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A Descriptive-Comparative Study of Professional Development and Observed Quality in Early Care and Education Programs

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Abstract

With over 12 million children enrolled in early care and education programming across the U.S., families with children under the age of 5 years old are dependent on these programs. Although highly important, little regulation exists regarding qualifications necessary for individuals to work in these programs. Consequently, individuals in the field bring a plethora of professional development experiences, skills, and competencies. This variance is partly a result of the uncertainty surrounding what should be required. Major information about the impact training and education have on these programs is missing from quantitative research, including capturing content and quantity, accurate measurement of professional development, and clear and consistent definition and categorization of training and education across studies.

To contribute to the advancement of accurately describing and understanding effective teachers' professional development experiences in terms of content, quantity, intensity, and duration, a descriptive-comparative design was used to explore how the professional development experiences of teachers in 10 good quality early care and education classrooms (as measured by the Early Childhood Environment Rating Scale-Revised [ECERS-R]) differed from the professional development experiences of teachers in 10 poor quality classrooms serving children ages 2½ to 5 years old. Well-defined and recommended categorizations of training, education, and documentation of staff qualifications were used. Other factors that might influence instructional quality, such as program, classroom, and support staff characteristics, were examined as well. Between-group differences of 30% or more were interpreted as interesting.

Numerous between-group differences emerged regarding teacher education, training, and credentials. Among these findings, teachers in the good quality cohort were more likely to have completed course content specific to early care and education, including specific combinations of coursework in conjunction with supervised practical experience. The intensity and duration of teachers' exposure to course content was also greater in this cohort. Furthermore, in describing differences, new categories and definitions emerged, including piecemeal and comprehensive education, piecemeal and comprehensive training, content clustering, solo teaching, and hierarchical structuring of staff. These findings can be used as emerging foundations for larger scale research.

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Rebecca Romeyn

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DEVELOPMENT AND OBSERVED QUALITY IN EARLY CARE AND
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Introduction

Background

> Information on the characteristics of the early care and education work-force and the professional development experiences that contribute to their skills and competencies is essential to programs serving children and families. (Zaslow & Martinez-Beck, 2006, p. 2)

With over 12 million children enrolled in early care and education (ECE) programming across the U.S., the fabric of life for families with children under the age of 5 years old is highly dependent on these programs (National Research Council of Institute Medicine [NRCIM], 2000). Although highly important, little regulation exists regarding qualifications necessary for individuals to enter this workforce (National Child Care Information and Technical Assistance Center [NCCIC], 2008). Consequently, individuals in the field bring a plethora of professional development experiences, skills, and competencies to this field (Bergen, 2009; Karweit, 1993; National Research Council [NRC], 2001; Zaslow & Martinez-Beck, 2006).

Researchers (Zigler & Lang, 1991) have suggested that this variance is partly a result of the uncertainty surrounding what should be required. To help ascertain which professional development experiences may be more effective than others, this research used a descriptive-comparative design to examine, describe, and compare characteristics of the professional development experiences of teachers from "poor quality" and "good quality" programs. A selection of 10 lead teachers in preschool classrooms, serving children 2½ to 5 years of age, scoring within the "poor quality" range on the Early

Childhood Environment Rating Scale-Revised (ECERS-R, a global measure of quality) and 10 lead teachers in classrooms scoring within the "good quality" range were selected. This exploratory approach is discussed further in the chapter addressing methods.

Defining Early Care and Education (ECE)

The term *ECE* is used to describe a wide variety of early childhood programs that serve the dual purpose of caring for and educating children. It can be defined as "a continuum of services ranging from those established specifically to care for children while their parents are at work, to those established primarily to provide an educational enrichment experience for young children" (Whitebook, Sakai, Gerber, & Howes, 2000, p. v). As Whitebook and colleagues noted, "in practice, most programs for young children . . . include elements of *care and education*" (p. v).

In its current state, ECE can easily be conceptualized as an enormous bowl of fruit. In this scenario, apples, oranges, tangerines, grapes, bananas, kiwis, and other fruits with different tastes, shapes, textures, and nutritional value are tossed together and simply referred to as "a fruit bowl." Similarly, in the field of ECE, a multitude of programs designed to serve children from birth to 6 years old are tossed together under the guise of "early care and education." Falling within this continuum of services are programs commonly known as child care, early childhood education, day care, nursery school, preschool, pre-kindergarten, and Head Start. Different regulatory systems contribute to this variety of labels. For example, child care programs in general must adhere to state licensing regulations that guide practice and designate a program type based on the ages of children enrolled and the environment in which services are provided (Morgan, 2007). Pre-kindergarten programs associated with public schools adhere to Department of

Education regulations, while Head Start programs have their own set of standards to guide practice. Contributing further to the variety is the fact that each program may also adhere to its own philosophy, mission, curriculum, and standards, all of which influence a program's practices and self-selected label. However, what the programs have in common is the role of providing elements of care as well as educational experiences for young children outside of their homes. That commonality is, in essence, the bowl the multifarious fruit share.

A Growing Trend

As comedian Chris Rock's character said in the movie *Head of State* (2003),

Childcare is one of the most important issues facing this country today. The working mother has to take her child to a nanny. The nanny has to take her child to a babysitter. The babysitter has to take her child to daycare . . . .

While the 1800s marked the inception of programs geared toward caring for young children outside of their home (and moving young children out of the labor industry), more recently the 1960s marked the beginning of an upward trend toward enrolling children in ECE programs to meet child developmental needs (Ackerman, 2004; Ladd & Coleman, 1993; Whitebook, 2003). In 1977, approximately 4.3 million U.S. children under the age of 6 were in ECE programs. A decade later, estimates more than doubled to 8.8 million children. By 1997, 63% of children under the age of 6 were in ECE programs in the U.S. (12.4 million children), and by the end of the 20th century, 68% of children were enrolled (Clarke-Stewart & Allhusen, 2005).

Early childhood researchers posited: "As the 21st century dawns, child care is a fact of life for the majority of young children in the United States who spend at least

some time in non-maternal care before they embark on kindergarten or enter first grade"
(National Institute of Child Health and Human Development [NICHD], 2000, p. 116).
The National Research Council of Institute Medicine (2000) noted that, within the
momentum of an increasing number of children participating in nonparental care and the
growing trend toward childcare programs providing services beyond caring for children
out of their homes (i.e., offering learning opportunities and preparation for school,
support for parents, food and nutrition programs, and even access to developmental
screenings), "previous distinctions between 'early education' or 'preschool' and
'daycare' have unraveled" (p. 299).

This increased enrollment results from many factors, including changes in
demographics (such as families moving farther away from kin) and, more significantly,
an increase in mothers entering the workforce. Low-income parents entering the
workforce because of welfare reform is yet another contributing factor (United States
General Office of Accounting [GOA], 2002).

An additional factor contributing to increased enrollment is the growing public
awareness of brain and child development research demonstrating that exposure to peers
and the right stimulus at an early age will help children to develop the social-emotional
skills (i.e., positive peer interactions, self-regulation, on-task behavior) and academic
skills (i.e., cognitive skills, language and literacy abilities) necessary for "Kindergarten
Readiness" or "School Readiness" (Ladd & Coleman, 1993; NRCIM, 2000; No Child
Left Behind Act of 2001 [NCLB], 2001). Resulting political policies, such as the No
Child Left Behind Act and The Good Start, Grow Smart Act (see Glossary) help to drive

and fund this increase (U.S. Department of Health and Human Services Administration

for Children and Families Child Care Bureau [USDHHS], 2004).

