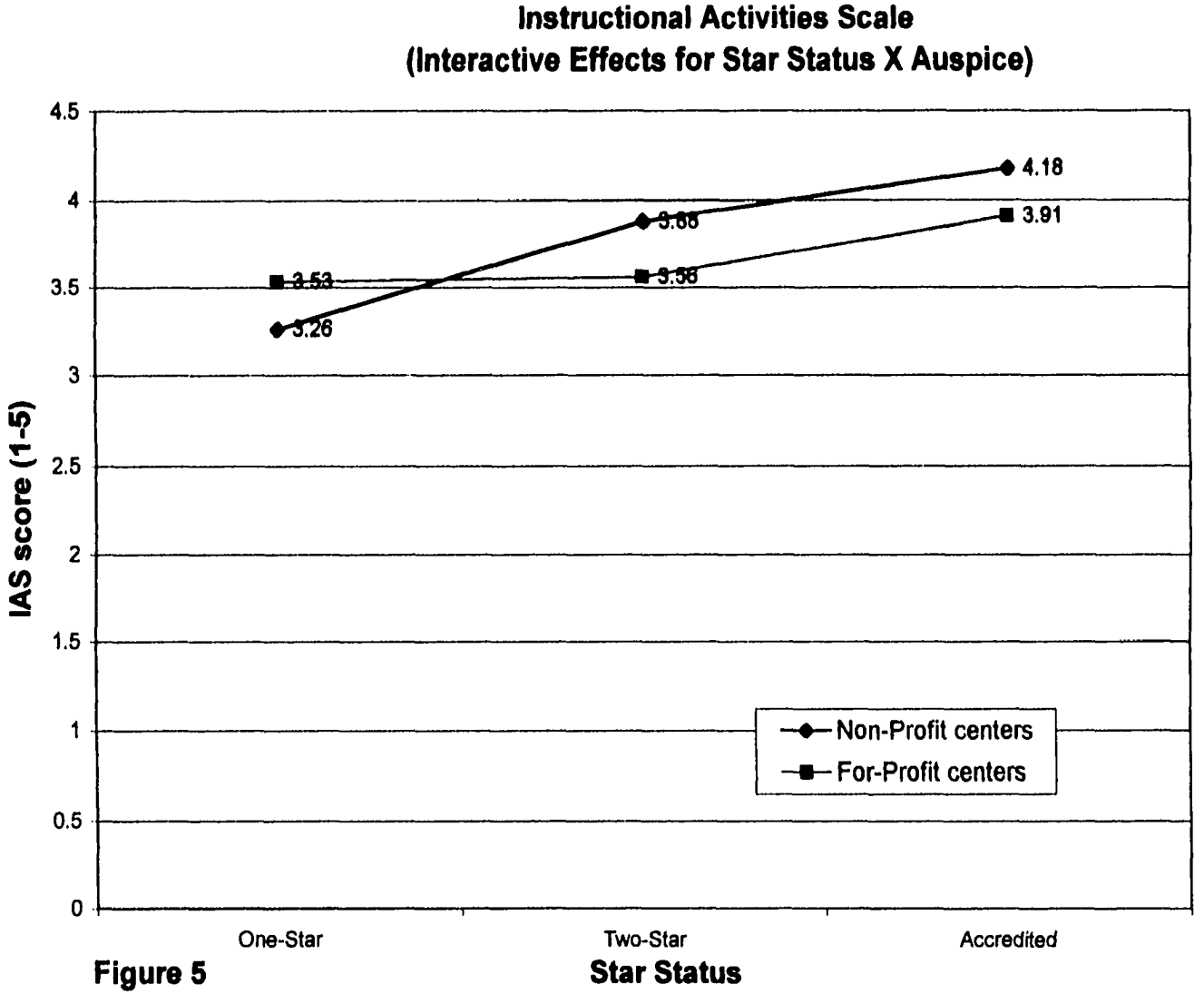

Instructional Activities Scale
(Interactive Effects for Star Status X Auspice)
IAS score (1-5)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
3.53
3.26
3.88
3.56
4.18
3.91
Non-Profit centers
For-Profit centers
One-Star
Two-Star
Accredited
Star Status

Figure 5

Developmentally Appropriate Practices
(Multivariate Interaction Effects for Region X Auspice)

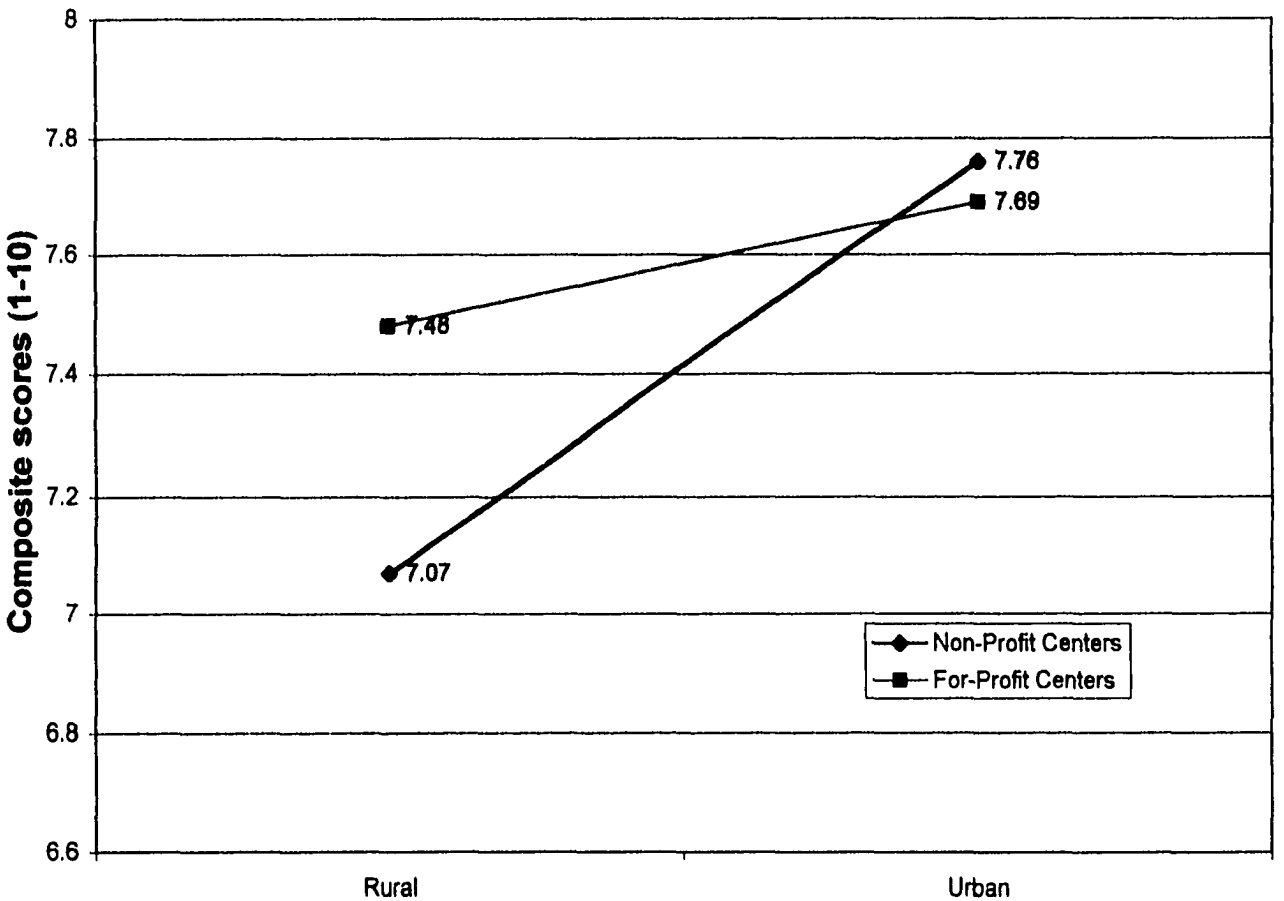


Figure 6

Professional Beliefs and Practices

The study's fifth question attempted to determine whether differences in teacher professional beliefs and practices by Star status, geographic region and auspice were present.

A series of 3 by (Star status) by 2 (region) by 2 (auspice) Analysis of Variance equations were utilized to see if there were differences in professional beliefs and practices of teachers. Only target teacher data were used ($N = 69$) in these analyses. A main effect was found by Star status for professional beliefs and practices, $F(2, 57) = 3.43$, $p < .05$, $\eta^2 = .35$ (see Table 16). This effect size suggests the difference is substantial. Levene's test was not significant, therefore a post hoc test of equal variance was utilized. The Student-Neuman-Keuls test indicated that teachers working in accredited centers demonstrated interest in professional issues more frequently than teachers working in One- and Two-Star centers. Professional beliefs such as those tapped in the instrument may be acquired from higher education settings. The correlations between Professional Beliefs and Practices scores and teacher education noted in Table 14 support this idea. No other main or interaction effects were found.

Perceptions of Director Leadership Behavior

The study's sixth question attempted to determine whether differences in perceptions regarding director leadership behavior varied by Star status, geographic region and auspice.

Differences in perceptions of director leadership beliefs and practice were computed by a 3 (Star status) by 2 (region) by 2 (auspice) Multivariate Analysis of Variance (MANOVA) equation. The LPI-S and LPI-O were the dependent variables.

There was a significant multivariate main effect for Star status, Wilks-Lambda = .79, $\underline{F}(4,106) = 3.28$, $\underline{p} < .01$, $\underline{\eta}^2 = .11$. A significant univariate main effect was found by Star status for the LPI-S, $\underline{F}(2, 54) = 6.37$, $\underline{p} < .003$, $\underline{\eta}^2 = .19$, but not for the LPI-O.

A significant multivariate interaction for Star status was found by region, Wilks-Lambda = .75, $\underline{F}(4, 106) = 4.17$, $\underline{p} < .01$, $\underline{\eta}^2 = .14$. Univariate analysis revealed a significant interaction between Star status and region for the LPI-S, $F(2, 54) = 8.62$, $\underline{p} < .001$, $\underline{\eta}^2 = .24$ (see Figure 7), but not for the LPI-O. Directors of rural One- and Two-Star centers rated themselves as less democratic than directors of urban centers; however, the difference between directors of Two-Star rural and urban centers was smaller than that between directors of rural and urban One-Star centers. Regardless of region, directors of accredited centers' ratings were similar.

The reason for these differences is puzzling. Logically, it might be expected that directors with higher levels of education might be more democratic. However, while there were differences in the amount of specialized ece/cd education of directors by Star status, region and auspice, this facet of the directors' background did not correlate with the LPI-S. Directors of rural centers did have more experience that directors of urban centers and staff viewed directors with more experience as more democratic.

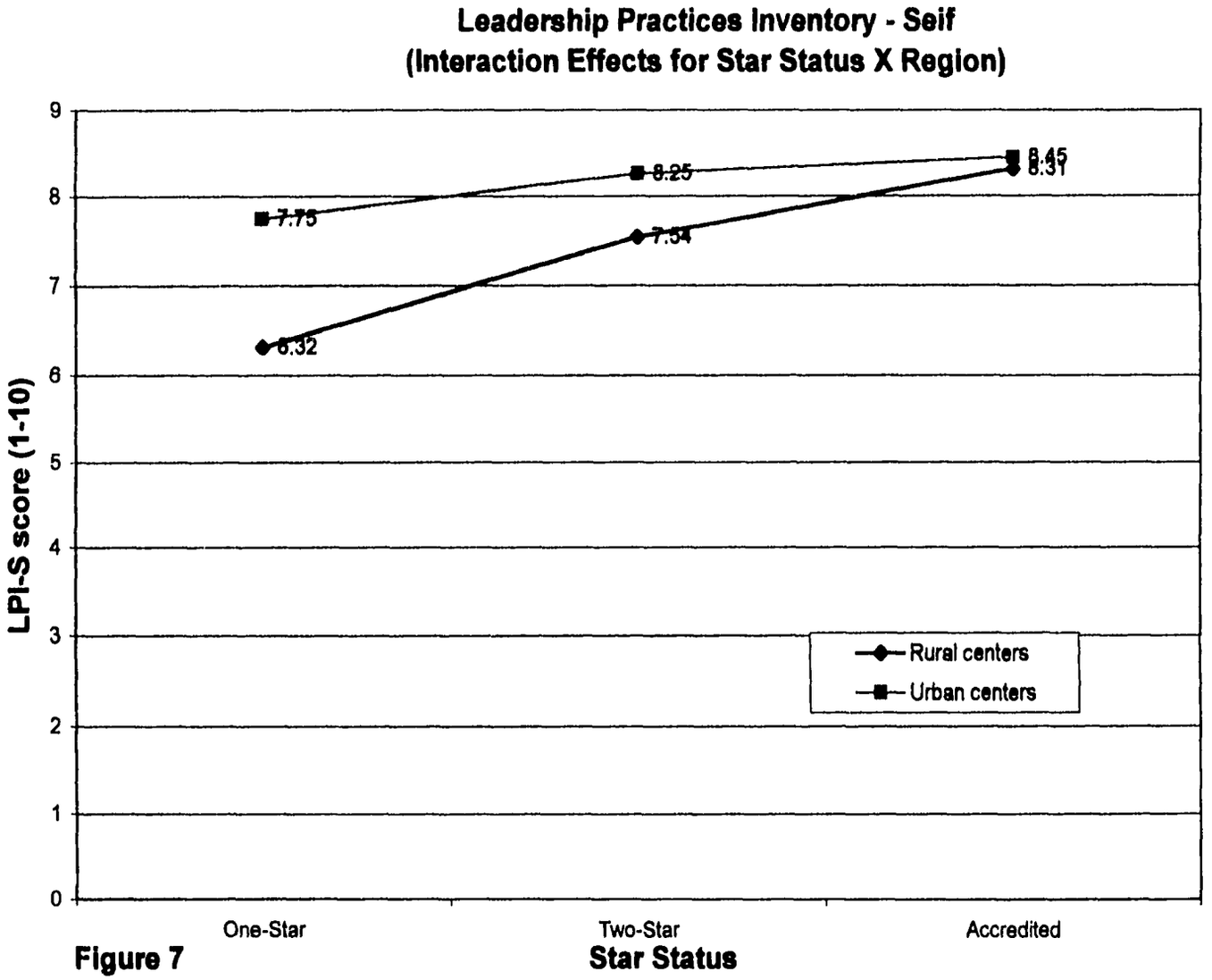

Leadership Practices Inventory - Self
(Interaction Effects for Star Status X Region)
LPI-S score (1-10)
9
8
7
6
5
4
3
2
1
0
7.75
8.25
8.45
6.32
7.54
8.31
Rural centers
Urban centers
One-Star
Two-Star
Accredited
Star Status

Figure 7

Further research is needed to explain this issue. No other main or interaction effects were found.

Table 17 summarizes dependent variable effects:

1) On the ECERS-R, One- and Two-Star programs were similar, and accredited programs scored higher. Accreditation seemed to be a factor strongly associated with environmental quality.
2) Non-profit rural centers were lower in ECERS-R quality than for-profit rural centers. However, non-profit urban centers were higher in quality than for-profit urban centers.
3) On the CPI, an observational measure of DAP; accredited centers were rated as more developmentally appropriate than One- or Two-Star centers.
4) On the IAS, a self-report measure of DAP; teachers working in non-profit centers scores were higher at each successive Star level. In for-profit centers, teachers working in One- and Two-Star centers rated themselves similarly on DAP. Teachers working in non-profit accredited centers rated themselves slightly higher than their counterparts in One- and Two-Star centers.
5) Teachers in One- and Two-Star settings rated themselves lower on professional beliefs and practices than did teachers working in accredited centers.
6) On the LPI-S, directors of rural centers rated themselves as less democratic than directors of urban centers. Differences between directors of rural and

urban centers' ratings were most apparent at the One-Star level, and practically non-existent at the accredited level.

Table 17

Summary of Dependent Variable Effects

Process Quality Characteristics	Main Effect Star Status	Main Effect Region	Main Effect Auspice	Interaction Effect
ECERS-R	One, Two < Accredited	↓Rural ↑Urban		Region by Auspice
CPI	One, Two < Accredited			
IAS	One, Two < Accredited			Star Status By Auspice
PBP	One, Two < Accredited			
LPI-S	sig F n.s. post hoc.			Star status By Region
LPI-O				

CHAPTER 5

DISCUSSION

The purpose of this study was to explore if and how child care center quality, developmentally appropriate practices, as well as the professional beliefs and practices of the teachers and leadership behaviors of directors staffing these programs, vary as a function of the Stars program. The answer to the "if" part of this question is that differences in center quality, developmentally appropriate practice, professional beliefs and practices and director leadership existed. To help determine how centers were different, Star status, geographic region and auspice were considered.