The Professional Development Dilemma

ECE is one of the fastest growing professions in this country (Clarke-Stewart &

Allhusen, 2005; NRCIM, 2000). Approximately 1.2 million individuals earn a living by

caring for and educating children under the age of 6-years-old in the U.S. in formal

settings (National Association of Child Care Resource and Referral Agencies

[NACCRRA], 2006). However, until recently, the qualifications required for teachers to

work with pre-kindergarten-aged children were few. The conceptual shift of perceiving

work in the field of ECE as a true profession, rather than glorified baby-sitting is a slow

one (Howes, 1997), particularly when the distinction between caregivers and educators is

so unclear. In the experience of this researcher, even within the field (i.e., in practice and

in research), terms such as *childcare provider*, *caregiver*, *early childhood educator*, and

teacher are used interchangeably, without regard to qualifications.

Interestingly, this difficulty in embracing ECE as a professional field resonates

with the mindset received when kindergarten programming was introduced in this

country. Morgan (2007) elucidated that, as far back as 1873, when kindergarten programs

were met first with acceptance in the U.S.,

> uncertainty existed in the preschool education and care profession. At a
> time when few adults were trained to educate children under the age of
> six, the common query was, "Why would anyone need special training to
> teach little ones?" (p. ix)

Indeed, this uncertainty still exists today. As of 2004, most states did not require

any college coursework for an individual to take on the role of a teacher in a community-

based ECE program, that is, a licensed childcare program (Ackerman, 2004). In fact, many states allowed individuals to work in the field with little or no qualifications (Phillips, Lande, & Goldberg, 1990).

At the inception of this study, only 18 states had pre-service training requirements, and those varied greatly (Ackerman, 2004). For example, to be a teacher in a community-based ECE program in the state of Arizona, an individual was qualified if he or she was at least 18 years old. In Tennessee, an individual was qualified if he or she was at least 18 years of age, able to read and write, and had a high school diploma or equivalent and a Child Development Associate credential (CDA; see Glossary) or a diploma from a state area vocational school. In the state of Colorado, a person had to be 18 years of age and hold a bachelor's degree in any field or have 36 months (5,460) of verified experience in the field. As recently as 2005, the Children's Defense Fund surmised: "Cosmetologists must attend as much as 2,000 hours of training before they can get a license, yet, 37 states allow teachers in child care centers to begin working with children without receiving any training in early childhood development" (Children's Defense Fund, 2005).

Notably, since the commencement of this study, numerous states have increased staff qualification requirements or have plans to make requirements more stringent (see Table 1 for currents examples of state requirements for center-based child care and state-financed pre-K programs). In Colorado, requirements for teacher qualifications have evolved to be more stringent. For example, as of May 2008, the annual requirement of 9 clock hours, which was in effect at the time of data collection, increased to 15 clock hours of ongoing training a year.

Table 1

Examples of Variability in Minimum Teacher Qualifications by State.

| States | Teachers in Child Care Centers | | State Financed Pre-K |
	Minimum Pre-service Qualifications	Ongoing In-service Training Hrs	Minimum ECE Pre-service Qualifications
Alabama	None	12	BS Child Development, Birth-School Age BS ECE covers k-3 ,with P-3 add-on (if hired before 2006 when implemented, 3 yrs to meet requirement)
Arizona	18 yrs old & 6 months exp	12	BA w/ ECE Certificate (July 2009)
Arkansas	None	10	BA/BS (single classroom sites) AA/AS (multiple classroom sites)
California	Regional Occupation Program certificate of training in child care, 95 hrs in child care and development, and 150 hrs exp	0	CDA
Colorado	18 yrs old: BA **or** 36 months/5,460 hrs exp	15	ECE coursework & supervision by individual w/ BA in ECE or Child Development
Delaware	Completion of a vocational child care program and 12 months exp	18	CDA
Georgia	None	10	AA in ECE or Montessori Certificate
Illinois	CDA or CCP	15	BA w/ECE certificate
Maryland	90 hrs early childhood development and programming and 1 yr of exp	3	BA w/newborn-3 certificate
Massachusetts	2-year vocational child care course	20	BA w/ ECE certificate (public); None (nonpublic)
Tennessee	None	12	BA w/ Pre-K endorsement license
Vermont	CDA	12	BA w/ECE or ECSE endorsement
Washington	None	10	Specialized coursework

Sources: Whitebook (2003); Ackerman (2004); NCCIC (2008); NIEER (2007). *Note.* HS = High School; hrs = hours; exp = experience; yrs = years; DHS = Department of Human Services; ECE = related to Early Childhood Care & Education; ECSE = Early Childhood Special Education; CDA = Child Development Associate credential; GED = Graduate Equivalency Degree; BA = Bachelor of Art; CCP = Certified Child Care Professional Credential awarded by the National Child Care Association. Pre-service = Training and/or education that occurs prior to entering the field of ECE. In-Service = Training that occurs once in field.

By May 2010, additional requirements will be instated. The range of training and education requirements proposed is disparate. For example, proposed requirements for lead teachers include (Colorado Department of Human Services, n. d.):

A. A bachelor's degree from a regionally accredited college in a related field (i.e., ECE; Elementary Education; Special Education, Family and Child Development; or Child Psychology).
OR

B. A 2-year college degree in child development or early childhood education from a regionally accredited college or university.
OR

C. Current certification as a Child Development Associate (CDA) or Certified Child Care Professional (CCP) or other Department-approved credential.
OR

D. Completion of two years of college education, sixty semester hours, from a regionally accredited college or university with at least 1 college course in child development, plus six months (910 hours) of verified experience in the care and supervision of four or more children under six years of age who are not related to the individual.
OR

E. Twelve semester hours in college-level credits from a regionally accredited college or university in the area of child growth and development and/or early childhood education, plus nine months (1,395 hours) of verified experience in the care and supervision of four or more children under six years of age who are not related to the individual.

F. Completion of a course of training approved by the department that includes training and work experience with children.
OR

G. Completion of a vocational or occupational education sequence in child growth and development plus twelve months (1,820 hours) of verified experience in the care and supervision of four or more children under six years of age who are not related to the individual.
OR

H. Twenty-four months (3640 hours) of verified experience in the care and supervision of four or more children under six years of age who are no related to the individual plus either;
  1) A current Colorado Level I credential
     OR

2) Two, three-credit college courses from a regionally accredited college or university with one course being Introduction to Early Childhood Education.

Pursuant to these professional development standards, all college course grades must be *C* or better for lead teachers while nonacademic options contain no minimal quality provisions. Additionally, beginning May 2010, assistant teachers will need to be 21 years old and have at least one year (1,820 hours) of verified experience in the care and supervision of four or more children under 6 years of age who are not related to the individual. In general, "experience" for center-based teaching staff encompasses being a licensee of a family childcare home; a teacher's aide or teacher in a childcare center, preschool, or elementary school; or work with disabled children (Colorado Department of Human Services, Division of Child Care, n.d.).

Colorado's changes to the Group Leader Qualifications are the result of stakeholder collaboration to revise the rules and regulations as a basis for consistent licensing practices throughout the state and the promotion of quality through licensing. Extensive expert feedback and political considerations regarding readily available professional development opportunities have factored into these decisions (Colorado Licensing Models Work Group, 2006), which helps explain the disparate requirements. Concerns and logistics helped shape these requirements:

> Eliminating the "experience-only" method of becoming group leader qualified (even within a three-year phase in) was source of great concern. Directors and owners felt it would be impossible to find enough qualified staff to meet licensing ratio requirements without this method. Concern arose regarding college-level class requirements as an undue hardship on older staff and staff in rural areas, as well as the capacity to provide enough college classes to make this requirement feasible. (p. 4)

Given the concern that experience alone, particularly in a low-quality program, would not suffice, numerous options combining professional development and experience resulted, including the option of a Level I credential for which a Group Leader candidate could pass a competency test to avoid the requirement of completing coursework (Colorado Licensing Models Work Group, 2006).

Furthermore, the professional development changes instituted by Head Start played a large role in these increased requirements (S. Opsahl, personal communication, November 11, 2009). Recently, Congress passed new Head Start professional-development requirements. These requirements become increasingly more stringent moving into 2013. For example, currently, each Head Start classroom in center-based programs must have a teacher (i.e., Lead Teacher) who has at least a CDA appropriate to the age of the children being served (USDHHS, 2008). By October 1, 2011, each Head Start classroom in center-based programs must have a teacher who has at least an AA in early childhood education. By September 30, 2013, at least 50% of Head Start teachers nation-wide must have one of two options: either a baccalaureate or advanced degree in Early Childhood Education or a baccalaureate or advanced degree in any subject and coursework equivalent to a major relating to early childhood education, with experience teaching preschool-age children (USDHHS, 2008).

To add further to the general professional development mix, state financed pre-kindergarten programs (e.g., public pre-kindergarten programs) tend to require meeting more stringent qualification standards; however, these also vary, looking different from state to state (National Institute for Early Education Research, 2007). For example, numerous states (Alabama, Arizona, Illinois, Maryland, Tennessee, Massachusetts,

Vermont, etc.) require a bachelor degree with an ECE endorsement, yet *endorsement* may mean completion of ECE training in one state, completion of ECE coursework through a state-approved college, or passing a competency exam or a combination of such. Georgia requires an associate degree in ECE or a related field, whereas Colorado, Delaware, and New Hampshire require a Child Development Associate credential (see Glossary).

Adding yet further to this issue of professional development variability, some Head Start programs fall under the auspices of public school systems, with the public school serving as the grantee or delegate to the Head Start program (Clifford et al., 2005). Moreover, some publicly funded pre-K classrooms are housed in community-based ECE centers; hence, lead teachers in the same program but different classrooms, may need to meet diverse professional development standards based on their classrooms' funding mechanisms (Clifford et al., 2005).

Ackerman (2004) suggested the issue of variability in professional development standards can be attributed to "a misleading distinction between early care and education and children's 'real' k-12 education, or even the 'folk belief' that one merely needs to possess maternal qualities to be suitable for the job" (p. 315). Zigler and Lang (1991) suggested that this variance is partly a result of an uncertainty surrounding what should be required. Ironically, this uncertainty is compounded, at least in part, by a lack of consensus in the research literature regarding the definition and categorization of training and education that is intended to inform "best practice" for the professional development of the ECE workforce.

As Tout, Zaslow, and Berry (2006) explained,

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definitions are vital given the wide variation across researchers in the use of terminology to describe professional development in the ECE workforce. This lack of agreement on terminology impedes attempts to look across studies to consider patterns of findings. . . . For example, some researchers use training to encompass early childhood content obtained within or outside of the formal education system, whereas others use the word training to refer to professional development that occurs outside of the formal education system, through such contexts as in-service workshops, community workshops, and workshops at professional meetings. (pp. 79-80)

Indeed, throughout the review of the literature for this study, terms such as *training*, *informal training*, *education*, *formal education*, *specialized training*, and *specialized education* are used interchangeably, at times creating a sense that one is again comparing apples to oranges. For example, in some studies, *specialized training* refers to high school, vocational, or college level courses in the field (e.g., Roupp, Travers, Glantz, & Coelen, 1979; NICHD, 2000; Whitebook, Howes, & Phillips, 1990). In other studies (Ex. Arnett, 1989), the term "training," as noted by Tout and colleagues (2006), is used to categorize these same types of professional development pathways.

Some researchers used *formal education* in reference to the completion of college coursework or degrees unrelated to the field and *specialized education* as college coursework and degrees related to the field (e.g., Clarke-Stewart & Gruber, 1984). Other researchers used interchanging terminology within their own research. For example, Howes (1997) used *informal training* to describe workshops and *formal education* to describe the completion of college coursework in the first half of her research and then, in operationalizing her variables, the category of "ECE Training" encompasses informal workshops as well as college degrees in the field. Throughout the literature review for this study, clarification of researchers' use of terminology is provided in parentheses.

In order to address issues that impede understanding and agreement in the field regarding practical qualification requirements, there are four issues that need to be addressed: operationalizing professional development, measuring professional development, defining quality, and measuring quality. These are discussed in the following sections.

Operationalizing Professional Development Pathways

To address the issue of poor definition in the field, based on a review of over 18 studies, Maxwell, Field, and Clifford (2006) identified three components to help operationalize professional development terminology. The first category is "education," which they define as professional development that occurs within the formal education system. Education can be broken down into two subcategories: (a) overall education regardless of content and (b) education that is content specific to understanding and working with young children.

The second professional development component identified by Maxwell and colleagues (2006) is training. *Training* refers to professional development that occurs outside the formal education system. Examples include in-service trainings; local, state or national conferences; and online trainings. The third component is the attainment of a credential by meeting specific state and local requirements or completing such formalized training programs as a Child Development Associate credential, Montessori certification, early childhood education teacher certification, director qualifications, or vocational certification. In general, teacher licensing, certification, and credentials all fall under this category. While these items are not the same, Maxwell and colleagues (2006) ascertained

that they all establish that holders have gone through a qualification process intended to indicate sufficient expertise to work effectively in the field.

To clarify meaning, this terminology is used throughout this study. To easily and consistently differentiate between the two education subcategories of Maxwell and colleagues (2006), college experiences that are content specific to understanding and working with young children are referred to as *content specific* or *ECE related* and college experiences lacking ECE content are referred to as *unrelated field*.

Measuring Professional Development

Inadequate or inaccurate measurement or identification of actual education and training is another factor confounding research on what is actually needed for quality programs:

> [T]he research literature pertaining to the early childhood workforce precludes researchers from making confident and consistent recommendations to policy makers because the literature is riddled with a fundamental problem: poor definition and measurement of the early childhood professional workforce. (Maxwell et al., 2006, p. 17)

Poor measurement in existing research can be attributed to researchers depending on self-report in collecting professional development information from study participants. As a result, conclusions drawn from such studies must be interpreted with caution due to human error, which is intrinsic to data collected in this manner (Maxwell et al., 2006; Raikes, Raikes, & Wilcox, 2005). Another limitation involves researchers turning detailed information into simple binary (i.e., training or no training, formal education or no formal education) or multiple categories in which different experiences are combined (e.g., CDA or associate degree; certification, vocational/adult education training or degree in a related field) to fit neatly and robustly into quantitative analysis (Curenton,

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2006). Because of the diversity of the definitions of these variables, it is impossible to compare findings across studies to determine the actual content and quantity of education that is needed for quality teachers (Maxwell et al., 2006). Maxwell and colleagues contended that the actual content and quantity of different professional development experiences need to be examined and suggested that strategies, such as reviewing actual transcripts, must be employed.