Limitations of the Study

The study was limited in several ways: (1) With a total N of 71, cell sizes were small. Sample size should allow for the possibility of at least five centers per cell for chi-square analyses and 20-30 centers per cell for Analysis of Variance equations. These sample sizes were not available for some analyses. (2) Due to the nature of the study, totally random selection of centers was impossible. As noted earlier, this places some limitations on sample representativeness. This limitation was mitigated, however by recruiting the population in cases where random selection was not possible. (3) The study utilized a large number of measures. A large number of statistical tests may result in spurious findings. Therefore, with the number of instruments included, the possibility exists that some significant findings occurred by

instruments included, the possibility exists that some significant findings occurred by chance, i.e., Type I error. (4) The professional beliefs and practices instrument was developed for this study and was not validated prior to data collection. It will benefit from further refinement. (5) The study of leadership behavior is a highly complex one. The use of a different instrument more specific to early care and education may have provided more insight into the question.

A Review of Results

Star Status

When looking at centers' classroom environmental quality, developmentally appropriate practices, and the professional beliefs and practices of the teachers, One- and Two-Star programs were similar, while accredited programs had higher scores, with one exception. Even the exception favored accredited programs. Specifically, there were more Master teachers in accredited programs than One- and Two-Star programs, and more Master teachers in Two-Star programs than One-Star programs. Otherwise, the study found little to support the effectiveness of the lower tiers of the Stars program in enhancing program quality. Rather, accreditation seemed to be the factor most strongly associated with the characteristics of high quality programs measured in the study.

Accreditation

Consistent with this study, earlier research regarding accreditation has primarily been positive. For example, results from the National Child Care Staffing

Study (Whitebook et al., 1989) indicated that on a variety of dimensions of child care, such as teacher-child interaction, accredited centers differed positively from non-accredited centers. In other studies, centers that had recently become accredited or re-accredited paid higher wages and had lower staff turnover when compared to other national samples (Powell et al., 1994; Whitebook et al.; Whitebook et al., 1993).

Still, accreditation does not guarantee high quality. In an analysis of the Cost, Quality, and Child Outcomes data, Whitebook et al. (1997) reported that nearly 56% of the centers that had become accredited were still rated as mediocre in quality on the ECERS (M = 4.86) scale. In contrast, in this study, accredited centers had higher ECERS-R scores and accreditation was accompanied by other factors indicative of high quality, such as staff education.

Structural Quality. In this study, accredited centers had larger group sizes than One- or Two-Star centers. This may seem surprising, given that (1) smaller group sizes are widely recommended as an indicator of quality (Dunn, 1993b), (2) accreditation is widely recognized within the field as an indicator of quality (Whitebook et al., 1997), and (3) group sizes recommended by the National Academy of Early Childhood Programs (the accrediting agency) were smaller than those required by Oklahoma child care licensing regulations (see Appendix B).

In other studies (e.g., Whitebook, 1989), smaller group sizes have been associated with positive child outcomes supporting the notion that smaller groups sizes equal higher quality. However, Dunn's (1993) review of the literature regarding group size and ratio indicated low group size may not be the clear indicator of quality

previously thought. Rather, variables such as group size should be considered in conjunction with other variables, of which accreditation is one.

Indeed, in a summary of research regarding accreditation, Whitebook (1996) noted teacher:child ratios were worse in accredited centers than in other centers. One way that accredited programs may maintain high quality while having less desirable ratios and groups sizes is by employing more highly skilled and educated teachers. Education is discussed further below.

Process Quality. Accredited centers were higher in environmental quality than One- or Two-Star centers. Accredited center ECERS-R scores were good to excellent. Accreditation also appears to be a factor influencing quality and developmentally appropriate practices. Accredited centers had higher scores on both observational and teacher report instruments measuring the presence of developmentally appropriate practices.

In this study, teachers in accredited centers were more highly educated, holding on the average at least an associate degree. When teachers worked in accredited centers, they also had more specialized education in ece/cd than teachers working in One or Two-Star centers. Teachers working in accredited centers averaged at least 12 credit hours in ece/cd. As suggested earlier, the higher education levels of teachers in accredited centers may have enabled these teachers to more effectively handle the larger group sizes found in accredited centers.

Directors of accredited centers had the most education of all directors in the sample, generally holding either a bachelor's or even a master's degree. Directors of

accredited centers also had the most specialized education in ece/cd. They usually had at least an associate degree in ece/cd. Directors of One- and Two-Star centers usually had some college or up to 12 credit hours in ece/cd. Taken together, the findings linking accreditation and quality and accreditation and director education imply that higher director educational level is associated with higher quality programs.

While the Stars program standards for teacher education in Two-Star programs appear similar to accreditation standards (a minimum of a CDA or associate degree is required by both), teachers working in accredited centers had higher educational levels and more specialized education in ece/cd than teachers in Two-Star centers. Program quality was associated with higher amounts of specialized education in ece/cd. Results indicated quality in accredited centers was higher than in One-and Two-Star centers, lending support to the notion that teacher specialized education in ece/cd is associated with quality.

Previous studies have shown higher teacher educational levels were associated with higher quality care. Re-analyzed data from the Cost, Quality, and Child Outcomes study found the greater the education of the teacher, the greater the teacher's effectiveness (Howes, 1997). In this case, higher quality care included appropriate teacher behaviors such as sensitivity and responsiveness to children and less harshness and/or detachment in interactions with children. Teachers with higher educational levels were more responsive and sensitive. Higher educational levels were associated with knowledge of developmentally appropriate practices. Higher

ECERS-R scores were reported in classrooms where the teacher possessed a bachelor's degree or at least some college (Berk, 1985; Cassidy et al., 1995; Helburn et al., 1995; Howes, 1997; Phillipsen et al., 1997; Ruopp et al., 1979; Snider & Fu, 1990; Whitebook et al., 1989). Results from the present study underscore these findings.

In the current study, teachers working in accredited programs had higher scores than teachers in One-Star or Two-Star programs on the instrument measuring professional beliefs and practices (PBP). The PBP correlated with both teacher specialized education in ece/cd and teachers' overall education. Recalling that accredited programs are higher in quality, the relationship between professionalism and teacher education again suggest the idea that multiple factors work together to produce high quality. Therefore, teachers in accredited centers may be more able to establish and demonstrate more professional beliefs and practices than teachers in One- or Two-Star centers due to the center's climate, and/or the amount of support from the director and other staff.

The field of early care and education is still developing as a profession, with scant research available regarding professionalism. The literature is generally concerned with suggestions regarding how to advance the professionalization of the field (Fromberg, 1995; Isenberg; Katz, 1988; Morrison, 1995; Silin, 1988; Spodek & Saracho, 1988), rather than literature comparing professionalization efforts and/or relationships between child care program quality and professional behaviors of child care teachers. In Oklahoma, research has looked at fragments of professionalism (for

example intentionality), especially in terms of demographic data (See Dunn, 1997), however data regarding the relationship between professional practices and quality of programs is limited .

Geographic Region

Structural Quality

Some structural quality center characteristics varied by region; rural centers had lower full-time enrollments, fewer numbers of full-time teachers, as well as smaller group sizes and teacher:child ratios. However, this does not mean urban centers were "better". Just because the number of full-time enrolled children and full-time teachers were lower in rural centers does not mean that urban centers were somehow better, especially when data indicated group sizes were smaller in rural centers than urban centers.

In rural areas, directors averaged more years experience compared to urban areas. Still, director experience did not correlate with quality or the presence of developmentally appropriate practice. This suggests that efforts to educate rural directors might have a long-term impact given the tendency of these directors to remain in their centers and the background between director education and classroom environmental quality and developmentally appropriate practices.

Teacher/director child care education did not vary by region. There were interaction effects for teacher income by region and auspice. Across geographic region, non-profit center salaries were similar. For-profit rural center teachers' salaries were higher than for-profit urban teachers' salaries. Teachers employed by

rural for-profit centers earned the highest salaries. Teachers employed in urban for-profit centers earned the lowest salaries, suggesting that salary improvement efforts would best be targeted toward those centers.

Process Quality

Director scores on leadership practices interacted by Star status and region. Directors of rural One-Star centers rated themselves lower than directors of urban One-Star centers. Differences between ratings of directors of rural and urban centers were less apparent at the Two-Star level, and were practically non-existent at the accredited level. The ability to draw connections between the leadership practices of the director and other variables is limited since the LPI-S correlated only with director child care income.

Rural centers had lower quality scores than urban centers. Anecdotal comments heard in the field often indicate that urban centers are "better" than rural centers. Because some structural quality indicators actually tend to be more favorable in rural settings, it may be that this comment refers to process quality indicators tapped by the ECERS-R. Results from this study seem to indicate there may be some validity to such an assumption. Between rural and urban areas, differences were not found for the presence of developmentally appropriate practices.

Auspice

Structural Quality. Accredited centers in both urban and rural areas were more likely to be non-profit than for-profit. One- and Two-Star centers were more likely to be for-profit. When centers varied by auspice, non-profit centers had lower

licensed capacities, and full-time enrollments as well as fewer full-time teachers. As in the region comparison, this does not mean non-profits were "better" than for-profits, or vice versa. It seems reasonable that since full-time enrollment was lower, that the number of full-time teachers would be lower as well.

In terms of teacher:child ratio, for-profit rural centers had the best teacher child ratios while for-profit urban centers had the worst ratios. However, non-profit centers were similar across region. The Cost, Quality, and Child Outcomes study (Helburn et al., 1995) found non-profit centers had better staff:child ratios than for-profit centers. In comparison, the present study found variability across region by auspice. Helburn et al. suggests auspice is more complex that just non-profit and for-profit categorizations, rather sub sectors within auspice may vary greatly from one another. The same results may have been at work here, in that differences between auspice were few, and yet results were complex. However, small cell sizes would likely prohibit further analyses within auspices.

In several ways, findings from this study contradict those of others. Teachers in non-profit centers earned less than those working in for-profit centers. This is in contrast to studies indicating non-profit centers are associated with more desirable structural quality features such as higher staff salaries (Helburn et al., 1995; McCartney et al., 1997; Whitebook et al., 1989). Similarly, in this study, teacher education levels did not vary by auspice, while Phillipsen et al (1997) reported higher teacher education levels in non-profit programs.

Process Quality. Contradictions between the present study and others are also present in process quality variables. Using the Cost, Quality, and Child Outcomes Study data, Phillipsen et al. (1997) found higher ECERS scores and more developmentally appropriate practices in North Carolina non-profit centers. However, in this study, there were no differences by auspice in terms of classroom environmental quality (ECERS-R), and developmentally appropriate practice.

In this study, auspice interacted with Star status on a measure of self-reported developmentally appropriate practices. One-Star non-profit centers scored lower than One-Star for-profit centers. These circumstances were reversed at the Two-Star and accredited levels. For-profit One and Two-Star centers had nearly identical self-reported developmentally appropriate practice scores. Since non-profit Two-Star centers exhibited higher developmentally appropriate practice belief scores than non-profit One-Star centers, the presence of one or more unknown other factors in the non-profit setting enabled more desirable practices.

Implications for Policy

Over the past few years, one goal of the Oklahoma Department of Human Services-Division of Child Care has been to improve the quality of child care in the state. One method implemented to improve quality was the Stars program. The Stars program requires the presence of more educated teachers and directors, plus more on-going staff training, as well as parent involvement and other curriculum related components such as weekly lesson plans. Not all components of the Stars program

were examined in this study, however the study did compare center, teacher, and director characteristics as well as environmental quality by Star status. The most consistent findings focused on accreditation and the presence of educated teachers.

A major component of the Stars program is the presence of Master teachers in centers ranked at Two-Star level or above. To be a Master teacher, teachers must hold either a CDA or CCP credential, or an Associate's or Bachelor's degree in ece/cd. In this study, the number of Master teachers varied from One- to Two-Star to accredited status. For teachers and directors, general and specialized education in One- and Two-Star centers was similar, and both were lower than Two-Star requirements.

Accredited programs must meet standards higher than Oklahoma's Two-Star requirement. This suggests that programs meeting higher standards exhibit higher quality. Findings from this study indicate that more remains to be accomplished in order to elevate the quality of all child care. The following section contains suggestions for quality improvement based on this study and previous studies.

Quality Improvement Strategies

A first strategy to improve the quality of child care in Oklahoma might be to increase the overall educational level of teachers, as well as their background in ece/cd. Other studies have found formal education of teachers to be a strong predictor of appropriate teacher behavior (Berk, 1985; Howes, 1997; Whitebook, 1989). In this study, teachers and directors in accredited centers had higher levels of general and specialized ece/ed education than teachers in One- and Two-Star centers.

Both the correlational and group differences findings indicated higher levels of teacher and director education and specialized education were associated with better environmental quality, more developmentally appropriate practices and more professional teacher attitudes and practices. Accredited centers also had higher scores on classroom environmental quality, developmentally appropriate practices, and professionalism. However, it is likely that education is the key component in quality differences.

In addition, raising the overall educational level of directors, as well as their background in ece/cd would be beneficial. Jorde-Bloom's findings (1989) indicated the educational level of the director was a very strong predictor of program quality. Also recommended is specialized coursework in program administration (Jorde-Bloom, 1990). Other analyses from this sample indicated director administrative education was less important for quality than director ece/cd (Norris & Dunn, 2000). Possibly, the director training required in Oklahoma is not rigorous enough, as Jorde-Bloom's sample included directors taking Master's level classes, while Norris and Dunn's data referred to workshops or clock hour training on administration.

In this study, directors of accredited centers had higher levels of education, and accredited centers had higher quality scores and displayed more developmentally appropriate practices as well. Higher director education level and a background in ece/cd correlated with quality and the presence of developmentally appropriate practices.

Education is critical, and is used by the Stars program to define a Master teacher. Therefore, a second strategy to improve the quality of child care in Oklahoma might be to increase (or at least maintain) the number of Master teachers in the classroom (see Appendix A for further details regarding Master teachers). Current Star program standards call for one Master teacher for every 30 children in the first year as a Two-Star program, and one Master teacher for every 20 children in subsequent years. Master teachers must possess a credential, an associate degree or a bachelor's degree in ece/cd. The number of Master teachers present in the programs studied became progressively higher by Star status. The number of Master teachers also correlated with quality and the presence of developmentally appropriate practices. The Master teacher:child ratio should be kept low, as this ratio is associated with classroom environmental quality.

A third strategy to improve the quality of child care in Oklahoma might be to assist teachers and directors in their pursuit of higher education, and increased compensation. The introduction to this study mentioned a program known as T.E.A.C.H. (Teacher Education and Compensation Helps). This program encourages teachers to earn credit hours toward a credential, associate or bachelor's degree, offering release time while in course work and salary increases or bonuses upon completion of a specified number of credit hours. Research indicates teachers participating in T.E.A.C.H. are likely to improve the quality of their child care settings (Cassidy et al., 1995). For teachers and directors, this program may help to improve child care quality in Oklahoma. However, in 2001 the T.E.A.C.H. program

provides tuition scholarships for approximately 1450 center-based teachers, directors and family child care providers in the state in 67 of the state's counties (J. Edge, personal communication, August 6, 2001). This represents a small proportion of child care programs and staff in the state. To be truly effective, the program needs to serve more child care programs in Oklahoma. More research is needed, however to estimate the effectiveness of the Oklahoma T.E.A.C.H. program.

A fourth strategy to improve the quality of child care in Oklahoma might be to increase the overall compensation of teachers and directors. Other studies have shown staff wages to be a strong predictor of quality (Helburn et al., 1995; Phillipsen et al., 1997; Whitebook et al., 1989). Higher salaries help create positive work environments characterized by teamwork, a more rewarding place in which to work, and more stable environments for children (Whitebook et al.). When wages are higher, staff turnover is lower. In this study, teacher income varied by Star status; teachers in accredited centers earned higher salaries. As well, teacher and director child care income correlated positively with classroom environmental quality and developmentally appropriate practices as well. These findings echo those of previous studies (Helburn et al.; Phillipsen et al.; Whitebook et al.) in that child care quality characteristics and teacher income were associated with one another.

While this study did not indicate differences between Star status and director compensation, director income correlated with quality and the presence of developmentally appropriate practices quality and developmentally appropriate practices were also associated with director education. Therefore attempts to elevate

the overall compensation of directors might be helpful, especially since obtaining additional educational coursework may be costly, and extra compensation may help directors pay for more education.

Professional Beliefs and Practices

Willer and Bredekamp (1993) described the early childhood professional as a person who is adequately compensated, knowledgeable and demonstrates high quality performance, resulting in better outcomes for children. Professionalism efforts in the field of early care and education are evolving. Little research in the area of professionalism as it relates to early care and education has been conducted. Much of the literature in this area consists of conceptual rather than empirical work (e.g., Feeney & Kipnis, 1992; Fromberg, 1995; Isenberg, 1995; Morrison, 1995). For this reason, the professional beliefs and practices instrument used in the study was developed incorporating issues identified in the literature. The instrument was designed to look at the following components of professionalism: (1) following accepted standards of practice, (2) following a code of ethics, (3) amount of education/training/specialized knowledge, (4) commitment to the field (5) adequate compensation, (6) view of self as a professional, and (7) advocacy. The principal components analysis suggests that the multiple facets of professionalism can be represented in one component score.