To address the issue of measurement, this study uses a qualitative design in which detailed descriptions of the developmental pathways of 20 ECE lead teachers (as well as their classroom and supervisory support staff) were pulled directly from submitted transcripts, diplomas, training certificates, and certification certificates. This research is described further in the chapter on methods.

Defining Quality in Early Care and Education

Whether in reference to policy, practice, or research, much discourse is taking place in relation to how quality is defined in early care and education programs. Notably, the question of what professional development requirements or standards should be cannot be answered without understanding the standards being employed to define quality.

There is consensus that quality early care and education is important (e.g., Burchinal, Howes, & Kontos, 2002; Calder, 1996; Helburn, 1995; Peisner-Feinberg & Burchinal, 1997); however, there is less consensuses regarding how it should be defined. Post modernists in the field ascertain that "quality" is a socially constructed concept that is by no means neutral (Dahlberg, Moss, & Pence, 1999). Indeed, entrenched in subjectivity, quality can be defined from many perspectives and for each viewpoint, there

is more than likely to be a differing outlook (Cryer, 1999). However, in broad theoretical terms, most child development researchers agree that quality "is defined as children's experiences that enhance rather than impede children's social, cognitive, and emotional development" (Howes, 1997, p. 405).

To delineate further the quality in terms of what children experience, researchers have coined the terms *process quality* and *structural quality* (Howes & Hamilton 1993). *Process quality* refers to the components of ECE settings directly experienced by children. These aspects include the space, materials, and activities the program offers for children; the interactions between children and adults, and children and their peers; the use of language; and the handling of children's personal care routines, such as meals, toileting, and rest.

Structural quality, a more neutral construct of quality, refers to characteristics that affect the processes children experience. Albeit less theoretically controversial than process quality standards, they can be viewed as cost prohibitive. These aspects include group size, adult-child ratios, the training and education of staff, staff wages, teacher-retention, and parent fees (Cryer, 1999). A relationship between structural and process quality has been determined (Whitebook et al., 1990). For example, in a program with high levels of structural quality, such as small group sizes, low adult-to-child ratios, well-trained and educated staff, higher than average wages, and low teacher turnover, one is more likely to observe appropriate caregiver practices (Howes & Hamilton, 1993).

In an ECE setting offering high levels of process quality, caregivers interact in warm nurturing ways with children by planning and implementing developmentally

appropriate activities, and creating a responsive learning environment (Howes &

Hamilton, 1993; NRCIM, 2000; Whitebook, 2003). Cryer (1999) further elaborated:

> In defining ECE process quality, early childhood professionals have depended heavily on the practitioners' concepts of best practice and, whenever possible, on findings from child development research. . . . The definition emphasizes practices that are assumed to encourage language; intellectual and physical abilities; social competence, including a balance of independence and cooperation; as well as emotional well-being. It is characterized by a child-centered approach to raising children, emphasizing, children's play and interactions with materials and peers as the primary means of attaining developmental goals . . . the adult's role is to act as a facilitator of children's enriched play and to provide protection, positive attention, and access to information, resources, support, and guidance. (p. 41)

This child-centered approach to quality is often referred to as developmentally

appropriate practice (DAP). It is based largely on Piaget's theory that the role of the

teacher is to set up an environment that allows children to be free to select objects and

subjects to explore based on their interests (Morgan, 2007). Through this self-directed

exploration, Piagetians assume a child will acquire knowledge. In the 1950s, John

Dewey's Progressive Education Movement propelled Piaget's child-centered theories to

the vanguard of pedagogy. In direct opposition to the rigid, teacher-centered approach of

the time, Dewey and followers embraced environments in which children were

encouraged to organize and participate in their own learning (Morgan, 2007).

Today, DAP is embraced in the criteria used by the National Association for the

Education of Young Children (NAEYC), a national accreditation agency (Bredekamp,

1987) and the Environment Rating Scales (ERS) (Harms & Clifford, 1980; Harms &

Clifford, 1989; Harms, Clifford, & Cryer, 1998; Harms, Cryer, & Clifford, 1990). These

popular benchmarks are widely used to define and assess quality in ECE programs. Both

have drawn their criteria from research and nominations from early childhood experts and practitioners. As "best practices" and definitions of quality evolve in the field, so do these forms of assessments. Revisions intended to address changing practices are made based on feedback from practitioners, early childhood experts, and researchers.

DAP is not without its critics. As Wishard, Shivers, Howes, and Ritchie (2003) argued, values and belief systems help define perceptions of "best practice":

> While most parents and child care providers agree on core definitions of child care quality, there is less agreement over what constitutes 'best practices.' For example, some parents and providers believe that young children should select their own play activities, while others advocate a more structured approach to early learning. Practices . . . appear to be deeply embedded within value and belief systems that are rooted in ethnicity, community, and social class…programs that emphasize individual needs over collective experiences or child initiated learning over didactic learning have been criticized as not reflecting the values and beliefs of other than White culture. (p. 67)

Bowman (2006) added:

> Developmental learning and cultural learning are inextricably joined. While developmental capabilities are inborn potential, adults structure and organize the experiences children have so that they learn a particular culture's way of representing them. There is no such thing as developmental competence outside of a cultural context. And, given the diversity around the world, there are obviously many different ways to achieve developmental competence. (p. 45)

More generally, critics are concerned that standardized approaches to defining and assessing quality force programs to conform to external values and in essence "teach to the test." As teachers become more familiar with an assessment, they rely less on curriculum as the basis of their practice and more on the criteria on which they are being assessed (Corbett & Wilson, 1991).

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Along a similar line, comes the argument that standardized approaches force programs to "think in the box." In essence, assessments that measure quality in early childhood programs use specific criteria to judge programs. As a result, programs are assessed on how they conform to the criteria of the assessment and their underlying norms (permeated by social, cultural, political, and moral influences and trends) rather than an understanding of the program and its intent (Dahlberg et al., 1999).

Yet, Bowman (2006) elucidated:

When a program has no standards it really means that everyone gets to use their own standards without subjecting them to scrutiny. Expectations are hidden behind such statements as "We teach what is best for each individual" and "we use the teachable moment, so you can't plan ahead or predict what children will learn." The result here is that is difficult to determine what teachers are teaching and what children are learning. (p. 43)

Furthermore, despite the criticisms, early childhood researchers contend that "if a relationship between the definition [of quality] and the desired outcomes are found; the definition becomes valid for those who value that outcome" (Cryer, 1999, p. 45). Notably, process quality, as observed through the Early Childhood Environment Rating Scale, has been found to be predictive of desired child outcomes, including social-competence, language development, and cognitive functioning (e.g., Helburn, 1995; Peisner et al., 2000; Peisner-Feinberg & Burchinal, 1997; Whitebook et al., 1990); hence, the widespread embrace of this tool as an overall measure of quality practices in the field. This is discussed further in the next section on measuring quality.

Measuring Quality

The Early Childhood Environment Rating Scale (ECERS, 1980; ECERS-R, 1998) has been linked to positive child outcomes in two important studies in the field: *The*

National Child Care Staffing Study (Whitebook et al., 1990) and *The Cost, Quality, and Child Outcomes Study* (Helburn, 1995). These studies and more recent follow-up studies (e.g., Peisner et al., 2000; Peisner-Feinberg & Burchinal, 1997), have demonstrated that quality in preschool programs (serving children ages 2½ - 5 years old), as measured by the ECERS-R, is predictive of a range of "desired" developmental outcomes for children. These outcomes include: social-competence (i.e., minimal display of disruptive, aggressive, or withdrawn behavior; display of pro-social behaviors, such as initiating and participating in peer play), language development (i.e., receptive language skills), and cognitive functioning (i.e., ability to associate pictures and symbols, letter-word recognition; comprehension of basic numeracy, comparisons of different numbers of items, counting, and solving mathematical problems; and cognitive attention). As a result, the tool is thought to have predictive validity (Harms et al., 1998), although recent studies have begun to challenge this belief (see the section on limitations).

Originally developed as a self-assessment tool for early childhood teachers and administrators in childcare centers and preschool programs, the ECERS-R has become an increasingly prevalent measure of quality in ECE-based research (e.g., Arnett, 1989; Burchinal, Cryer, Clifford, & Howes, 2002; Cassidy, Buell, Pugh-Hoese, & Russel, 1995; Scarr, Eisenberg, & Deater-Deckard, 1994; Whitebook et al., 2000). Numerous other assessments exist to measure specific components of process quality in early care and education environments. For example, the Caregiver Interaction Scale (Arnett, 1989) is an observational measure of caregiver sensitivity (e.g., levels of positiveness, punitiveness, permissiveness, and detachment). The Observation Record of the Caregiving Environment (NICHD Early Child Care Research Network, 1996) examines a

teacher's behavior with a specific child (e.g., levels of detachment-disengagement, stimulation of cognitive development, sensitivity-responsivity, intrusiveness-overcontrol). The Early Language and Literacy Classroom Observation (Smith & Dickenson, 2002) assesses classroom elements that promote language and literacy development (e.g., organization and contents of the classroom, presence and use of technology, oral language facilitations, curriculum integrations). However, because of its comprehensive examination of process quality and its research base, the Early Childhood Environment Rating Scale-Revised (ECERS-R; Harms et al., 1998) is the most widely used tool worldwide to assess overall quality in early care and education settings serving children ages 2½ years to 5 years of age (Whitebook et al., 2000).

In the U.S., licensing and professional reward decisions are increasingly contingent on Environment Rating Scale (ERS) tools. (The developers of the ECRS-R have also created the widely used Infant Toddler Environment Rating Scale [ITERS], which measures quality in infant and toddler classrooms, and the Family Day Care Rating Scale [FDCRS], which is used to measure quality in family day care homes.) For example, an ECERS-R assessment is a prerequisite for teachers' ongoing participation in the California Compensation and Recognition Encourage Stability (CARES) program. Results of the assessment are used to help outline classroom strengths and areas for improvement by having results used to help teachers create professional development plans and to determine where quality improvement stipends can best be spent. The results are also the criterion used for selecting mentor teachers for the California Early Childhood Mentor Program (Sakai, Whitebook, Wishard, & Howes, 2003).

Program evaluation efforts in which ERS are used include Mississippi's Partners for Quality Care Project, which is designed to measure the impact of TANF-funded Child Care Enhancement Grants. Iowa also uses the ECERS-R to evaluate its Shared Vision Preschool Programs. In addition, currently 13 of 17 states implementing quality rating systems (QRS) as ECE quality improvement initiatives use the ECERS-R to measure the level of quality children experience in classrooms serving children 2½ to 5 years old and to delineate areas of strength, as well as areas targeted for improvement (National Child Care Information Center, 2008). For example, in Colorado, the ERS are the quality measurements used in the state's Qualistar Rating by which the state's voluntary QRS is administered through Qualistar Early Learning. In 2007, the Denver Preschool Program (DPP) was launched as the result of a voter-approved sales-tax initiative intended to provide tuition credits for parents and quality improvement grants to preschools. In partnership with Qualistar Early Learning, DPP offers providers a funded opportunity to improve the quality of their programs. Denver area preschool providers who participate in a quality rating through DPP can receive quality-improvement grants (i.e., materials and supplies, professional development, and coaching).

The ECERS-R (Harms et al., 1998) was chosen as the measure of process quality for Qualistar's QRS (and consequent evaluative study of its QRS from which data for this study are a subset) because of its comprehensive examination of process quality and widely accepted use in the field. This study used data from Qualistar's much larger evaluative study to examine more specifically various dimensions of teacher professional development experiences in comparison to classroom quality. As a result, the ECERS-R

was not specifically selected for this study *per se*; however, characteristics of the ECERS-R's make it particularly appealing for use in this study.

In particular, three characteristics stand out. First, the measurement uses both words and numbers to describe the quality of observed classroom practices (e.g., room arrangement, interactions, supervision, language stimulation, guidance, materials, activities, arrangement of schedule, etc.). For example, scores serve as a barometer for the level of observed classroom quality. Observer documentation regarding whether practices valued as "quality" were observed or not and observers' written examples, including quotes and reflections, are included as well. Together, this documentation provides significant details regarding what children experienced on the day of the observation. Second, the ECERS-R is considered a valid and reliable tool, and all observers hired to collect data for Qualistar are required to undergo rigorous reliability training and testing with regular reliability checks (see "Methods" chapter). Hence, comparisons can be drawn between classrooms and cohorts with confidence that quality was observed through the same lens to a great degree (i.e., the assumption being inter-rater reliability of at least 0.85). Third, the tool's global appeal allows comparisons to be drawn with other studies using the measure.

Historical Perspective

> [T]here are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns — the ones we don't know we don't know. (Rumsfeld, 2002)

The past 3 decades have yielded numerous studies correlating lead teacher professional development to the quality of care and educational experiences children receive in early childhood settings. A review of the literature sheds light on the degree to

which existing research informs the field, as well as contributes to the ambiguity in knowing which professional development pathways lead to effective classroom practices. The literature review also reflects the different tools researchers use to measure quality. Notably, throughout the review, the ERS are used extensively as global measures of classroom quality.

Large scale, systematic investigation into the impact of staff training and education on quality in childcare settings began in 1979 with the National Day Care Study (Roupp et al., 1979). In this comprehensive, quasi-experimental study ($N = 57$), the role of caregiver qualifications in predicating the caregiver's competence in dealing with children was examined. Competence was measured through the frequency (or lack thereof) of specific observed behaviors, including social interactions (caregiver-child interactions as well as peer interaction), classroom management techniques (child-centered versus authoritarian management techniques), and on-task behavior (versus aimless wandering) by children.