Validating the conceptual literature, professionalism was associated with education in this sample. Teachers who espoused more professional beliefs and

practices had higher levels of general and specialized ece/cd education. Teacher education levels were higher in accredited centers than other centers, and these same teachers scored higher on the professionalism instrument. Contrary to expectations from the leadership literature (Jorde-Bloom, 1990; Jorde-Bloom; 1991, Jorde-Bloom, 1992; Jorde-Bloom & Rafanello, 1995; Jorde-Bloom & Sheerer, 1992), director education was not associated with teachers' professionalism. Thus, the role of the director in teacher's development of professional attitudes and practices was not illuminated by this study. Logically, directors should have an impact in this area. Also unexpected were findings indicating teacher experience in the field was associated with professionalism. It is not clear why this relationship occurred. It may be that more experienced teachers understood and provided the more socially desirable responses. It may also be that experienced teachers had more time to learn about and become more involved in a variety of professional activities. Further research is needed to explore this issue.

Leadership theory

Current literature regarding leadership emphasizes leaders must articulate a vision, set goals, and enable their followers to create their organizations (Capowski, 1994; Jorde-Bloom, 1997; Sergiovanni, 1984). Establishing trust is essential to effective leadership. Leaders are able to influence others (Capowski, 1994; Rodd, 1994). They must have a passion for their organization, and create passion in their followers. They, along with their followers, set values for their organizations. More

than anything else, leadership is creating a new way of being. Leaders are able to make significant accomplishments by appealing to others' values, interests, hopes and dreams (Bolman & Deal, 1995; Kouzes & Posner, 1995).

The Leadership Practices Inventory used in the study (Kouzes & Posner, 1997) included five elements of leadership: (1) challenging the process; (2) inspiring a shared vision; (3) enabling others to act; (4) modeling the way; and (5) encouraging the heart. The original purpose of the scale was to allow leaders of organizations to compare their perceptions of their leadership practices with their staff's perception of their leader's practices. In this study, a correlation between the directors' views of their leadership practices with the staff's view of their leaders was not found. Therefore, directors' perceptions of themselves were not consistent with those of their staff, suggesting the potential for friction between directors and teaching staff, or less than optimum director efficacy. Other findings from this study were not particularly helpful in explaining the discontinuity. Teachers rated directors as more democratic when directors had more years experience at the center. However, since there were no relationships between teacher experience and director leadership the notion that a longer history between director and teachers may account for the higher ratings should be considered tenuous.

Also unclear was the influence of director leadership on classroom environmental quality. Directors of rural One-Star centers described their leadership behaviors less democratically than urban One-Star directors. However, this pattern was not repeated across the Two-Star and accredited levels. Directors in rural areas

had more experience, but the interaction between region and Star status on director leadership makes it difficult to reconcile the findings on leadership, region and experience. Regarding director leadership, this study raises more questions than it answers. The use of an instrument specific to the ece/cd field may reveal other aspects of directors' leadership not discerned here.

Bioecological theory

This study's theoretical base was Bronfenbrenner's bioecological model (Bronfenbrenner & Morris, 1998). The study was conducted at the mesosystem level using a process-context model. As Bronfenbrenner and Morris (1998) state, over time the child's caregiver provides sustained interactions. The child's continuous, increasingly complex, reciprocal interactions with the child care environment (including people and objects) are known as proximal processes.

Proximal processes drive development. Proximal assessments include (but are not limited to) children's actual experiences in the child care environment, or process quality. This study did not examine children or their actual experiences in child care; rather it looked at global estimates of process quality (ECERS-R) and developmentally appropriate practices that may provide some indication of the proximal processes available to children in various forms of care. The child care context includes features that may be influenced by both process and social address variables. Social address variables measured in the study included personal characteristics of the teacher and director, and other structural quality measures

including ratio, group size, Star status, region and auspice, all of which may influence child care context.

Bioecological theory predicts children experiencing many positive interactions (or proximal processes) will experience better developmental trajectories (Bronfenbrenner, 1979). Higher quality child care centers should provide more optimal proximal processes, thus creating more favorable environments for children's development.

Articulating the model

Findings from this study, in combination with the extant literature, can help describe child care through the lens of Bronfenbrenner's theory. In this application of bioecological theory (see Figure 8), the child develops within the microsystem of the child care center classroom (the role of the family is assumed within its own microsystem). The proximal processes within the center's microsystem can be assumed to vary according to Star status, program philosophy, and auspice. This study examined the microsystem of child care in terms of child care income, professional beliefs and practices, general and specialized educational level and the presence of developmentally appropriate practices. Teacher and director education and income were associated with higher classroom environmental quality as was center accreditation.

Several mesosystem relationships were identified in this study. Most consistent were relationships between quality, education, and accreditation. For

Child Care and Bioecological Theory

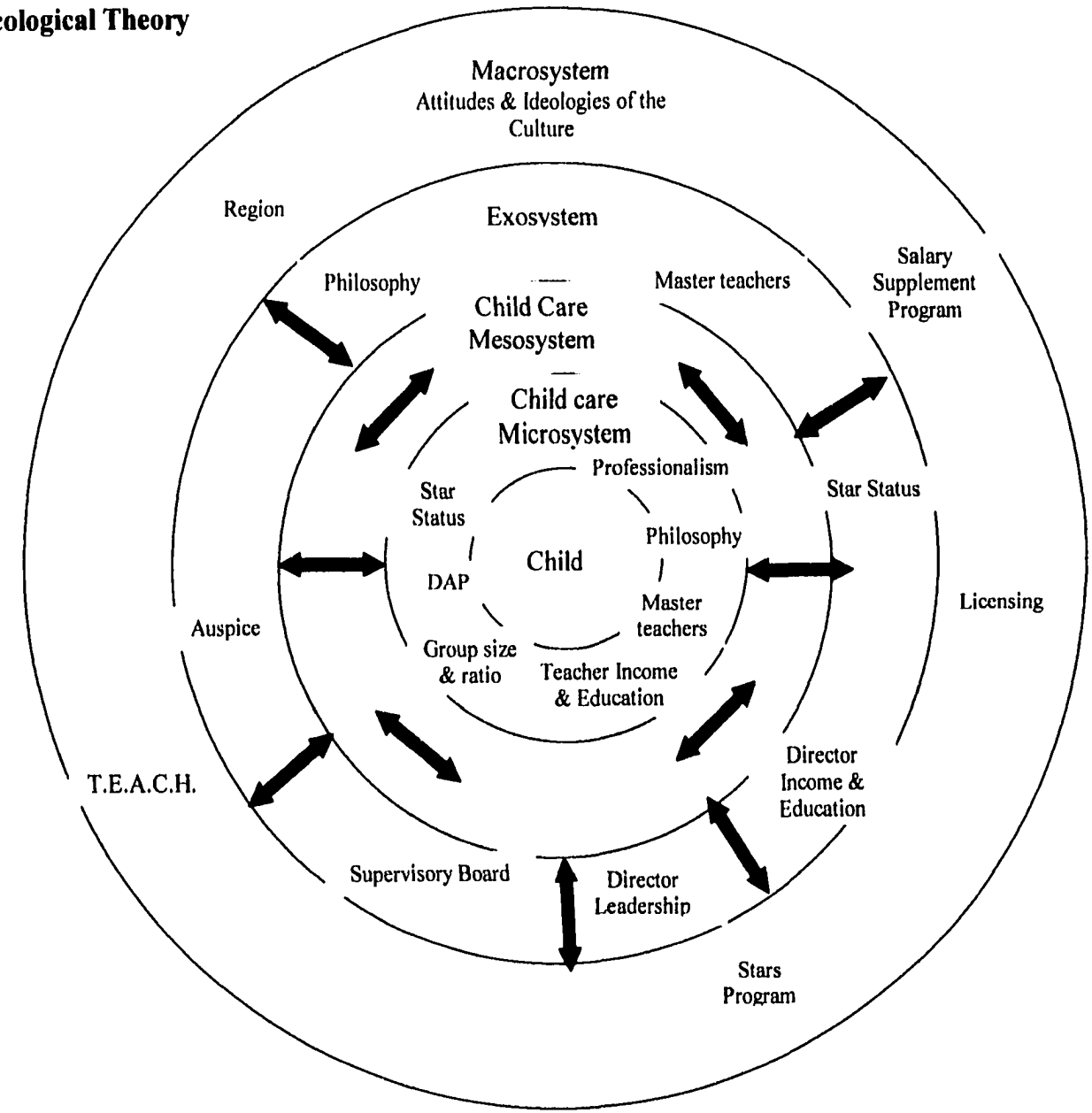


Figure 8

example, given the strong association between accreditation and environmental quality, further research regarding these associations and/or their influence on children seems to be in order. Accreditation by the National Academy of Early Childhood Programs is widely regarded as an indicator of quality (Helburn et al., 1994; Whitebook, 1996; Whitebook et al., 1997; Zellman et al., 1994). However, research concerning accreditation utilizing experimental methods is sparse. Research utilizing experimental methods might examine these questions more fully.

The relationship between teacher child care income, education level and environmental quality would benefit from a path analysis to discover how these relationships work in tandem. Teacher child care income was associated with environmental quality and developmentally appropriate practices. Discovering the characteristics of these relationships and their effect on the child care workforce would be of value to policy-makers.

At the exosystem level, bioecological theory suggests the role of the director in child care centers is important in that the director influences the center's context, including processes and the persons in the center. The director creates the context of the child care program in a myriad of ways, possibly among these are program philosophy, efforts to improve quality, teacher:child staff ratios and group sizes, and the presence or lack of developmentally appropriate practices. The director's level of education and amount of specialized education in ece/cd were positively related to both program quality and the use of developmentally appropriate practices. Thus education is a factor influencing the director's ability to lead the child care program.

Further research in this area, which might be beneficial, includes probing the length and nature of these associations. Although not associated in this study, further examination of the relationship between director leadership and quality of the child care setting is also worthy of exploration. Utilization of an instrument specific to the ece/cd field may reveal influential aspects of director leadership behaviors not discerned here. Of greatest interest would be interactions between director and staff that would be key in discerning the director's ability to lead.

The macrosystem consist of the attitudes and ideologies of the culture (Bronfenbrenner, 1979), and may also include licensing regulations, geographic region and governmental initiatives. Governmental initiatives may consist of the Stars program, and other efforts implemented by governmental agencies to elevate the quality of child care including programs such as T.E.A.C.H., salary supplements, and director's credentialing. Further research regarding the efficacy of these programs and their efforts to increase the educational levels of staff, decrease turnover and increase compensation would be desirable.

According to bioecological theory, interactions are key to optimal child development. In the case of child care, interactions between teachers and the director, and teachers and children are important. Factors influencing these interactions are likely to include the teacher's educational level as well as specialized education in ece/cd. These factors are likely to influence the overall classroom interactions between children and children, and children and their physical environment. Such interactions are indicative of overall classroom quality and the presence of

developmentally appropriate practices. This study did not investigate the role of interactions in child care; further research is desirable.

Conclusion

Child care settings have an important role to play in the lives of young children and their families. Many children spend a large proportion of their waking hours within the child care setting. Therefore it seems likely to presume children's development is influenced by the quality of their child care setting, and indeed research (Helburn et al., 1995; Howes, 1997; Phillipsen et al., 1997; Ruopp et al., 1979; Whitebook et al., 1989) indicates this is so. The purpose of this study was to explore if and how child care center program quality, developmentally appropriate practices, as well as the professional attitudes and practices of teachers and the leadership behaviors of directors staffing these programs, vary as a function of the Stars program, and how these variables may be related to program region and/or auspice.

Regarding region, the study found quality scores were lower in rural areas than urban areas, despite lower group sizes and ratios. Between rural and urban areas, differences in the prevalence of developmentally appropriate practices were not found. Regarding auspice, the licensed capacity, full-time enrollment and number of full-time teachers was lower in non-profit centers and teacher household income was lower in non-profit centers. In general, non-profit centers and for-profit centers were not different from one another.

According to this study, the quality of the child care setting as well as the presence of developmentally appropriate practices is influenced by such factors as accreditation, the highest level teacher education and specialized education in ece/cd, staff salaries, and staff educational level as well as specialized education in early childhood education or child development. These findings are consistent with previous research (Berk, 1985; Cassidy et al., 1995; Helburn et al., 1995; Howes, 1997; Phillipsen et al., 1997; Ruopp et al., 1979; Whitebook et al., 1989) indicating these factors are important ones as they are related to children's development. Together, previous research (Whitebook et al.) and findings from this study support the practice of providing assistance to child care programs to elevate the levels of staff income and education.

While the study found little to support the effectiveness of the lower tiers of the Stars program in improving quality, it does point to the efficacy of accreditation. One must remember these data were gathered early in the implementation of the Stars program. The data are a snapshot of information regarding the Stars program at that time. With this information, modifications to the program may be made, thereby improving the quality of child care for all children, and for the adults working in those programs as well.

REFERENCES

Arnett, J. (1989). Caregivers in day-care centers: Does training matter? Journal of Applied Developmental Psychology, 10, 541-552.

Ary, D., Jacobs, L., & Razavieh, A. (1985). Introduction to research in education (3rd ed.). New York: Holt, Rinehart, Winston.

Barbour, N., Peters, D., & Baptiste, N. (1995). The Child Development Associate Credential Program. In S. Reifel (Ed.), Advances in early education and day care: Vol. 7. Social Contexts of Early Development and Education (pp. 61-93). Greenwich, CT: JAI Press.

Bass, B. (1981). Stogdill's handbook of leadership (2nd ed.). New York: The Free Press.

Bergen, D. (1992). Defining a profession and developing professionals. Journal of Early Childhood Teacher Education, 13(3), 3-5.

Berk, L. (1985). Relationship of caregiver education to child-oriented attitudes, job satisfaction, and behaviors toward children. Child Care Quarterly, 14, 103-129.

Blank, W. (1995). The nine natural laws of leadership. New York: American Management Association.

Bolman, L. & Deal, T. (1995). Leading with soul. San Francisco: Jossey-Bass.

Bredekamp, S., & Copple, C. (Eds.). (1997). Developmentally appropriate practice in early childhood programs (Rev. ed.). Washington, D.C.: National Association for the Education of Young Children.

Bredekamp, S., & Willer, B. (Eds). (1996). NAEYC accreditation: A decade of learning and the years ahead. Washington, D.C.: National Association for the Education of Young Children.

Breig-Allen, C. & Dillon, U. (1997). Implementing the process of change in a public school setting. In J. Hendrick (Ed.), First steps toward teaching the Reggio way (pp. 126-140). Upper Saddle River, NJ: Merrill.

Bronfenbrenner, U. (1979). The ecology of human development. Cambridge, MA: Harvard University Press.

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. Developmental Psychology, 22, 723-742.

Bronfenbrenner, U. & Crouter, A. (1983). The evolution of environmental models in developmental research. In P. H. Mussen (Series Ed.) & W. Kessen (Vol. Ed.), Handbook of child psychology: Vol. 1. History, theory and methods (4th ed., pp. 357-414). New York: Wiley.

Bronfenbrenner, U. & Morris, P. (1998). The ecology of developmental processes. In W. Damon (Series Ed.) & R. Lerner (Vol. Ed.), Handbook of child psychology: Vol 1. Theoretical models of human development (5th ed., pp. 993-1028). New York: Wiley.

Bryant, D. (2000). Validating North Carolina's 5-Star child care licensing system. [Brochure]. Chapel Hill, NC: University of North Carolina, Frank Porter Graham Child Development Center.

Buchanan, T., Burts, D., Bidener, J., White, V. & Charlesworth, R. (1998). Predictors of the developmental appropriateness of the beliefs and practices of first, second and third grade teachers. Early Childhood Research Quarterly, 13, 459-483.

Caldwell, B. (1984). Growth and development. Young Children, 39(6), 53-56.

Capowski, G. (1994). Anatomy of a leader: Where are the leaders of tomorrow? Management Review 83(3), 18-25.

Cassidy, D., Buell, M., Pugh-Hoese, S., & Russell, S. (1995). The effect of education on child care teachers' beliefs and classroom quality: Year one evaluation of the T.E.A.C.H. Early Childhood Associate Degree Scholarship Program. Early Childhood Research Quarterly, 10, 171-183.

Center for Early Childhood Professional Development (1998). Careers in early care and education [Brochure]. Oklahoma City, OK: Oklahoma Department of Human Services-Office of Child Care/University of Oklahoma.

Charlesworth, R., Hart, C., & Burts, D. (1991). Kindergarten teachers beliefs and practices. Early Child Development and Care, 70, 17-35.

Charlesworth, R., Hart, C., Burts, D., & DeWolf, M. (1993). The LSU studies: Building a research base for developmentally appropriate practice. In S. Reifel (Ed.), Advances in early education and day care: Vol. 5 Perspectives on developmentally appropriate practice (pp. 3-28). Greenwich, CT: JAI Press.