In this study, Roupp et al. (1979) used such terminology as *training relevant to young children* to describe high school training programs as well as post-high school vocational training. The term *specialized education* is used to describe college coursework relevant to young children (e.g., courses covering topics such as day care, early childhood education, child development, elementary education, and child psychology). However, a serious limitation to the study is that training and education could not be differentiated due to a limited sample size. As a result, terminology such as *child-related education/training*, *training and specialized education*, and *specialized preparation* are used interchangeably to describe caregivers who completed relevant

training, pertinent college coursework, or both. Due to this lack of differentiation, it could not be determined whether child-related training effectively impacted the practices of lead teachers with little formal education. Additionally, data regarding caregiver qualifications was collected through self-report (i.e., interview), with no systematic check on the accuracy of the caregivers' reports. Thus, the researchers concede, validity and reliability (i.e., consistency of an individual's self-report on different occasions) must be assumed.

Those limitations aside, through correlation and regression analysis, Roupp and colleagues (1979) found caregivers with specialized preparation to be a key predictor of the quality of care children receive in childcare centers. For example, preschool-aged children enrolled in rooms with lead teachers with more early childhood related training and/or education displayed more cognitive competency (as measured by the Preschool Inventory [PSI]). Caregivers with "specialized preparation" (i.e., early childhood related training and/or education) were also observed spending more time in social interactions with children (as measured by the Adult Focus Inventory [AFI]). For example, positive interactions such as questioning, instructing, responding, praising, and comforting occurred 28% more often in classrooms with lead teachers with early childhood related training and/or education. Additionally, an association was found between children's level of social competency (as measured by the Child Focus instrument [CFI]) and the completion of relevant training and/or education by the lead teacher. For example, children in classrooms supervised by lead teachers who had completed specialized preparation were more likely to demonstrate cooperative, compliant, and on-task behavior.

Markedly, this study also revealed that the total years of lead preschool teachers' experience in the field, as well as years of education, degrees, and certifications that were unrelated to the field, were found to have no correlation with the selected measures of quality. As a result, Roupp et al. (1979) suggested that caregiver qualifications should not be framed in terms of overall education (i.e., formal education regardless of content) or work experience. Nevertheless, 27 years later many states' requirements "imply interchangeability of training and experience, or education and experience . . . often educational requirements are framed in terms of degrees or diplomas without regard for major area of study" (Roupp et al., 1979, p. 102). Notably, other studies have since replicated Roupp and colleagues' finding that teacher experience is not a significant indicator of quality (Helburn, 1995; Whitebrook, Howes, & Phillips, 1990).

Several subsequent studies examined "formal education" (defined in the studies as college coursework) as a predictor of quality care (Arnett, 1989; Berk, 1985; Burchinal, Cryer et al., 2002; Clarke-Stewart & Gruber 1984; Howes, 1997; NICHD, 2000; Phillips, 2000; Phillipsen, Burchinal, Howes, & Cryer, 1997; Whitebook et al., 1990). Repeatedly, higher quality care was observed from staff who had achieved formal education at the baccalaureate level. Though certainly illuminating that there is a need for professional development pathways to be extended beyond what is currently required, these findings are problematic because of limitations and even contradictions. For example, Clarke-Stewart and Gruber (1984) found that children who had teachers with higher levels of formal education but less training specifically in child development (i.e., defined as ECE related coursework) were more socially competent, whereas children with teachers who had completed more specialized training in child development were more competent in

cognitive activities. In a follow-up to their 1984 study, Clarke-Stewart, Gruber, and

Fitzgerald (1994) concluded that teachers who take extensive early childhood coursework

tend to focus more on "academic activities," such as reading and counting, and to focus

less on activities that support children's social-emotional development. Children in these

classrooms tended to be advanced academically but lacked competence in interacting

with an unknown peer. Interestingly, children with caregivers who had moderate training

tended to do equally well both academically and socially.

Berk's (1985) findings also lend credence to the conclusion that formal education

is positively correlated with positive teacher behaviors (i.e., behaviors that stimulate

children cognitively and socially). In this study, detailed narratives ("stream of behavior

records") describing the behaviors of 37 Caucasian teachers working in a small

Midwestern city, in 12 childcare centers serving predominantly middle-class children

ages 3 to 5 years old, were collected and coded using the Prescott, James, and

Kritchevsky (1967)observational and category system for coding day caregiver behavior.

As Berk described:

> The flow of teacher activity was divided into "units." A unit of behavior
> was defined as an identifiable contact with an object or personal; any
> change in the direction of the teacher's behavior terminated that particular
> unit. (p. 107)

Through this coding system, teacher behavior regarding (a) the sociality of the

teacher's behavior (i.e., communicative and directed to individuals, small groups or large

groups or non-communicative), (b) the goal or purpose of the teachers' communicative

behavior (i.e., encouragement, direction, guidance, or restriction), and (c) the promotion

of children's verbal skills through teacher's behavior (i.e., behavior that helped children's

ability to listen, helped children to express themselves verbally, or supported children's verbal comprehension) was provided. Additionally, each teacher completed a job satisfaction questionnaire as well as a survey of child-oriented attitudes (i.e., attitudes toward children, views of punishment, and general attitudes about relationships with children). Notably, the method for teacher education data collection is not indicated (i.e., self-report, actual documentation, etc.).

Relationships between teacher behaviors, attitudes, and beliefs with three levels of teacher preparation were examined including the following: (a) high school versus college education, (b) unrelated versus child-related college major, (c) certification versus non-certification and type of certification (i.e., early childhood, elementary, or secondary education). Berk (1985) found that within this particular group of teachers, the completion of a college education (unrelated or related to working with children) was associated with increases in encouraging behavior and decreases in restrictive teacher behavior, both of which are considered quality indicators. Teachers who had completed at least 2 years of college coursework were 3 times more likely to support child development of verbal skills (e.g., putting feelings, ideas, and reasons into words; explaining meanings and giving factual information) and more likely to use indirect forms of guidance (e.g., choices, encouragement) than teachers whose highest level of preparation was high school.

In summarizing the relationships between formal education, child-oriented attitudes, and supportive teacher behaviors, Berk (1985) surmised that a college education, in any field, provides a foundation that influences a belief-system (i.e., coherent, rational beliefs, and values) that guides positive teacher behavior. Special

preparation in child development, early childhood education, or other related fields further augments positive teacher behavior. Markedly, in examining a subset of teachers who had completed 4 years of college and received teacher certification, ECE certification was related most to the caregiver's child-oriented attitudes. However, no significant difference was found between behaviors of teachers with ECE, elementary, or secondary certifications, prompting Berk to speculate that individuals with elementary and secondary certifications are able to adapt their behaviors to work with younger children.

Despite the study's small and homogenous sample and the fact that it makes a distinction only between teachers who completed high school and teachers who finished at least 2 years of college (i.e., distinctions between AA, BA, and MA degrees were lost when they were combined into a single category for analysis due to limited sample size), this study is seminal in the argument that an overall college education, regardless of content, is just as effective as a college education content specific to understanding and working with young children. Twenty-two years later, this study is cited frequently in substantiating the need for formal education, general or specialized, for preparing early childhood educators (Whitebook, 2003).