Chemers, M. (1997). An integrative theory of leadership. Mahwah, NJ: Lawrence Erlbaum.

Clarke-Stewart, A. (1987). Predicting child development from child care forms and features: The Chicago study. In D. Phillips (Ed.), Quality in child care: What does research tell us? (pp. 21-41). Washington, D.C.: National Association for the Education of Young Children.

Clarke-Stewart, A. (1993). Daycare (Rev. ed.). Cambridge, MA: Harvard University Press.

Clifford. R. (1998, November). Revisions to the Early Childhood Environment Rating Scale (ECERS-R). Paper presented at the meeting of the National Association for the Education of Young Children. Toronto, Ontario, Canada.

Collins, J. (1997). The day care dilemma. Time, 149(5), 58-62.

Dempsey, J. & Frost, J. (1993). Play environments in early childhood education. In B. Spodek, (Ed.), Handbook of research on the education of young children (pp. 306-321). New York: Macmillan.

Dunn, L. (1990). Structural, global, and specific features of day care quality and children's development. Unpublished doctoral dissertation, Purdue University.

Dunn, L. (1993a). Proximal and distal features of day care quality and children's development. Early Childhood Research Quarterly, 8, 167-192.

Dunn. L. (1993b). Ratio and group size in day care programs. Child & Youth Care Forum, 22, 193-226.

Dunn, L. (1997). Professional development status of the Oklahoma child care workforce. Oklahoma City, OK: Oklahoma Department of Human Services.

Dunn, L. & Whiting, M. (1994). Contributors of a nontraditional child care training program. Paper presented at the Annual Conference of the American Educational Research Association, New Orleans.

Feeney, S. & Kipnis, K. (1992). Code of ethical conduct and statement of commitment. [Brochure]. Washington, D.C.: National Association for the Education of Young Children.

Fromberg, D. (1995). The simplicity of complexity: Professionalism in early childhood teacher education. Journal of Early Childhood Teacher Education, 16(3), 7-10.

Gall, M., Borg, W., & Gall, J. (1996). Educational research: An introduction (Rev. ed.). White Plains, NY: Longman.

Getz, S. & Berndt, E. (1982). A test of a method of quantifying amount, complexity, and arrangement of play resources in the preschool classroom. Journal of Applied Developmental Psychology, 3, 295-305.

Glossop, R. (1988). Bronfenbrenner's ecology of human development: A reappreciation. In A. Pence (Ed.), Ecological research with children and families: From concepts to methodology (pp. 1-15). New York: Teachers College Press.

Granger, R., & Gleason, D. (1981). A review of the Child Development Associate Credential: Corrections and comments. Child Care Quarterly, 10, 63-73.

Hagekull, B., & Bohlin, G. (1995). Day care quality, family and child characteristics and socioemotional development. Early Childhood Research Quarterly, 10, 505-526.

Harms, T., & Clifford, R. (1980). Early childhood environment rating scale. New York: Teachers College Press.

Harms, T., Clifford, R., & Cryer, D. (1998). Early childhood environment rating scale (Rev. ed.). New York: Teachers College Press.

Harms, T., Cryer, D., & Clifford, R. (1986). Infant toddler environment rating scale. New York: Teachers College Press.

Hatch, J. & Freeman, E. (1988). Kindergarten philosophies and practices: Perspectives of teachers, principals, and supervisors. Early Childhood Research Quarterly, 3, 151-166.

Helburn, S., Culkin, M., Morris, J., Mocan, N., Howes, C., Phillipsen, L., Bryant, D., Clifford, R., Cryer, D., Peisner-Feinberg, E., Burchinal, M., Kagan, S., Rustici, J., (1995). Cost, quality, and child outcomes in child care centers: Executive summary. Denver, CO: University of Colorado at Denver, Cost, Quality and Child Outcomes Study.

Heller, T. (1982). Women and men as leaders. New York: Praeger.

Herr, J., Demars Johnson, R., & Zimmerman, K. (1993). Benefits of accreditation: A study of directors' perceptions. Young Children, 48(4), 32-35.

Hildebrand, V. (1993). Management of child development centers. New York: Macmillan.

Holloway, S. & Reichhart-Erickson, M. (1988). The relationship of day care quality to children's free-play behavior and social problem-solving skills. Early Childhood Research Quarterly, 3, 39-53.

Howes, C. (1983). Caregiver behavior in center and family day care. Journal of Applied Developmental Psychology, 4, 99-107.

Howes, C. (1997). Children's experiences in center based child care as a function of teacher background and adult:child ratio. Merrill-Palmer Quarterly, 43, 404-425.

Howes, C., Phillips, D., & Whitebook, M. (1992). Thresholds of quality: Implications for the social development of children in center-based care. Child Development, 63, 449-460.

Howes, C. & Rubenstein, J. (1985). Determinants of toddlers experience in day care: Age of entry and quality of setting. Child Care Quarterly, 14, 140-151.

Howes, C. & Smith, E. (1995). Relations among child care quality, teacher behavior, children's play activities, emotional security, and cognitive activity in child care. Early Childhood Research Quarterly, 10, 381-404.

Hyson, M., Hirsh-Pasek, K., & Rescorla, L. (1990). The Classroom Practices Inventory: An observation instrument based on NAEYC's guidelines for developmentally appropriate practices for 4- and 5-year old children. Early Childhood Research Quarterly, 5, 475-494.

Isenberg, J. (1995). Professionalism in early childhood teacher education: Who? What? Why? Journal of Early Childhood Teacher Education, 16(3), 11-13.

Johnson, J. & McCracken, J. (Eds). (1994). The early childhood career lattice: Perspectives on professional development. Washington, D.C.: National Association for the Education of Young Children.

Jones, E. (1994). Breaking the ice: Confronting status differences among professionals. In J. Johnson & J. McCracken (Eds.), The early childhood career lattice: Perspectives on professional development (pp. 27-30). Washington, D.C.: National Association for the Education of Young Children.

Jorde-Bloom, P. (1989). The Illinois Director's Study: A Report to the Department of Child and Family Services. Evanston, IL: National College of Education, Early Childhood Professional Development Project.

Jorde-Bloom, P. (1990). The child care center director: Policy perspectives on increasing requisite qualifications. Early Education and Development, 1, 185-204.

Jorde-Bloom, P. (1991). Child care centers as organizations: A social systems perspective. Child and Youth Care Forum, 20, 313-333.

Jorde-Bloom, P. (1992). The child care center director: A critical component of program quality. Educational Horizons, 70(3), 138-145.

Jorde-Bloom, P. (1996). The quality of work life in NAEYC accredited and nonaccredited early childhood programs. Early Education and Care, 7, 301-317.

Jorde-Bloom, P. (1997). Administrative leadership: Commentary. In S. L. Kagan & B. T. Bowman (Eds.), Leadership in early care and education (pp. 34-37). Washington, D.C.: National Association for the Education of Young Children.

Jorde-Bloom, P. & Rafanello, D. (1995). The professional development of early childhood center directors: Key elements of effective training models. Journal of Early Childhood Teacher Education, 16(1), 3-8.

Jorde-Bloom, P. & Sheerer, M. (1992). The effect of leadership training on child care program quality. Early Childhood Research Quarterly, 7, 579-594.

Katz, L. (1988). Where is early childhood education as a profession? In B. Spodek, O. Saracho, & D. Peters (Eds.), Professionalism and the early childhood practitioner (pp. 75-83). New York: Teachers College Press.

Kontos, S. & Dunn, L. (1993). Caregiver practices and beliefs in child care varying in developmental appropriateness and quality. In S. Reifel (Ed.), Advances in early education and day care: Vol. 5 Perspectives on developmentally appropriate practice (pp. 53-74). Greenwich, CT: JAI Press.

Kontos, S. & Fiene, R. (1987). Child care quality, compliance with regulations, and children's development: The Pennsylvania study. In D. Phillips (Ed.), Quality in child care: What does the research tell us? (pp. 57-80). Washington, D.C.: National Association for the Education of Young Children.

Kouzes, J., & Posner, B. (1995). The leadership challenge. San Francisco: Jossey-Bass.

Kouzes, L., & Posner, B. (1997). Leadership practices inventory (2nd ed.). San Francisco, Jossey-Bass.

Kritchevsky, S., Prescott, E. & Walling, L. (1977). Planning environments for young children: Physical space (2nd ed.). Washington, D.C.: National Association for the Education of Young Children.

Langenbach, M. (1988). Curriculum models in adult education. Malabar, FL: Krieger.

Lewin, K. (1931). Environmental forces in child behavior and development. In C. Murchison (Ed.), A handbook of child psychology (pp.94-127). Worcester, MA: Clark University Press.

McCartney, K. (1984). Effect of quality of day care environment on children's language development. Developmental Psychology, 20, 244-260.

McCartney, K., Scarr, S., Rocheleau, A., Phillips, D., Abbott-Shim, M., Eisenberg, M., Keefe, N., Rosenthal, S., & Ruh, J., (1997). Teacher-child interaction and auspices as predictors of social outcomes in infants, toddlers and preschoolers. Merrill-Palmer Quarterly, 43, 426-450.

McLean, J., & Weitzel, W. (1991). Leadership: Magic, myth, or method? New York: American Management Association.

Montgomery, L. & Seefeldt, C. (1986). The relationship between perceived supervisory behavior and caregivers' behavior in child care. Child Care Quarterly, 15, 251-259.

Morgan, G. (1997). Historical views of leadership. In S. L. Kagan & B. T. Bowman (Eds.), Leadership in early care and education (pp. 9-13). Washington, D.C.: National Association for the Education of Young Children.

Morgan, G., Azer, S., Costley, J., Genser, A., Goodman, I., Lombardi, J., & McGimsey, B. (1993). Making a career of it: The state of states report on career development in early care and education. Boston: Center for Career Development in Early Care and Education.

Morrison, G. (1995). Early childhood professionals: Toward a new identity. Journal of Early Childhood Teacher Education, 16(3), 17-19.

Nash, J. (1997). Fertile minds. Time, 149(5), 48-56.

National Academy of Early Childhood Programs (1991). Guide to accreditation (Rev. ed.). Washington, D.C.: National Association for the Education of Young Children.

National Association for the Education of Young Children (1995). Improving ratios and training requirements also improves child care quality. Young Children, 50(5), 52.

National Child Care Association (1992). Child care professional credentialing program for the early childhood education specialist. Atlanta, GA: Author.

Norris, D. & Dunn, L. (2000). Taking a closer look: Tiered licensing and differential quality. Unpublished manuscript, Oklahoma State University at Stillwater.

Oklahoma Department of Human Services (1998). Differential quality certification for child care centers. Oklahoma City, OK: Author.

Oklahoma Department of Human Services (1997). Licensing requirements for child care centers. Oklahoma City, OK: Author.

Peters, D. L., & Sutton, R. E. (1984). The effects of CDA training on the beliefs, attitudes, and behaviors of Head Start personnel. Child Care Quarterly, 13, 251-261.

Pettygrove, W. B. (1981). The Child Development Associate Credential as a child care staff standard: Accuracy, career development and policy implications. Child Care Quarterly, 10, 43-58.

Phillips, C. (1991a). Essentials for Child Development Associates working with young children. Washington, D.C.: Council for Early Childhood Professional Recognition.

Phillips, C. (1991b). Seminar instructor's guide for the CDA professional preparation program. Washington, D.C.: Council for Early Childhood Professional Recognition.

Phillips, D. (1987). Epilogue. In D. Phillips (Ed.), Quality in child care: What does research tell us? (pp. 121-.126). Washington, D.C.: National Association for the Education of Young Children.

Phillips, D. & Howes, C. (1987). Indicators of quality in child care: Review of research. In D. Phillips (Ed.), Quality in child care: What does research tell us? (pp. 1-19). Washington, D.C.: National Association for the Education of Young Children.

Phillips, D., McCartney, K., & Scarr, S. (1987). Child-care quality and children's social development. Developmental Psychology, 23, 537-543.

Phillipsen, L., Burchinal, M., Howes, C., & Cryer, D. (1997). The prediction of process quality from structural features of child care. Early Childhood Research Quarterly, 12, 281-303.

Phyfe-Perkins, E. (1980). Children's behavior in preschool settings: A review of research concerning the influence of the physical environment. In L. G. Katz (Ed.), Current topics in early childhood education (pp. 91-126). Norwood, NJ: Ablex.

Powell, D. & Dunn, L. (1990). Non-baccalaureate teacher education in early childhood education. In B. Spodek & O. Saracho (Eds.), Yearbook in early childhood education. Vol. 1. Early childhood teacher preparation (pp.101-111). Norwood, NJ: Ablex.

Powell, I., Eisenberg, D., Moy, L., Vogel, J. (1994) Costs and characteristics of high-quality early childhood education programs. Child & Youth Care Forum, 23, 103-118.

Prescott, E. (1994). The physical environment: A powerful regulator of experience. Child Care Information Exchange, (100), 9-15.

Rodd, J. (1994). Leadership in early childhood: The pathway to professionalism. NY: Teachers College Press.

Rosenthal, M. & Shimoni, R. (1994). Issues and evaluation of an Israeli early childhood leadership training program. In S. Reifel (Ed.), Advances in early education and day care: Vol. 6 Topics in early literacy, teacher preparation, and international perspectives on early care (pp. 155-187). Greenwich, CT: JAI Press.

Ruopp, R., Travers, J., Glantz, F., & Coelen, C. (1979). Children at the center: Summary findings and their implications. Cambridge, MA: Abt Books.

Scarr, S., Eisenberg, M., & Deater-Deckard, K., (1994). Measurement of quality in child care centers. Early Childhood Research Quarterly, 9, 131-151.

Senge, P. (1996). Leading learning organizations: The bold, the powerful, and the invisible. In P. F. Drucker (Ed.), The leader of the future (pp. 41-58). San Francisco: Jossey-Bass.

Sergiovanni, T. (1984). Leadership and excellence in schooling. Educational Leadership, 41(5), 5-13.

Silin, J. (1988). On becoming knowledgeable professionals. In B. Spodek, O. Saracho, & D. Peters (Eds.), Professionalism and the early childhood practitioner (pp. 117-134). New York: Teachers College Press.

Smith, R. (Ed.). (1997). Your child: From birth to three. [Special issue]. Newsweek.

Snider, M., & Fu., V. (1990). The effects of specialized education and job experience on early childhood teacher's knowledge of developmentally appropriate practice. Early Childhood Research Quarterly, 5, 69-78.

Spodek, B. & Saracho, O. (1988). Professionalism in early childhood education. In B. Spodek, O. Saracho, & D. Peters, (Eds.), Professionalism and the early childhood practitioner (pp. 59-74). New York: Teachers College Press.

Stipek, D., Daniels, D., Galluzzo, D., & Milburn, S. (1992). Characterizing early childhood education programs for poor and middle-class children. Early Childhood Research Quarterly, 7, 1-19.

Stogdill, R. (1974). Handbook of leadership. New York: The Free Press.

Surbeck, E., Jarrell, R., & Kelley, F. (1994). A new vision for early childhood professional development: Issues and new directions in higher education. Paper presented at the meeting of the National Association for the Education of Young Children, Atlanta, GA.

Tabachnick, B. & Fidell, L. (1983). Using multivariate statistics. New York: Harper and Row.

Vartuli, S. & Fyfe, B. (1993). Teachers need developmentally appropriate practices too. Young Children, 48(4), 36-41.

Weikart, D. (1990). A perspective in High/Scope's early education research. In A. S. Honig (Ed.), Optimizing early child care and education (pp. 29-40). New York: Gordon and Breach.

Whitebook, M. (1996). NAEYC accreditation as an indicator of program quality: What research tells us. In S. Bredekamp & B. Willer (Eds.), NAEYC accreditation: A decade of learning and the years ahead (pp. 31-46). Washington, D.C.: National Association for the Education of Young Children.

Whitebook, M., Howes, C., & Phillips, D. (1989). Who cares? Child care teachers and the quality of care in America. The National Child Care Staffing Study. Oakland, CA: Child Care Employee Project.

Whitebook, M., Phillips, D., & Howes, C. (1993). National Child Care Staffing Study Revisited: Four years in the life of center-based child care. Oakland, CA: Child Care Employee Project.

Whitebook, M., Sakai, L., & Howes, C. (1997). NAEYC accreditation as a strategy for improving child care quality: An assessment. Washington, D.C.: Center for the Child Care Workforce.

Willer, B. & Bredekamp, S. (1993). A new paradigm of early childhood professional development. Young Children, 48(4), 63-66.

Willer, B., Hofferth, S., Kisker, E., Divine-Hawkins, P., Farquhar, E., & Glantz, F. (1991). The demand and supply of child care in 1990. Joint findings from the national child care survey 1990 and a profile of child care settings. Washington, D.C.: National Association for the Education of Young Children.