Arnett's 1989 study was the first to venture into differentiating "specialized levels of training" (training in this study encompasses both ECE related training and ECE related formal education) in an attempt to ascertain how much is necessary to enhance caregiver skills relevant to effective classroom management and positive interactions with children. Arnett (1989) examined the "training" of 59 caregivers, from 22 childcare programs on the Island of Bermuda, at four levels: (a) no training; (b) completion of the

first two courses (Communication and Child Development) of a four course, 2-year Bermuda College training program; (c) completion of the entire Bermuda College training program (Communication, Child Development, Childcare and Preschool Activities, and a two-week practicum); (d) completion of a 4-year college education in early care and education or a closely related area. Arnett concluded that more training was associated with less authoritarian child-rearing attitudes (i.e., self-direction valued over an emphasis for children to conform). A significant difference in effect was found at each level of training, particularly between caregivers with a bachelor degree in ECE or closely related field as compared to those whose training was categorized at the other three levels. In essence, caregivers with more early childhood training (i.e., a degree in ECE or a related field) were more likely to favor a child-centered approach for classroom management practice, considered highly favorable in the field (Bredekamp, 1988).

With regard to positive interactions, again, staff with 4-year degrees in ECE or a related field, were rated higher than staff whose training was categorized in the other three levels. Interestingly, Arnett (1989) found no difference between caregivers who completed the first year of the 2 years of the Bermuda College training program and caregivers who had finished the entire program. However, Arnett warns that concluding the completion of one year of the program is just as effective as completing the entire program is erroneous. A more likely explanation is that all students who participate in the first year of the training program complete courses specifically relating to effective ways to understand, communicate, and relate to young children, which are beneficial in positively influencing caregiver interactions with children. The second year of courses covers nutrition and developmentally appropriate preschool curricula, which though

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associated with quality, were not directly measured in this study. The important finding from this study is that even modest training (i.e., two courses) can enhance specific skills of caregivers. Additionally, caregivers graduating with a baccalaureate in ECE are most effective in attitudes and beliefs regarding classroom-behavior management as opposed to caregivers with less training.

The National Child Care Staffing Study (Whitebook et al., 1990) offers similar findings. In this multi-site, large sample study ($N = 1300$), findings indicate caregiver education best predicts caregiver behavior. Caregivers with more formal education are more effective in the classroom, as captured by the ERS (ITERS or ECERS as appropriate) and the Caregiver Interaction Scale ([CIS]; Arnett, 1989). For example, teachers with a bachelor degree in any subject or specialized training at the college level are likely to show sensitivity and less likely to demonstrate harsh or detached behavior in interactions with children. The researchers found that a bachelor degree in any subject or "specialized training at the college level" (i.e., ECE related coursework) to be effective routes for professional development in the field.

The Cost, Quality and Child Outcomes Study (CQCO, 1996) also used the ECERS and CIS (among other tools) to examine the impact of teacher preparation on educator behavior. Concerning training and education, lead teachers with at least a bachelor's degree in ECE were observed as the most sensitive in their interactions with children. Teachers with an associate degree in ECE ranked next. This study helped distinguish the benefits of a bachelor's degree in ECE over an associate degree in ECE. However, an associate degree in ECE appeared to be the threshold to teacher responsiveness. Additionally, children taught by educators with at least an associate

degree in ECE scored higher in receptive language (as measured by the Peabody Picture Vocabulary Test-R [PPVT-R]; Dunn & Dunn, 1981). A notable limitation of the study is that staff qualifications were based on self-report. On a side note, this seminal study helped create a national response through its portrayal of a national childcare crisis, indicating that "only one in seven centers provides a level of quality that promotes healthy development . . . seven in ten centers are providing mediocre care [as measured by the ECERS; Harms & Clifford, 1980] which may compromise children's ability to enter school ready to learn" (Helburn, 1995, p. 1).

The groundbreaking *National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network Study of Early Child Care: A Comprehensive Longitudinal Study of Young Children's Lives* (1993) produced data used in numerous follow-up studies assessing children's experiences in childcare. It is considered groundbreaking due to its use of a national, multisite sample for exploring children's experiences across an array of nonmaternal care arrangements commonly used by families in the U.S. In the 2000 Characteristics and Quality of Child Care for Toddlers and Preschooler follow-up study, caregiver level of education was found to be a predictor of positive caregiving across five different types of care (e.g., centers, childcare homes, in-home sitters, grandparents, and fathers). However, researchers were surprised to find that "specialized training" (operationalized in this study as high school or vocational level courses and college level course) in child care and development was not significantly associated with positive care giving. They conjectured that examining the impact of specialized training at only three levels—(a) none, (b) high school or vocational level courses, (c) and college level courses—limited their results. Consequently, a

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recommendation for studies implementing more differentiated measures of caregiver training was made by the research team.

Meanwhile Snider and Fu (1990) explored the impact of ECE related education (also referred to as *training* in this study) on teachers' understanding of DAP. They indicated that, in a DAP classroom,

> the teacher understands the needs and interests of the child and is able to prepare an environment that enables children to discover new information and form new concepts through play and exploration. The teacher supports but does not control the child's play and allows the child to assimilate new information according to his/her own interest. (p. 70)

In total, 73 teachers had their understanding of developmentally appropriate classroom practices measured by their responses to 12 classroom vignettes designed specifically for this study. Each teacher's highest level of education and the content of their coursework were measured by surveys, based on self-reporting. Snider and Fu's (1990) findings indicated that college courses in early childhood education and child development are the most effective in creating foundations for developmentally appropriate practices when combined with supervised practical experience, such as practicum or field work as a classroom assistant, student teaching or structured field work. Teaching experience without a knowledge base obtained through formal education does not have a significant impact on teachers' knowledge of developmentally appropriate practice nor does teacher length of employment in the field.

In a study that built on Snider and Fu's findings (Cassidy et al., 1995), a pretest-posttest approach was used to explore the impact of the Teacher Education And Compensation Helps scholarship program (TEACH) on classroom quality. This multistate initiative started in North Carolina by Day Care Services Association has

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spread to other states (e.g., Colorado, Georgia, Illinois, Indiana, Florida, Michigan, New York, and Pennsylvania). It is intended to retain childcare providers and improve the quality of the childcare workforce by increasing the educational qualifications of care providers and, in turn, their compensation. Scholarship recipients receive release time from their employer and a salary increase or bonus upon completion of a specified number of credit hours.

The Teacher Belief Scale (Charlesworth, Hart, Burts, & Hernandez, 1991) and the Instrumental Activities Scale (Hart et al., 1990) were administered as pretest measures of the developmental appropriateness of teacher beliefs and classroom practices. Depending on the ages of the children enrolled, the ITERS or the ECERS were administered to measure the overall quality of care and education provided. At the time of pretesting, all participants had completed their high school educations and had participated in some in-service training. With the use of a dependent t test, it was determined that no significant differences were found between the TEACH and comparison group on any of the pretest measures.

At the time of posttesting, the 19 teachers in the Cassidy and colleagues (1995) study who had participated in the TEACH program had 12-20 hours of early childhood coursework completed, whereas the teachers in the comparison group took no coursework. Eighty-seven percent of the completed coursework was child-related or method-related courses deemed pertinent by Snider and Fu (1990) as developmentally appropriate practice. This developmentally appropriate practice included planning, implementing and evaluating developmentally appropriate content; creating learning environments; creating, evaluating and choosing materials; and curriculum models—

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observing and recording behaviors. Posttest results indicated that TEACH participants became more aware of developmentally appropriate practice (as reflected in their answers to the Teacher Belief Scale) and, in general, the quality of their classrooms significantly improved (as measured by the ERS).