Zellman, G., Johansen, A., & Van Winkle, J. (1994). Examining the effects of accreditation on military child development center operations and outcomes (Rand Publication MR-524-OSD). Santa Monica, CA: National Defense Research Institute.

Appendix A

QUALITY CRITERIA
CHILD CARE CENTERS

One Star Center

Operates under a state license (permit, license, provisional license)

One Star Plus Center

Compliance with Licensing Requirements. The program shall be operating under a two-year license, provisional license or permit and not have numerous, serious or repeated non-compliance with applicable licensing requirements.

Director's Qualifications. For initial approval and the first annual review, directors shall have documentation of 40 hours of formal training in administration and management content areas specified by the Department; this training shall be within the last 12 months and can also be used to meet licensing training requirements. In subsequent years, directors must have documentation of 20 hours of training within the last 12 months from a DHS-approved source.

Learning Environment. The center shall have current weekly lesson plans appropriate for the developmental needs of each group of children. Space for children two years of age and older shall be arranged in interest areas to facilitate a variety of activities, including block building, dramatic play, manipulative play, art and book reading. Teachers shall read to all children a minimum of 15 minutes each day.

To maintain One Star Plus status after one year the following criteria must also be met:

Staff Training. Teaching staff shall have 20 hours of training annually from a DHS approved source. This training can also be used to meet minimum licensing requirements. The director shall assist teachers in selecting training that enhances their overall professional growth based upon a review of the teacher's training record.

Staff Compensation. There shall be a salary scale with increments based on level of education, credential, training and years of early childhood experience (see sample salary scale). The director evaluates staff, in writing, at least annually, and compensation is based upon consideration of education and experience criteria as well as performance.

Parent Involvement. The center involves parents in the following ways:

1. A written system is established and maintained for sharing daily happenings and changes in a child's physical or emotional state; when a child enters kindergarten, a verbal system may be used.
2. Parents are welcomed in the center at all times, for example, to observe, eat lunch with a child or volunteer in the classroom.
3. Parent conferences are held at least annually and at other times as needed to discuss children's progress, accomplishments and difficulties.
4. There is a parent resource area with books, pamphlets or articles on parenting.
5. Parent meetings with guest speakers or special events are held at least twice a year, e.g., open house, brown bag lunch, family pot-luck dinners, children's programs.

6. Parents are informed of the center's program through a parent's bulletin board, regular newsletter or parent handbook.
7. Parents participate in program and policy development through board involvement, planning meetings or questionnaires.

Program Evaluation. The program is assessed every two years by an independent evaluator using the applicable rating scale, i.e., Early Childhood Environmental Rating Scale (ECERS), to determine the day to day quality of care provided to children. The initial assessment is scheduled prior to the first annual review of the star certification. Staff and parents are surveyed to identify strengths and weaknesses of the program and evaluate the program's effectiveness in meeting the needs of children and parents. Based upon these findings, program goals will be established for the upcoming two years.

A center can operate on one star plus status for a total of 24 months. At the end of two years, the center must be approved as a two star center or return to one star status.

Two Star Center

One Star Plus Center Criteria. The program shall meet all one star plus center criteria and the criteria for master teacher responsibilities and qualifications.

Accreditation. A center that is accredited through the National Academy of Early Childhood Programs only has to meet *Compliance with Licensing Requirements.*

Master Teacher Responsibilities and Qualifications. Master teachers support other teaching staff with responsibilities such as program development, weekly lesson plans, use of space and equipment, interactions with parents and program evaluation.

During the first year as a two star center, there shall be a master teacher for every 30 children of the licensed capacity, excluding school-age children. In subsequent years, there shall be a master teacher for every 20 children. Centers licensed as school-age programs must have a master teacher for every 40 children of the licensed capacity. The director shall not be counted as a master teacher in centers licensed for more than 30 children. The director can be counted as a master teacher in centers licensed as a school-age program. Master teachers shall be employed on a full-time basis and have:

- a Child Development Associate (CDA) or Certified Childcare Professional (CCP) credential as evaluated by an Oklahoma-approved CDA advisor or CCP counselor; or
- a two- or four-year degree in early childhood education or child development; or
- 60 credit hours from an accredited college or university including 12 credit hours in early childhood education, child development or a closely related subject and three months of experience in a child care setting.

Appendix B

APPENDICES AND SUPPLEMENTS

APPENDIX A. CHILD CARE CENTER STAFF RATIO

SINGLE-AGE GROUPS

	Center Staff-Child Ratio	Maximum Group Size
Infants (0-9 months)	1:4	8
Toddlers (10 through 23 months)	1:6	12
Two-year-olds	1:8	16
Three-year-olds	1:12	24
Four and five-year-olds	1:15	30
Six-year-olds and over	1:20	40

MIXED AGE GROUPS

	Center Staff-Child Ratio	Maximum Group Size
0-35 months	1:6 (No more than 2 under 10 months per staff)	12
Infants and older	1:8 (No more than 2 under two years per staff)	16
Two's and older	1:12 (no more than 4 two-year-olds per staff)	24
Three's and older	1:15 (no more than 6 three-year-olds per staff)	30
Four's and older	1:18 (No more than 8 four-year-olds per staff)	36

*The ratio and maximum group size for the age of the youngest child in the group is used for other mixed-age groups.

F. Staffing *(Refer to group size and staff-child ratio information in Center Profile)*

F-1 and F-2. Staff-child ratios within group size*

Age of children	Group size										
	6	8	10	12	14	16	18	20	22	24	28
Infants (birth to 12 mos.)	1:3	1:4									
Toddlers (12 to 24 mos.)	1:3	1:4	1:5	1:4							
2-year-olds (24 to 30 mos.)		1:4	1:5	1:6							
2½-year-olds (30 to 36 mos.)			1:5	1:6	1:7						
3-year-olds					1:7	1:8	1:9	1:10			
4-year-olds						1:8	1:9	1:10			
5-year-olds						1:8	1:9	1:10			
6- to 8-year-olds								1:10	1:11	1:12	
9- to 12-year-olds										1:12	1:14

* Smaller group sizes and lower staff-child ratios have been found to be strong predictors of compliance with indicators of quality such as positive interactions among staff and children and developmentally appropriate curriculum. Variations in group sizes and ratios are acceptable in cases where the program demonstrates a very high level of compliance with criteria for interactions (A), curriculum (B), staff qualifications (D), health and safety (H), and physical environment (G).

Appendix C

Advanced degrees—M.S., M.A., Ph.D., Ed.D., J.D., M.D., R.N. over $25,000

TRADITIONAL
- Occupational Child Care Instructor at area vocational and technical schools
- Teacher Education at a two year college or four year university
- Teacher/Administrator/Special Education in a public or private elementary school —certification required
- Curriculum Specialist in the armed services
- Child Development Specialist
- Child Guidance Specialist
- Research/Writer

RELATED
- Social worker
- Child advocate/lobbyist
- Librarian
- Pediatric Therapist—occupational and physical
- Human Resources Personnel in industry
- Child Life Specialist in a hospital
- Speech and Hearing Pathologist—Health Department, Public/Private School, Private Practice, University Teaching
- Early Childhood Consultant
- Entertainer/Musician/Song Writer for children
- Author and Illustrator of children's books
- Physician/Pediatrician
- Pedodontist (works only with children)
- Dietitian
- Counselor
- Child Psychologist
- Psychiatrist
- Dietetic Assistant
- Recreation Supervisor
- Children's Policy Specialist
- Dental Hygienist
- Scouting Director
- Child Care Center or playground/recreation center designer
- Probation officer
- 4-H agent or County Extension Director
- Adoption Specialist
- Child Care Resource and Referral Director
- "Friend of the Court" counselor
- Psychometrist
- Attorney with primary focus on children
- Religious Educator
- Certified Child and Parenting Specialist
- Family Mediator

Baccalaureate Level $18,000–$30,000

TRADITIONAL
- Early Childhood Teacher in public school, Head Start or child care settings
- Special Education Teacher
- Family Child Care Home Provider
- Nanny
- Administration in Head Start program
- Child Care Center Director/Owner/Coordinator
- Child Care Center Director in the armed services
- Parents as Teachers Facilitator
- Director of school-age (out-of-school time) program

RELATED
Some positions will require additional course-work at the baccalaureate level which will be in a field other than early childhood:
- Child Advocate/Lobbyist
- Recreation Director/Worker/Leader
- Journalist/Author/Publisher/Illustrator of children's books
- Children's Librarian
- Retail manager of children's toy or book stores
- Licensing Worker
- Human Resource Personnel in industry
- Music Teacher, Musician/Entertainer for children
- Recreation Camp Director
- Camp Counselor/Scouts Camp Ranger
- Resource and Referral Trainer/Data Analysis/Referral Specialist/Child Care Food Program Consultant
- Childbirth Educator
- Gymnastic or Dance Teacher
- Pediatric Nurse Aide
- Child and Parenting Practitioner
- Producer of Children's Television Shows and Commercials
- Faith Community Coordinator and Educator

Associate Level $15,000–$19,000

TRADITIONAL
- Head Start Teacher
- Child Care Teacher
- Family Child Care Home Provider
- Nanny
- Child Care Center Director
- School Age Provider
- Early Intervention/Special Needs Program
- Para Teacher/Aide

RELATED
In addition to those listed at the core level:
- Family and Human Services Worker
- LPN—specialized nurse training
- Entertainer for children at theme restaurant and parks
- Social Service Aide
- Playground Helper
- Physical Therapy Assistant
- Nursing Home Aide/Worker/Technician
- Faith Community Coordinators for families and children

Credential Level $12,000–$16,000

- Head Start Teacher
- Child Care Teacher
- Family Child Care Home Provider
- Nanny
- Child Care Center Director
- Home Visitor
- Nursing Home Aide/Worker

Core level positions require minimum education and training depending on the position—$10,000–$14,000

TRADITIONAL
- Child Care Teaching Assistant
- Family Child Care Home Provider
- Head Start Teacher Assistant
- Nanny
- Foster Parent
- Church Nursery Attendant
- Related positions which involve working with children in settings other than a child care center, family child care home, Head Start or public school program

RELATED
Positions may require specialized pre-service training.
- Children's Storyteller, Art Instructor or Puppeteer
- Recreation Center Assistant
- Salesperson in toy, clothing or book store
- School Crossing Guard
- Children's Party Caterer
- Restaurant Helper for birthday parties
- Van or Transportation driver
- Children's Art Museum Guide
- Receptionist in pediatrician's office
- Camp Counselor
- Special Needs Child Care Aide
- Live-in Care
- Respite Care
- Cook's Aide, Assistant Cook, Camp Cook, Head Start or Child Care Center Cook

Appendix D

TEACHER BACKGROUND INFORMATION

All information is confidential and will be discussed as a group and not by individual.

No. of years you have been employed as a teacher in this child care program:____

No. of years you have been employed in the early childhood profession:_____

Indicate the highest level of education you have completed:

Less than H.S.	High School	Vocational School	Some College	Two-Year Degree	Four-Year Degree	Graduate Degree

Indicate the highest level of specialized education in early childhood or child development you have completed:

No college hours in ECE/CD	1-11 college hours in ECE/CD	12 college hours in ECE/CD	2-year degree in ECE/CD	4-year degree in ECE/CD	Graduate Degree in ECE/CD

Indicate credentials/certifications you have completed:

CDA	ECE	Elementary	Certified Childcare Professional	National Director Training

Indicate where you have received specialized formal training (not including on the job training) in child development, child care, and early childhood education. (CIRCLE ALL THAT APPLY)

a. in-service workshops at this center
b. workshops at professional meetings
c. workshops in the community
d. CDA training
e. workshops at Resource Referrals
f. Child Care Careers
g. courses in high school
h. courses at vo-tech
i. two-year college courses
j. four-year college courses
k. graduate level courses
l. other (please specify)_____

How long do you intend to continue working with young children?

a year or less 2-5 years 6-10 years indefinitely

What would be the main reason you would leave your job at this center within the next 12 months?

a. to earn higher wages at another center
b. to make a career change
c. to go to school
d. to move to another location
e. due to pregnancy or illness
f. for family reasons
g. other (_____)

Which statement best describes how you view working in the early childhood field?

a. my chosen occupation

b. a stepping stone to employment in another field related to early childhood education

c. temporary employment but not my chosen occupation

d. other (_____)

Background Information (circle appropriate response):

Age: _____

Gender: Female Male

Marital Status: Single/Never Married Married Single with Partner

Separated/Divorced/Widowed

Racial/Ethnic: Caucasian African-American Latina/o Asian

Native American Biracial/Multiracial Other_____

Household Income:	under $7,500	$7,500-$15,000	$15,001-$22,500
$22,501-$30,000	$30,001-$37,500	$37,501-$45,000	$45,001-$52,500
$52,501-$60,000	$60,001-$67,501	$67,501-$75,000	$75,001-$82,500
$82,501-$100,000	over $100,000		

Childcare Income:	under $7,500	$7,500-$15,000	$15,001-$22,500
$22,501-$30,000	$30,001-$37,500	$37,501-$45,000	$45,001-$52,500
$52,501-$60,000	$60,001-$67,501	$67,501-$75,000	$75,001-$82,500
$82,501-$100,000	over $100,000		

CENTER/DIRECTOR INFORMATION

All information is confidential and will be discussed as a group and not by individual program.

Title of Person Completing the Survey:_____

Please indicate the number of teachers whose highest education level is:

A Some H.S.	B GED	C High School	D Voc. School	E Some College	F Associate's Degree	G Bachelor's Degree	H Some Graduate	I Master's Degree	J Post Master's

Indicate where the teachers have received specialized formal training (not including on-the- job training) in child development, child care, and early childhood education.
(CIRCLE ALL THAT APPLY)

a. in-service workshops at this center
b. workshops at professional meetings
c. workshops in the community
d. CDA training
e. workshops at Resource Referrals
f. Child Care Careers
g. courses in high school
h. courses at vo-tech
i. two-year college courses
j. four-year college courses
k. graduate level courses
l. other (please specify)_____

How often does the teaching staff in your program receive a written evaluation of their performance by a supervisor or director?

More than twice a year Twice a year Once a year Infrequently Never

Indicate the salary range paid to the full-time teachers employed at your center.

EITHER Lowest hourly rate_____ Highest hourly rate_____

OR Lowest monthly rate_____ Highest monthly rate_____

Indicate the typical gross salary for a full-time teacher at your center.

$_____per hour/week/month/year *(circle one)*

Circle ALL the statements below that describe the salary scale implemented in your center.

a. There is currently not a salary scale with incremental adjustments in place.
b. Incremental adjustments in salary are based on levels of education.
c. Incremental adjustments in salary are based on completion of credentials.
d. Incremental adjustments in salary are based on completion of training.
e. Incremental adjustments in salary are based on years of experience in child care.
f. Incremental adjustments in salary are based on successful written performance evaluations.

As a result of becoming a two-star center or achieving national accreditation, were staff salaries increased? Yes No Not applicable (not two-star or accredited)

Indicate the number of hours of formal training in administration and management content areas specified by the Department of Human Services:

Completed in the last 12 months_____ Completed in the last 5 years_____

Indicate credentials/certifications completed by the Director: (CIRCLE ALL THAT APPLY)

CDA ECE Elementary Certified Childcare Professional National Director Training

Indicate where the director has received specialized formal training (not including on the job training) in child development, child care, and early childhood education. (CIRCLE ALL THAT APPLY)

a. in-service workshops at this center
b. workshops at professional meetings
c. workshops in the community
d. CDA training
e. workshops at Resource Referrals
f. Child Care Careers
g. courses in high school
h. courses at vo-tech
i. two-year college courses
j. four-year college courses
k. graduate level courses
l. other (please specify)_____

Background Information of the Director (CIRCLE APPROPRIATE RESPONSE):

Age: _____

Gender: Female Male

Marital Status: Single/Never Married Married Single with Partner

Separated/Divorced/Widowed

Racial/Ethnic: Caucasian African-American Latina/o Asian

Native American Biracial/Multiracial Other_____

Household Income:	under $7,500	$7,500-$15,000	$15,001-$22,500
$22,501-$30,000	$30,001-$37,500	$37,501-$45,000	$45,001-$52,500
$52,501-$60,000	$60,001-$67,501	$67,501-$75,000	$75,001-$82,500
$82,501-$100,000	over $100,000		

Childcare Income:	under $7,500	$7,500-$15,000	$15,001-$22,500
$22,501-$30,000	$30,001-$37,500	$37,501-$45,000	$45,001-$52,500
$52,501-$60,000	$60,001-$67,501	$67,501-$75,000	$75,001-$82,500
$82,501-$100,000	over $100,000		

If yes, how much on average did hourly wages increase?

For the director_____
For the master teacher_____
For full-time teachers_____

If a two-star facility, please indicate how increased reimbursement rates for subsidies from DHS have been utilized in your facility. (CIRCLE ALL THAT APPLY.)

a. Increased salaries
b. Additional materials and equipment for classrooms
c. Facility improvement
d. Hired additional staff
e. Paid for additional staff development or education
f. Other (_____)

Please indicate which of the following are present in your center. (Circle all that apply.)

a. Parents welcome in center at all times, e.g., to observe, eat lunch with a child or volunteer in program.

b. Parent resource area is available with books, pamphlets, articles on parenting.

c. Parents are informed of the program through a parents' bulletin board.

d. Parents are informed of the program through a parent handbook.

e. Parents serve in an advisory capacity or on a board of directors to help establish program policy.

f. Parents are involved in fundraising activities for the program.

g. Parents complete questionnaires and surveys to help improve the program.

Please provide the following information about the <u>center director.</u>

No. of years the Director has been employed as the director of <u>this</u> child care program:____

No. of years the Director has been employed in the early childhood profession:_____

Are you a member of professional organizations such as NAEYC, SECA, or ECAO? Yes No

Indicate the highest level of education completed by the Director:

High School	Vocational School	Some College	Two-Year Degree	Four-Year Degree	Graduate Degree

Indicate the highest level of specialized education in early childhood or child development completed by the Director:

No college hours in ECE/CD	1-11 college hours in ECE/CD	12 college hours in ECE/CD	2-year degree in ECE/CD	4-year degree in ECE/CD	Graduate Degree in ECE/CD

SCORE SHEET
Early Childhood Environment Rating Scale–Revised

Thelma Harms, Richard M. Clifford, and Debby Cryer

Date of observation: __ __ / __ __ / __ __ (m m d d y y)
Number of children with identified disabilities: __ __
Check type(s) of disability: ☐ physical/sensory ☐ cognitive/language ☐ social/emotional ☐ other: _____
Birthdates of children enrolled: youngest __ __ / __ __ / __ __
oldest __ __ / __ __ / __ __ (m m d d y y)

Number of staff present: __ __
Number of children enrolled in class: __ __
Number of children present: __ __
Time observation began: __ __ : __ __ ☐AM ☐PM
Time observation ended: __ __ : __ __ ☐AM ☐PM

SPACE AND FURNISHINGS

1. Indoor space 1 2 3 4 5 6 7 — Notes

Y	N		Y	N	NA		Y	N		Y	N
1.1	☐	☐	3.1	☐	☐		5.1	☐	☐	7.1	☐ ☐
1.2	☐	☐	3.2	☐	☐		5.2	☐	☐	7.2	☐ ☐
1.3	☐	☐	3.3	☐	☐		5.3	☐	☐		
1.4	☐	☐	3.4	☐	☐						
			3.5	☐	☐	☐					

2. Furniture for care, play, & learning 1 2 3 4 5 6 7

Y	N		Y	N	NA		Y	N	NA		Y	N
1.1	☐	☐	3.1	☐	☐		5.1	☐	☐		7.1	☐ ☐
1.2	☐	☐	3.2	☐	☐		5.2	☐	☐		7.2	☐ ☐
			3.3	☐	☐	☐	5.3	☐	☐	☐		

3. Furnishings for relaxation 1 2 3 4 5 6 7

Y	N		Y	N		Y	N		Y	N
1.1	☐	☐	3.1	☐	☐	5.1	☐	☐	7.1	☐ ☐
1.2	☐	☐	3.2	☐	☐	5.2	☐	☐	7.2	☐ ☐
						5.3	☐	☐		

4. Room arrangement 1 2 3 4 5 6 7 — Notes

Y	N		Y	N	NA		Y	N		Y	N
1.1	☐	☐	3.1	☐	☐		5.1	☐	☐	7.1	☐ ☐
1.2	☐	☐	3.2	☐	☐		5.2	☐	☐	7.2	☐ ☐
			3.3	☐	☐		5.3	☐	☐	7.3	☐ ☐
			3.4	☐	☐	☐					

5. Space for privacy 1 2 3 4 5 6 7

Y	N		Y	N		Y	N		Y	N
1.1	☐	☐	3.1	☐	☐	5.1	☐	☐	7.1	☐ ☐
			3.2	☐	☐	5.2	☐	☐	7.2	☐ ☐

6. Child-related display 1 2 3 4 5 6 7

Y	N		Y	N		Y	N		Y	N
1.1	☐	☐	3.1	☐	☐	5.1	☐	☐	7.1	☐ ☐
1.2	☐	☐	3.2	☐	☐	5.2	☐	☐	7.2	☐ ☐
						5.3	☐	☐		

7. Space for gross motor 1 2 3 4 5 6 7 — Notes

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
1.2	☐	3.2	☐	5.2	☐	7.2	☐
				5.3	☐	7.3	☐

8. Gross motor equipment 1 2 3 4 5 6 7

Y	N	Y	N	Y	N	NA	Y	N
1.1	☐	3.1	☐	5.1	☐		7.1	☐
1.2	☐	3.2	☐	5.2	☐		7.2	☐
1.3	☐	3.3	☐	5.3	☐	☐		

A. Subscale (Items 1–8) Score __ __

B. Number of items scored: __ __

SPACE & FURNISHINGS Average Score (A ÷ B) __.__ __

PERSONAL CARE ROUTINES

9. Greeting/departing 1 2 3 4 5 6 7 — Notes

Y	N	Y	N	Y	N	NA	Y	N	NA
1.1	☐	3.1	☐	5.1	☐		7.1	☐	
1.2	☐	3.2	☐	5.2	☐		7.2	☐	
1.3	☐	3.3	☐	5.3	☐	☐	7.3	☐	☐

10. Meals/snacks 1 2 3 4 5 6 7

Y	N	NA	Y	N	NA	Y	N	NA	Y	N
1.1	☐		3.1	☐		5.1	☐		7.1	☐
1.2	☐		3.2	☐		5.2	☐		7.2	☐
1.3	☐		3.3	☐		5.3	☐		7.3	☐
1.4	☐		3.4	☐		5.4	☐	☐		
1.5	☐	☐	3.5	☐	☐					
			3.6	☐	☐					

11. Nap/rest 1 2 3 4 5 6 7 NA — Notes

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
1.2	☐	3.2	☐	5.2	☐	7.2	☐
1.3	☐	3.3	☐	5.3	☐		
		3.4	☐				

12. Toileting/diapering 1 2 3 4 5 6 7

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
1.2	☐	3.2	☐	5.2	☐	7.2	☐
1.3	☐	3.3	☐	5.3	☐		
1.4	☐	3.4	☐				
		3.5	☐				

13. Health practices 1 2 3 4 5 6 7

Y	N	Y	N	Y	N	Y	N	NA
1.1	☐	3.1	☐	5.1	☐	7.1	☐	
1.2	☐	3.2	☐	5.2	☐	7.2	☐	☐
		3.3	☐	5.3	☐			
		3.4	☐					

14. Safety practices 1 2 3 4 5 6 7

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
1.2	☐	3.2	☐	5.2	☐	7.2	☐
1.3	☐	3.3	☐				

A. Subscale (Items 9–14) Score __ __

B. Number of items scored: __ __

PERSONAL CARE ROUTINES Average Score (A ÷ B) __.__ __

LANGUAGE-REASONING

15. Books & pictures 1 2 3 4 5 6 7 — Notes

Y	N
1.1	☐
1.2	☐
3.1	☐
3.2	☐
5.1	☐
5.2	☐
5.3	☐
5.4	☐
5.5	☐
7.1	☐
7.2	☐

16. Encouraging children to communicate 1 2 3 4 5 6 7

Y	N
1.1	☐
1.2	☐
3.1	☐
3.2	☐
3.3	☐
5.1	☐
5.2	☐
7.1	☐
7.2	☐

17. Using language to develop reasoning skills 1 2 3 4 5 6 7

Y	N
1.1	☐
1.2	☐
3.1	☐
3.2	☐
5.1	☐
5.2	☐
7.1	☐
7.2	☐

18. Informal use of language 1 2 3 4 5 6 7

Y	N
1.1	☐
1.2	☐
1.3	☐
3.1	☐
3.2	☐
5.1	☐
5.2	☐
5.3	☐
5.4	☐
7.1	☐
7.2	☐

A. Subscale (Items 15–18) Score ___

B. Number of items scored: ___

LANGUAGE-REASONING Average Score (A ÷ B) ___.___

ACTIVITIES

19. Fine motor 1 2 3 4 5 6 7 — Notes

Y	N
1.1	☐
1.2	☐
3.1	☐
3.2	☐
5.1	☐
5.2	☐
5.3	☐
7.1	☐
7.2	☐

20. Art 1 2 3 4 5 6 7

Y	N	NA
1.1	☐	
1.2	☐	
3.1	☐	
3.2	☐	
5.1	☐	
5.2	☐	
7.1	☐	
7.2	☐	
7.3	☐	☐

21. Music/movement 1 2 3 4 5 6 7

Y	N
1.1	☐
1.2	☐
3.1	☐
3.2	☐
3.3	☐
5.1	☐
5.2	☐
7.1	☐
7.2	☐
7.3	☐

22. Blocks 1 2 3 4 5 6 7

Y	N
1.1	☐
3.1	☐
3.2	☐
3.3	☐
5.1	☐
5.2	☐
5.3	☐
5.4	☐
7.1	☐
7.2	☐
7.3	☐

23. Sand/water 1 2 3 4 5 6 7

Y	N
1.1	☐
1.2	☐
3.1	☐
3.2	☐
5.1	☐
5.2	☐
5.3	☐
7.1	☐
7.2	☐

24. Dramatic play 1 2 3 4 5 6 7 — Notes

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
	☐	3.2	☐	5.2	☐	7.2	☐
	☐	3.3	☐	5.3	☐	7.3	☐
				5.4	☐	7.4	☐

25. Nature/science 1 2 3 4 5 6 7

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
		3.2	☐	5.2	☐	7.2	☐
		3.3	☐	5.3	☐		
				5.4	☐		

26. Math/number 1 2 3 4 5 6 7

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
1.2	☐	3.2	☐	5.2	☐	7.2	☐
				5.3	☐		
				5.4	☐		

27. Use of TV, video, and/or computers 1 2 3 4 5 6 7 NA

Y	N	Y	N	Y	N	NA	Y	N	NA
1.1	☐	3.1	☐	5.1	☐		7.1	☐	☐
1.2	☐	3.2	☐	5.2	☐	☐	7.2	☐	
		3.3	☐	5.3	☐				
				5.4	☐				

28. Promoting acceptance of diversity 1 2 3 4 5 6 7

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
1.2	☐	3.2	☐	5.2	☐	7.2	☐
1.3	☐	3.3	☐				

A. Subscale (Items 19–28) Score ___ ___

B. Number of items scored: ___ ___

ACTIVITIES Average Score (A + B) ___.___ ___

INTERACTION

29. Supervision of gross motor activities 1 2 3 4 5 6 7 — Notes

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
1.2	☐	3.2	☐	5.2	☐	7.2	☐
				5.3	☐	7.3	☐

30. General supervision of children 1 2 3 4 5 6 7

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
1.2	☐	3.2	☐	5.2	☐	7.2	☐
		3.3	☐	5.3	☐		
				5.4	☐		

31. Discipline 1 2 3 4 5 6 7

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
1.2	☐	3.2	☐	5.2	☐	7.2	☐
1.3	☐	3.3	☐	5.3	☐	7.3	☐

32. Staff-child interactions 1 2 3 4 5 6 7

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
1.2	☐	3.2	☐	5.2	☐	7.2	☐
1.3	☐			5.3	☐		

33. Interactions among children 1 2 3 4 5 6 7 — Notes

Y N	Y N	Y N	Y N
1 1 ☐ ☐	3 1 ☐ ☐	5 1 ☐ ☐	7 1 ☐ ☐
1 2 ☐ ☐	3 2 ☐ ☐	5 2 ☐ ☐	7 2 ☐ ☐
1 3 ☐ ☐	3 3 ☐ ☐		

A. Subscale (Items 29–33) Score __ __

B. Number of items scored: __ __

INTERACTION Average Score (A + B) __.__ __

37. Provisions for children with disabilities 1 2 3 4 5 6 7 NA — Notes

Y N	Y N	Y N	Y N
1 1 ☐ ☐	3 1 ☐ ☐	5 1 ☐ ☐	7 1 ☐ ☐
1 2 ☐ ☐	3 2 ☐ ☐	5 2 ☐ ☐	7 2 ☐ ☐
1 3 ☐ ☐	3 3 ☐ ☐	5 3 ☐ ☐	7 3 ☐ ☐
1 4 ☐ ☐	3 4 ☐ ☐		

A. Subscale (Items 34–37) Score __ __

B. Number of items scored: __ __

PROGRAM STRUCTURE Average Score (A + B) __.__ __

PROGRAM STRUCTURE

34. Schedule 1 2 3 4 5 6 7 — Notes

Y N	Y N	Y N	Y N
1 1 ☐ ☐	3 1 ☐ ☐	5 1 ☐ ☐	7 1 ☐ ☐
	3 2 ☐ ☐	5 2 ☐ ☐	7 2 ☐ ☐
	3 3 ☐ ☐	5 3 ☐ ☐	
	3 4 ☐ ☐	5 4 ☐ ☐	

35. Free play 1 2 3 4 5 6 7

Y N	Y N	Y N	Y N
1 1 ☐ ☐	3 1 ☐ ☐	5 1 ☐ ☐	7 1 ☐ ☐
1 2 ☐ ☐	3 2 ☐ ☐	5 2 ☐ ☐	7 2 ☐ ☐
	3 3 ☐ ☐	5 3 ☐ ☐	

36. Group time 1 2 3 4 5 6 7

Y N	Y N	Y N	Y N
1 1 ☐ ☐	3 1 ☐ ☐	5 1 ☐ ☐	7 1 ☐ ☐
1 2 ☐ ☐	3 2 ☐ ☐	5 2 ☐ ☐	7 2 ☐ ☐
		5 3 ☐ ☐	7 3 ☐ ☐

PARENTS AND STAFF

38. Provisions for parents 1 2 3 4 5 6 7 — Notes

Y N	Y N	Y N	Y N
1 1 ☐ ☐	3 1 ☐ ☐	5 1 ☐ ☐	7 1 ☐ ☐
1 2 ☐ ☐	3 2 ☐ ☐	5 2 ☐ ☐	7 2 ☐ ☐
	3 3 ☐ ☐	5 3 ☐ ☐	7 3 ☐ ☐
	3 4 ☐ ☐	5 4 ☐ ☐	

39. Provisions for personal needs of staff 1 2 3 4 5 6 7

Y N	Y N NA	Y N	Y N
1 1 ☐ ☐	3 1 ☐ ☐	5 1 ☐ ☐	7 1 ☐ ☐
1 2 ☐ ☐	3 2 ☐ ☐	5 2 ☐ ☐	7 2 ☐ ☐
	3 3 ☐ ☐	5 3 ☐ ☐	7 3 ☐ ☐
	3 4 ☐ ☐	5 4 ☐ ☐	
	3 5 ☐ ☐ ☐		

40. Provisions for professional needs of staff 1 2 3 4 5 6 7

Y N	Y N	Y N	Y N
1 1 ☐ ☐	3 1 ☐ ☐	5 1 ☐ ☐	7 1 ☐ ☐
1 2 ☐ ☐	3 2 ☐ ☐	5 2 ☐ ☐	7 2 ☐ ☐
1 3 ☐ ☐	3 3 ☐ ☐	5 3 ☐ ☐	

41. Staff interaction and cooperation 1 2 3 4 5 6 7 NA **Notes**

Y	N	Y	N	Y	N	Y	N
1.1	☐	3.1	☐	5.1	☐	7.1	☐
1.2	☐	3.2	☐	5.2	☐	7.2	☐
1.3	☐	3.3	☐	5.3	☐	7.3	☐

42. Supervision and evaluation of staff 1 2 3 4 5 6 7 NA

Y	N	Y	N	Y	N	NA	Y	N
1.1	☐	3.1	☐	5.1	☐		7.1	☐
1.2	☐	3.2	☐	5.2	☐		7.2	☐
				5.3	☐		7.3	☐
				5.4	☐	☐		

43. Opportunities for professional growth 1 2 3 4 5 6 7

Y	N	Y	N	Y	N	Y	N	NA
1.1	☐	3.1	☐	5.1	☐	7.1	☐	
1.2	☐	3.2	☐	5.2	☐	7.2	☐	
		3.3	☐	5.3	☐	7.3	☐	☐
				5.4	☐			

A. Subscale (Items 38–43) Score __ __

B. Number of items scored: __ __

PARENTS & STAFF Average Score (A ÷ B) __.__ __

Total and Average Scores

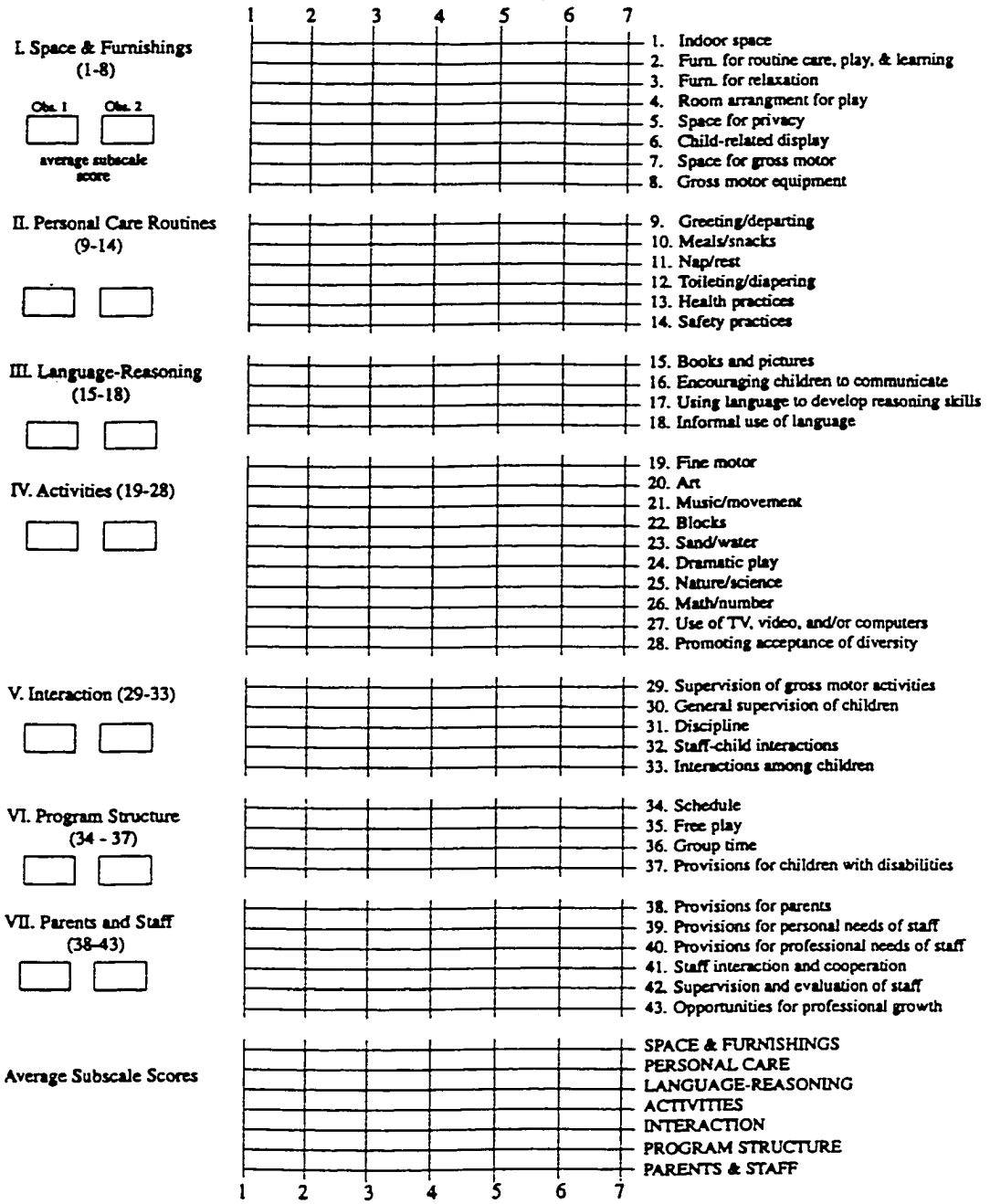
	Total Score	# of Items Scored	Average Score
Space & Furnishings			
Personal Care			
Language-Reasoning			
Activities			
Interaction			
Program Structure			
Parents & Staff			
TOTAL			

Comments and Plans:

ECERS–R Profile

Center/School: _____ Observation 1: __/__/__ Observer: _____

Teacher(s)/Classroom _____ Observation 2: __/__/__ Observer: _____



Reliability Tables

Table 1 Interrater Weighted Kappa Statistics for Individual Items

Item	Weighted Kappa	Number of Classrooms
1. Indoor space	0.62	21
2. Furniture for care, play, learning	0.56	21
3. Furniture for relaxation and comfort	0.84	21
4. Room arrangement for play	0.70	21
5. Space for privacy	0.60	21
6. Child-related display	0.76	21
7. Space for gross motor play	0.79	21
8. Gross motor equipment	0.70	21
9. Greeting/departing	0.54	21
10. Meals/snacks	0.54	21
11. Nap/rest	0.73	21
12. Toileting/diapering	0.61	21
13. Health practices	0.60	21
14. Safety practices	0.59	21
15. Books and pictures	0.72	21
16. Encouraging children to communicate	0.73	21
17. Language for reasoning	0.28	21
18. Informal language	0.59	21
19. Fine motor	0.58	21
20. Art	0.76	21
21. Music/movement	0.79	21
22. Blocks	0.69	21
23. Sand/water	0.76	21
24 Dramatic play	0.75	21
25. Nature/science	0.90	21
26 Math/number	0.69	21
27. TV, video, computers	0.88	16
28. Promoting acceptance of diversity	0.58	21
29. Supervision of gross motor play	0.77	21
30. General supervision	0.66	21
31. Discipline	0.81	21
32. Staff-child interactions	0.65	21
33. Interactions among children	0.70	21
34. Schedule	0.68	21
35. Free play	0.71	21
36. Group time	0.69	21
37. Children with disabilities	0.90	8
38. Provisions for parents	0.65	21
39. Provisions for personal needs of staff	0.70	21
40. Provisions for professional needs of staff	0.61	21
41. Staff interaction and cooperation	0.65	19
42. Staff supervision	0.65	21
43. Professional growth	0.76	21

Table 2 Intra-Class Correlations for ECERS–R Subscales

Scale	Interrater Internal Consistency
Space and Furnishings	0.76
Personal Care Routines	0.72
Language-Reasoning	0.83
Activities	0.88
Interaction	0.86
Program Structure	0.77
Parents and Staff	0.71
Total	0.92

CLASSROOM PRACTICES INVENTORY

After observing, rate each of the statements below,
Using the following scale:

1 = Not at all like this classroom
2 = Very little like this classroom
3 = Somewhat like this classroom
4 = Much like this classroom
5 = Very much like this classroom

ITEMS

Part 1: Program/Activity Focus

1. Children select their own activities from among a variety of learning areas the teacher prepares, including dramatic play, blocks, science, math, games and puzzles, books, recordings, art, and music.	1	2	3	4	5
2. Large group, teacher directed instruction is used most of the time. Children are doing the same things at the same time.	1	2	3	4	5
3. Children are involved in concrete, three-dimensional learning activities, with materials closely related to their daily life experiences.	1	2	3	4	5
4. The teacher tells the children exactly what they will do and when. The teacher expects the children to follow her plans.	1	2	3	4	5
5. Children are physically active in the classroom, choosing from activities the teacher has set up and spontaneously initiating many of their own activities.	1	2	3	4	5
6. Children work individually or in small, child-chosen groups most of the time. Different children are doing different things.	1	2	3	4	5
7. Children use workbooks, ditto sheets, flashcards, and other abstract or two-dimensional learning materials.	1	2	3	4	5

8. Teachers ask questions which encourage children to give more than one right answer.	1	2	3	4	5
9. Teachers expect children to sit down, watch, be quiet, and listen, or do paper and pencils tasks for major periods of time.	1	2	3	4	5
10. Reading and writing instruction emphasizes letter recognition, reciting the alphabet, coloring within the lines, and being instructed in the correct formation of letters.	1	2	3	4	5
11. Teachers use activities such as block building, measuring ingredients for cooking, woodworking, and drawing to help children learn concepts in math, science, and social studies.	1	2	3	4	5
12. Children have planned lessons in writing with pencils, coloring predrawn forms, tracing, or correct use of scissors.	1	2	3	4	5
13. Children use a variety of art media, including easel and finger painting, and clay, in ways of their choosing.	1	2	3	4	5
14. Teachers expect children to respond correctly with one right answer. Memorization and drill are emphasized.	1	2	3	4	5
15. When teachers try to get children involved in activities, they do so by stimulating children's natural curiosity and interest.	1	2	3	4	5
16. The classroom environment encourages children to listen to and read stories, dictate stories, notice print in use in the classroom, engage in dramatic play, experiment with writing by drawing, copying, and inventing their own spelling.	1	2	3	4	5
17. Art projects involve copying an adult-made model, coloring predrawn forms, finishing a project the teacher has started, or following other adult directions.	1	2	3	4	5
18. Separate times or periods are set aside to learn material in specific content areas such as math, science, or social studies.	1	2	3	4	5

19. Children have daily opportunities to use pegboards, puzzles, legos, markers, scissors, or other similar materials in ways the children choose.	1	2	3	4	5
20. When teachers try to get children involved in activities, they do so by requiring their participation, giving rewards, disapproving of failure to participate, etc.	1	2	3	4	5

Part 2: Emotional Climate (answer primarily with reference to head teacher)

1. Teachers show affection by smiling, touching, holding, and speaking to children at their eye level throughout the day, but especially at arrival and departure.	1	2	3	4	5
2. The sound of the environment is marked by pleasant conversation, spontaneous laughter, and exclamations of excitement.	1	2	3	4	5
3. Teachers use competition, comparison, or criticism as guidance or discipline techniques.	1	2	3	4	5
4. Teachers talk about feelings. They encourage children to put their emotions (positive and negative) and ideas into words.	1	2	3	4	5
5. The sound of the environment is characterized either by harsh noise or enforced quiet.	1	2	3	4	5
6. Teachers use redirection, positive reinforcement, and encouragement as guidance or discipline techniques.	1	2	3	4	5

Instructional Activities Survey

1998 Version--Modified

Please check the box that best represents the average frequency of each statement

How often do children in your class:	Almost Never (less than monthly)	Rarely (monthly)	Sometimes (weekly)	Regularly (2-4 times a week)	Very Often (daily)
1. Build with blocks					
2. Select from a variety of learning areas and projects the teacher makes available (i.e., construction, art, music, science, experiences, etc.)					
3. Participate in dramatic play					
4. Have their work displayed in the classroom					
5. Experiment with writing by drawing, copying, and using their own invented spelling					
6. Play with games and puzzles					
7. Explore science materials (animals, plants, wheels , gears, etc.)					
8. Sing and/or listen to music					
9. Move creatively in planned activities					
10. Color and cut freely (only self-drawn shapes, no predrawn shapes)					
11. Use manipulatives (like pegboards, Legos, and Unifix Cubes)					
12. Do commercially-prepared phonics activities					
13. Work in predetermined ability level groups					
14. Circle, underline, and/or mark items on worksheets					
15. Use flashcards with ABCs, sight words, and/or math facts					
16. Participate in rote counting					
17. Practice handwriting on lines					
18. Help other children get or work with materials if they are unable to do it alone (i.e., if a child with a special need cannot do an activity alone)					
19 Color, cut, and paste pre-drawn forms					

How often do children in your class:	Almost Never (less than monthly)	Rarely (monthly)	Sometimes (weekly)	Regularly (2-4 times a week)	Very Often (daily)
20 Participate in whole class teacher directed instruction					
21 Discuss how children in the class are similar and how they are each unique individuals					
22. Sit for long periods of time (i.e., 15 minutes or more)					
23. Meet people with special needs (ex., a speaker or character in a book)					
24. Lose special privileges (trips, recess, free time, parties, etc.) for unacceptable behavior					
25 Participate in nonstereotypical activities					
26. Receive social reinforcers (verbal encouragement, approval, attention, etc.) for appropriate behavior and/or performance					
27. Get placed in time-out (such as isolation, sitting on a chair, in a corner, or being sent outside of the room)					
28. Have parents read stories or share a skill or hobby with the class					
29. Participate in specifically planned outdoor activities					
30. Participate in culturally diverse activities					
31. Play					
32 Draw, paint, work with clay, and use other art media					
33 Solve concrete math problems that are incorporated into other subject areas					

Please respond to the following items by circling the number that most nearly represents YOUR PERSONAL BELIEFS about the importance of that item to you.

1	2	3	4
I strongly disagree with this statement.	I somewhat disagree with this statement.	I somewhat agree with this statement.	I strongly agree with this statement.

1. I plan the same activities each year.	1	2	3	4
2. Conferences are a time to meet other early childhood professionals.	1	2	3	4
3. I am able to justify my actions in the classroom.	1	2	3	4
4. It is not necessary to plan activities every day.	1	2	3	4
5. If another teacher were to speak badly of a family within hearing of another family, I don't believe believe it would be important for someone to discuss the issue with her.	1	2	3	4
6. I observe the children in my care before planning curriculum.	1	2	3	4
7. I would like to be best friends with every parent.	1	2	3	4
8. Children learn little from play.	1	2	3	4
9. One of the most important issues in early care and education is higher pay for teachers.	1	2	3	4
10. I buy items for my classroom out of my own money.	1	2	3	4
11. I will do whatever is required to continue working with young children.	1	2	3	4
12. I worry that children aren't learning if they don't participate at group time.	1	2	3	4
13. I believe its important to continue learning.	1	2	3	4
14. Other teachers ask me for my opinion on classroom programming.	1	2	3	4

	1 I strongly disagree with this statement.	2 I somewhat disagree with this statement.	3 I somewhat agree with this statement.	4 I strongly agree with this statement.
15. I read the journal Oklahoma Child Care Quarterly.	1	2	3	4
16. The Professional Development Record works well for me.	1	2	3	4
17. I often feel like the mother of the children in my care.	1	2	3	4
18. I plan to be working in early childhood ten years from now.	1	2	3	4
19. I prefer parents pick up and drop off quickly.	1	2	3	4
20. I believe the best/only method of becoming a teacher of young children is to get a degree.	1	2	3	4
21. Early childhood conferences are a waste of my time.	1	2	3	4
22. I read journals like Young Children and Dimensions.	1	2	3	4
23. If I felt a teacher I supervise should not be a teacher of young children, I would tell her.	1	2	3	4
24. I am interested in telling my legislator what I know about children's care and my job.	1	2	3	4
25. I think the amount of money I earn is what the job is worth.	1	2	3	4
26. I don't need to know more than I already know.	1	2	3	4
27. I see myself as a professional.	1	2	3	4
28. Children with special needs function better in special classrooms.	1	2	3	4
29. I plan to leave the early childhood field within one year.	1	2	3	4

1 I strongly disagree with this statement.	2 I somewhat disagree with this statement.	3 I somewhat agree with this statement.	4 I strongly agree with this statement.

30. I always speak to children at their eye level. 1 2 3 4

31. I don't maintain a record of my professional development because it is too much of a hassle. 1 2 3 4

32. To do a good job, I put in a lot of time while I'm at home. 1 2 3 4

33. A degree in early childhood/child development is helpful for teachers in child care. 1 2 3 4

34. Conferences are a time to learn more about young children. 1 2 3 4

35. I don't have the time to read journals and newsletters. 1 2 3 4

36. Being able to tell others what is best for children is important. 1 2 3 4

37. I believe parents should be involved in planning educational programs for their children. 1 2 3 4

38. I don't believe early childhood professionals need to advocate with their legislators. 1 2 3 4

39. College courses are not important for child care staff. 1 2 3 4

(circle one)

40. Are you a member of any national level professional organization? yes no
(for example, NAEYC, NCCA, ACEI)

41. Are you a member of any state level professional organization? yes no
(for example, Early Childhood Association of Oklahoma, Friends of Child Care, Oklahoma Child Care Association)

42. For Two-Star Programs only:
Why did you become a Master Teacher?

_____

_____

_____

_____

[redacted]

JAMES M. KOUZES/BARRY Z. POSNER

LEADERSHIP PRACTICES INVENTORY [LPI]

SELF

[redacted]

INSTRUCTIONS

[redacted] On the next two pages are thirty statements describing various leadership behaviors. Please read each carefully. Then look at the rating scale and decide *how frequently you engage in the behavior* described.

Here's the rating scale that you'll be using:

1 = Almost Never	6 = Sometimes
2 = Rarely	7 = Fairly Often
3 = Seldom	8 = Usually
4 = Once in a While	9 = Very Frequently
5 = Occasionally	10 = Almost Always

In selecting each response, please be realistic about the extent to which you *actually* engage in the behavior. Do *not* answer in terms of how you would like to see yourself or in terms of what you should be doing. Answer in terms of how you *typically* behave—on most days, on most projects, and with most people.

For each statement, decide on a rating and record it in the blank to the left of the statement. [redacted]

Copyright © 1997 James M. Kouzes and Barry Z. Posner. All rights reserved

LEADERSHIP PRACTICES INVENTORY [LPI]

SELF

To what extent do you typically engage in the following behaviors? Choose the number that best applies to each statement and *record it in the blank to the left of the statement.*

1	2	3	4	5	6	7	8	9	10
Almost Never	Rarely	Seldom	Once in a While	Occasionally	Sometimes	Fairly Often	Usually	Very Frequently	Almost Always

____ 1. I seek out challenging opportunities that test my own skills and abilities.

____ 2. I talk about future trends that will influence how our work gets done.

____ 3. I develop cooperative relationships among the people I work with.

____ 4. I set a personal example of what I expect from others.

____ 5. I praise people for a job well done.

____ 6. I challenge people to try out new and innovative approaches to their work.

____ 7. I describe a compelling image of what our future could be like.

____ 8. I actively listen to diverse points of view.

____ 9. I spend time and energy on making certain that the people I work with adhere to the principles and standards that we have agreed on.

____ 10. I make it a point to let people know about my confidence in their abilities.

____ 11. I search outside the formal boundaries of my organization for innovative ways to improve what we do.

____ 12. I appeal to others to share an exciting dream of the future.

____ 13. I treat others with dignity and respect.

____ 14. I follow through on the promises and commitments that I make.

____ 15. I make sure that people are creatively rewarded for their contributions to the success of our projects.

Copyright © 1997 James M. Kouzes and Barry Z. Posner All rights reserved



1	2	3	4	5	6	7	8	9	10
Almost Never	Rarely	Seldom	Once in a While	Occasionally	Sometimes	Fairly Often	Usually	Very Frequently	Almost Always

____ 16. I ask "What can we learn?" when things do not go as expected.

____ 17. I show others how their long-term interests can be realized by enlisting in a common vision.

____ 18. I support the decisions that people make on their own.

____ 19. I am clear about my philosophy of leadership.

____ 20. I publicly recognize people who exemplify commitment to shared values.

____ 21. I experiment and take risks even when there is a chance of failure.

____ 22. I am contagiously enthusiastic and positive about future possibilities.

____ 23. I give people a great deal of freedom and choice in deciding how to do their work.

____ 24. I make certain that we set achievable goals, make concrete plans, and establish measurable milestones for the projects and programs that we work on.

____ 25. I find ways to celebrate accomplishments.

____ 26. I take the initiative to overcome obstacles even when outcomes are uncertain.

____ 27. I speak with genuine conviction about the higher meaning and purpose of our work.

____ 28. I ensure that people grow in their jobs by learning new skills and developing themselves.

____ 29. I make progress toward goals one step at a time.

____ 30. I give the members of the team lots of appreciation and support for their contributions.

Now turn to the response sheet and follow the instructions for transferring your responses.

Copyright © 1997 James M. Kouzes and Barry Z. Posner. All rights reserved

[redacted]

JAMES M. KOUZES/BARRY Z. POSNER

LEADERSHIP PRACTICES INVENTORY [LPI]

OBSERVER

[redacted]

INSTRUCTIONS about your director

You are being asked [redacted] On the next two pages are thirty statements describing various leadership behaviors. Please read each statement carefully. Then look at the rating scale and decide *how frequently this leader engages in the behavior* described.

Here's the rating scale that you'll be using:

1 = Almost Never	6 = Sometimes
2 = Rarely	7 = Fairly Often
3 = Seldom	8 = Usually
4 = Once in a While	9 = Very Frequently
5 = Occasionally	10 = Almost Always

In selecting each response, please be realistic about the extent to which the leader *actually* engages in the behavior. Do *not* answer in terms of how you would like to see this person behave or in terms of how you think he or she should behave. Answer in terms of how the leader *typically* behaves—on most days, on most projects, and with most people.

For each statement, decide on a rating and record it in the blank to the left of the statement. [redacted]

Copyright © 1997 James M. Kouzes and Barry Z. Posner All rights reserved

LEADERSHIP PRACTICES INVENTORY [LPI]

OBSERVER

To what extent does this person typically engage in the following behaviors? Choose the number that best applies to each statement and record it in the blank to the left of the statement.

1	2	3	4	5	6	7	8	9	10
Almost Never	Rarely	Seldom	Once in a While	Occasionally	Sometimes	Fairly Often	Usually	Very Frequently	Almost Always

He or She:

____ 1. Seeks out challenging opportunities that test his or her own skills and abilities.

____ 2. Talks about future trends that will influence how our work gets done.

____ 3. Develops cooperative relationships among the people he or she works with.

____ 4. Sets a personal example of what he or she expects from others.

____ 5. Praises people for a job well done.

____ 6. Challenges people to try out new and innovative approaches to their work.

____ 7. Describes a compelling image of what our future could be like.

____ 8. Actively listens to diverse points of view.

____ 9. Spends time and energy on making certain that the people he or she works with adhere to the principles and standards that have been agreed on.

____ 10. Makes it a point to let people know about his or her confidence in their abilities.

____ 11. Searches outside the formal boundaries of his or her organization for innovative ways to improve what we do.

____ 12. Appeals to others to share an exciting dream of the future.

____ 13. Treats others with dignity and respect.

____ 14. Follows through on the promises and commitments that he or she makes.

____ 15. Makes sure that people are creatively rewarded for their contributions to the success of projects.

Copyright © 1997 James M Kouzes and Barry Z Posner All rights reserved



1	2	3	4	5	6	7	8	9	10
Almost Never	Rarely	Seldom	Once in a While	Occasionally	Sometimes	Fairly Often	Usually	Very Frequently	Almost Always

He or She:

____ 16. Asks "What can we learn?" when things do not go as expected.

____ 17. Shows others how their long-term interests can be realized by enlisting in a common vision.

____ 18. Supports the decisions that people make on their own.

____ 19. Is clear about his or her philosophy of leadership.

____ 20. Publicly recognizes people who exemplify commitment to shared values.

____ 21. Experiments and takes risks even when there is a chance of failure.

____ 22. Is contagiously enthusiastic and positive about future possibilities.

____ 23. Gives people a great deal of freedom and choice in deciding how to do their work.

____ 24. Makes certain that we set achievable goals, make concrete plans, and establish measurable milestones for the projects and programs that we work on.

____ 25. Finds ways to celebrate accomplishments.

____ 26. Takes the initiative to overcome obstacles even when outcomes are uncertain.

____ 27. Speaks with genuine conviction about the higher meaning and purpose of our work.

____ 28. Ensures that people grow in their jobs by learning new skills and developing themselves.

____ 29. Makes progress toward goals one step at a time.

____ 30. Gives the members of the team lots of appreciation and support for their contributions.

Now turn to the response sheet and follow the instructions for transferring your responses.

Copyright © 1997 James M. Kouzes and Barry Z. Posner. All rights reserved.

Appendix E

University of Oklahoma
Instructional Leadership & Academic Curriculum
Reaching for the Stars
820 Van Vleet Oval, Norman, OK 73019

Dear Teacher,

Thank you for agreeing to participate in our "Reaching for the Stars" study of child care. The study is being conducted by Loraine Dunn of University of Oklahoma and is funded by the Presbyterian Health Foundation. As explained on the telephone, the purpose of the study is to learn about the "Reaching for the Stars" licensing program and about life in Oklahoma child care programs. We hope that the information gained from the study will help the state find ways to make child care better for children, families, and the staff who serve them.

We will be looking at the classroom environment, staff education/experience, caregivers' ideas about teaching and working in child care, director's leadership of the center, and children's social and intellectual development.

If you agree to participate the following will occur. We will visit your classroom twice, once to observe the environment and once to observe two children (see below). We will also ask you to complete a series of questionnaires about your background, classroom practices, ideas about being a teacher, and perceptions of how the director leads the center. We will randomly select two children from your classroom to study. With the consent of their parents we will observe the children's play and interview them to assess their understanding of early literacy and mathematics ideas. There will also be a short questionnaire about the children's language development for you to complete. The parents will be asked to complete short questionnaires about their family and their ideas about parenting. You will receive a small monetary gift ($15) for helping us with the project.

All information obtained about you, your classroom, and the children and parents will be kept confidential. No one but members of the research team will have access to the information collected. The research reports will not identify individual programs, staff members, or children; the reports will only give averages of all programs across the state.

Your participation in this study is completely voluntary and will not have any impact on your employment or the DHS licensure of your program. If you agree to participate you may change your mind and withdraw from the study at any time by contacting one of us at the numbers below. We will be happy to answer any questions you have about the study. You may also contact the Office of Research Administration at the University of Oklahoma, 405-325-4757, if you have any questions about your rights as a participant in this study. Please sign the attached form indicating whether or not you are willing to participate. We appreciate your help with this study. Your participation will make a difference.

Loraine Dunn
Project Director
405-325-1509

Sue Tabor
Project Coordinator
405-325-1641

Sarah Vinch
Project Coordinator
405-325-1641

University of Oklahoma
Teacher Informed Consent
Reaching for the Stars Study

I understand that:

- The purpose of this research is to examine the "Reaching for the Stars" program and life in Oklahoma child care programs. Loraine Dunn is in charge of the study and it has been funded by the Presbyterian Health Foundation. Findings from the study will suggest ways to make child care in Oklahoma better. If I have any questions about the study I may contact Loraine Dunn (405-325-1509) or Sarah Vinch (405-325-1641) or Sue Tabor (405-325-1641). I may also contact the OU Office of Research Administration at 405-325-4757 for questions about the rights of research participants.

- There will be two observations of my classroom, one of the environment and one of two children. I will complete questionnaires about my background, classroom practices, ideas about being a teacher, perceptions of how the director leads the center, and the language development of the two children.

- Parental consent will be obtained for two children to participate in the study. The children will be observed in the classroom and interviewed about their literacy and mathematics understanding.

- The parents of these two children will complete family background and parenting questionnaires.

- Participation in the study is voluntary. My participation will not affect my employment or my program. I may change my mind about agreeing to participate at any time and withdraw from the study without penalty by contacting Sarah Vinch at 405-325-1641 or Sue Tabor at 325-1641.

- All information received during the study will be kept confidential and stored in a locked office. No names or identifying information will be released in the research reports.

- My participation does not involve any risks beyond those encountered in everyday life. The questionnaires will take about 1 hour to complete. I will receive a small gift ($15) for helping with the study.

_____Yes, I will participate in this study.

_____ _____

Your Signature Date

University of Oklahoma
Instructional Leadership & Academic Curriculum
Reaching for the Stars
820 Van Vleet Oval, Norman, OK 73019

Dear Director,

Thank you for allowing your center to participate in our "Reaching for the Stars" study of child care. The study is being conducted by Loraine Dunn of the Univeristy of Oklahoma and is funded by the Presbyterian Health Foundation. As explained on the telephone, the purpose of the study is to learn about the Reaching for the Stars licensing program and about life in Oklahoma child care programs. We hope that the information gained from the study will help the state find ways to make child care better for children, families, and the staff who serve them.

We will be looking at the classroom environment, staff education/experience, caregivers' ideas about teaching and working in child care, director's leadership of the center, and children's social and intellectual development.

If you agree for your program to participate the following will occur. We will select one 3- or 4-year-old classroom to study. With the consent of the teacher we will visit the classroom twice, once to observe the environment and once to observe two children (see below). We will also ask the teacher to complete a series of questionnaires about her background, classroom practices, ideas about being a teacher, and perceptions of how the director leads the center. We will randomly select two children from her classroom to study. With the consent of their parents we will observe the children's play and interview the children to assess their understanding of early literacy and mathematics ideas. The teacher will complete a short questionnaire about the children's language development. The parents will be asked to complete short questionnaires about their family and their ideas about parenting. The teacher of this classroom will receive a small monetary gift ($15) for helping us.

We will also ask for information from you and the other full-time teachers in your center. Specifically, we will ask you to complete questionnaires about the center, the staff, your background, and how you lead the center. The other teachers in your center will be asked about their ideas about working in the field of child care and their perceptions of how the director leads the center. Your center will receive a small donation ($15) for helping with the project.

All information obtained about you, your program, the children and parents, and your staff will be kept confidential. No one but members of the research team will have access to the information collected. The research reports will not identify individual programs, staff members, or children; the reports will only give averages of all programs across the state.

Your participation in this study is completely voluntary and will not have any impact on the DHS licensure of your program. If you agree to participate you may change your mind and withdraw from the study at any time by contacting one of us at the numbers below. We will be happy to answer any questions you have about the study. You may also contact the Office of Research Administration at the University of Oklahoma, 405-325-4757, if you have any questions about your rights as a participant in this study. Please sign the attached form indicating whether or not you are willing to participate. We appreciate your help with this study.

Your participation will make a difference.

Loraine Dunn
Project Director
405-325-1509

Sue Tabor
Project Coordinator
405-325-1641

Sarah Vinch
Project Coordinator
405-325-1641

University of Oklahoma Director Informed Consent
Reaching for the Stars Study

I understand that:

- The purpose of this research is to examine the "Reaching for the Stars" program and life in Oklahoma child care programs. Loraine Dunn is in charge of the study and it has been funded by the Presbyterian Health Foundation. Findings from the study will suggest ways to make child care in Oklahoma better. If I have any questions about the study I may contact Loraine Dunn (405-325-1509) or Sarah Vinch (405-325-1641) or Sue Tabor (405-325-1641). I may also contact the OU Office of Research Administration at 405-325-4757 for questions about the rights of research participants.

- I will complete questionnaires about my background, my center and staff, and how I lead the center.

- The teachers in my center will complete questionnaires about working in child care and their perceptions of how the director leads the center.

- There will be two observations of a 3- or 4-year-old classroom, one of the environment and one of the children. The teacher in this classroom will complete questionnaires about her background, classroom practices, ideas about being a teacher, perceptions of how the director leads the center, and the language development of two of the children. She will receive a small gift ($15) for participating.

- Parental consent will be obtained for two children to participate in the study. The children will be observed in the classroom and interviewed about their literacy and mathematics understanding.

- The parents of these two children will complete family background and parenting questionnaires.

- Participation in the study is voluntary. My participation will not affect my employment or my program. I may change my mind about agreeing to participate at any time and withdraw myself and my center without penalty by contacting Sarah Vinch at 405-325-1641 or Sue Tabor at 405-325-1641.

- All information received during the study will be kept confidential and stored in a locked office. No names or identifying information will be released in the research reports.

- My participation does not involve any risks beyond those encountered in everyday life. My questionnaires will take about 30 minutes to complete. The center will receive a small donation ($15) for helping with the project.

_____Yes, I will participate in this study.

_____ _____

Your Signature Date

University of Oklahoma
Instructional Leadership & Academic Curriculum
Reaching for the Stars
820 Van Vleet Oval, Norman, OK 73019

Dear Teacher,

We are writing to invite you to participate in our "Reaching for the Stars" study of child care. The study is being conducted by Loraine Dunn of the University of Oklahoma and is funded by the Presbyterian Health Foundation. The purpose of the study is to learn about the Reaching for the Stars licensing program and about life in Oklahoma child care programs. We hope that the information gained from the study will help the state find ways to make child care better for children, families, and the staff who serve them.

We will be looking at the classroom environment, staff education/experience, caregivers' ideas about teaching and working in child care, director's leadership of the center, and children's social and intellectual development.

If you agree to participate, the following will occur. You will complete two questionnaires about your experiences in the child care profession and your perceptions of how the director leads the center. You will return these surveys sealed in the enclosed envelope to a designated location in your center. Your center will receive a small monetary donation ($15) for participating the study.

All information obtained about you and your center will be kept confidential. No one but members of the research team will have access to the information collected. The research reports will not identify individual teachers or programs; the reports will only give averages across the state.

You participation in this study is completely voluntary and will not have any impact on your employment or the DHS licensure of your program. If you agree to participate, you may change your mind and withdraw from the study at any time by contacting one of us at the numbers below. We will be happy to answer any questions you have about the study. You may also contact the Office of Research Administration at the University of Oklahoma, 405-325-4757, if you have any questions about your rights as a participant in this study.

Your participation will make a difference.

Loraine Dunn
Project Director
405-325-1509

Sue Tabor
Project Coordinator
405-325-1641

Sarah Vinch
Project Coordinator
405-325-1641

University of Oklahoma
Teacher Informed Consent
Reaching for the Stars Study

I understand that:

- The purpose of this research is to examine the "Reaching for the Stars" program and life in Oklahoma child care programs. Loraine Dunn is in charge of the study and it has been funded by the Presbyterian Health Foundation. Findings from the study will suggest ways to make child care in Oklahoma better. If I have any questions about the study I may contact Loraine Dunn (405-325-1509) or Sarah Vinch (405-325-1641) or Sue Tabor (405-325-1641). I may also contact the OU Office of Research Administration at 405-325-4757 for questions about the rights of research participants.

- I will complete questionnaires about my experiences in the child care profession and my perceptions of how the director leads the center.

- Participation in the study is voluntary. My participation will not affect my employment or my program. I may change my mind about agreeing to participate at any time and withdraw from the study without penalty by contacting Sarah Vinch at 405-325-1641 or Sue Tabor at 325-1641.

- All information received during the study will be kept confidential and stored in a locked office. No names or identifying information will be released in the research reports.

- My participation does not involve any risks beyond those encountered in everyday life. My questionnaires will take about 15 minutes to complete. The center will receive a small donation ($15) for participating.

_____Yes, I will participate in this study.

_____ _____

Your Signature Date