The researchers surmised that completion of 12-20 credits by teachers "may have created the impetus and may have provided the knowledge for changing their classroom practices in a developmentally appropriate way" (Cassidy et al., 1995, p. 181). They addressed the issue that some scholarship teachers made dramatic improvements in classroom practices, though others did not, by concluding that changes in classroom practice must be supported by coworkers and administrators to be effective. Interestingly, this study involved a limited sample size ($N = 34$) with 19 participants who received scholarships and attended community courses in child development and ECE and 15 participants who did not as a comparison group. Additionally, the potential for bias resulting from a self-selected sample is possible. For example, since the teachers were not randomly assigned to the comparison groups, motivation, rather than education, could be the impetus for changes in practice and beliefs experienced by teachers choosing to participate in the TEACH program.

The Caregiver Training and Classroom Quality in Childcare Centers study (Burchinal, Cryer et al., 2002) set out to further delineate the effects of early childhood training versus the effects of formal education. In this large study, teaching staff in 553 childcare center classrooms were asked for their highest level of education, which was coded at four levels: (a) BA in ECE or related field, (b) AA in ECE or CDA, (c) completion of ECE college courses, and (d) workshops only or no formal training.

Training was broken down into three variables: (a) in-service training, (b) workshops within the community (off-site), and (c) workshops at professional meetings. Process quality was measured using the Infant-Toddler Environment Rating Scale (ITERS; Harms et al., 1990) in classrooms in which the majority of children were under 30 months and the ECERS (Harms & Clifford, 1980) in classrooms in which the majority of children were 30 months or older. Additionally, the CIS (CIS; Arnett, 1989) was used to measure the sensitivity of the caregiver's interactions with the children in their care.

Burchinal, Cryer and colleagues' (2002) findings indicate that observed classroom quality is related to the lead caregiver's highest level of "formal training" (operationalized in this study as child-related college classes, CDA, AA, BA or BS). For example, caregivers with a bachelor's degree in ECE were significantly more likely to have higher quality classroom scores than caregivers who had attended "informal trainings" such as in-service training, off-site workshops (in the community), or workshops at professional meetings. The authors also reported that caregivers who attended workshops, with or without formal education, had modestly higher skills. As a result, the researchers concluded that caregivers benefit from workshops regardless of educational level, although these findings were marginal because caregivers without a college degree who attended workshops were rated as less sensitive and seemed to provide lower quality care than caregivers with college degrees who did not attend workshops.

In examining whether a relationship between teacher formal education or informal training and children's receptive language skills, as measured by the Peabody Picture Vocabulary Test (PPVT-R; Dunn & Dunn, 1981), could be established, Burchinal, Cryer

and colleagues' (2002) concluded that children's language comprehension was significantly higher in classrooms in which teachers had a bachelor's degree in ECE or attended workshops in the community. Notably, the authors indicated their findings must be interpreted cautiously because their information is based on the caregivers' self-report of their training and education experience (i.e., no documentation, such as transcripts or training certificates, was collected). Therefore, there is potential error resulting from faulty provider recall as well as inflated reporting. Additionally, teachers were not asked about the number of workshops attended or the content covered; therefore, it is impossible to evaluate whether classroom quality was actually impacted by the content of the trainings (Burchinal, Cryer et al., 2002).

Studies examining the impact of training on quality in family childcare homes have yielded similar findings. For example, preschool children who attended family childcare home programs with providers who had completed some formal education and had some knowledge of child development were found to be more cognitively and socially competent than children in the care of providers lacking these professional development experiences (Clarke-Stewart & Gruber, 1984; Stallings & Porter, 1980). More recent research has offered the same conclusions: higher levels of provider education and training are associated with higher quality practices and more positive adult-child interactions in family child care homes (Burchinal, Howes et al., 2002; Clarke-Stewart, Vandall, Burchinal, O'Brien & McCartney, 2002; Kontos, Howes, Shinn, & Galinsky, 1995). For example, Kontos and colleagues (1995) found that the level of formal education completed by family home caregivers was correlated significantly and positively to responsive and sensitive interactions between the caregiver and the children.

Level of education was found also to be negatively related to detached caregiver behavior and the caregivers' beliefs regarding restrictiveness. That is, caregivers with more formal education are more likely to value a child-centered approach.

A 2005 study (Raikes et al., 2005) furthered this discourse by determining that education plays a significant role in caregiver sensitivity, particularly in less regulated family childcare homes (e.g., located in a region with minimal licensing requirements or not receiving government subsidies, etc.). This finding relates to another interesting finding in the field: proximal (i.e., caregiver training and education) and distal influences (i.e., governing childcare policies and regulations that vary by region) are both significant indicators of quality (CQCO, 1996; Phillipsen et al., 1997; Raikes et al., 2005), but proximal influences are more closely related to childcare quality (Blau, 2001).

However, the study of Raikes and colleagues (2005) cannot provide insight into specifically understanding the types of training and education that most affect quality. First, data regarding the providers' level of training and education were based on self-report. Second, their variable "level of education" consisted merely of a count of the number of years of school each participating provider had completed. Levels of completed early childhood related college coursework were not specifically accounted for; rather, training experiences, such as study groups and independent study, professional meetings, conferences, viewing a video-tape, as well as early childhood education college coursework, were counted and clumped under the single variable of "training hours."

Other studies have failed to indicate that ECE related education is predictive of higher quality caregiver interactions with children. For example, Cassidy and Buell

(1996) found that, while overall classroom quality in center-based programs went up as a result of ECE related education, there was no change in the amount of responsive language used by teachers (e.g., adding information to expand on ideas presented by children or asking questions to encourage children to give longer and more complex answers), as measured by the ERS. This finding is of particular interest given the role that early exposure to language plays in children's acquisition of language and ability to decipher the nuances of verbal communication. These skills are considered intrinsic to "school readiness," that is, the ability to communicate effectively, self-regulate, decode written text, and more generally to learn (NRCIM, 2000). Furthermore, Kontos, Howes, and Galinsky (1996) found that, although specialized training did positively affect overall program quality in family childcare homes (as measured by the FDCRS), it did not affect the level of responsiveness and sensitivity in caregivers' interactions with children.

Recently, in 2007, in response to a growing trend for policymakers to instate requirements for preschool teachers to have at least a bachelor's degree (preferably in early childhood education), a prominent group of researchers (Early et al., 2007) mulled over seven major studies of ECE. This selection of studies (chosen for comprehensive data about teachers' education, observed classroom quality, and 4-year-old child outcome data) included the following: *Early Head Start Follow Up* (EHS), *Head Start Family and Child Experiences Survey* (FACES), *Georgia Early Care Study* (GECS), *More at Four Evaluation* (MAF), *National Center for Early Development and Learning* (NCEDL), *Study of Early Child Care and Youth Development* (NICHD), and *Preschool Curriculum Evaluation Research Program* (PCER). In examining variables from these studies, using hierarchical multiple regression in an analysis strategy that called upon replicated

secondary data analysis to predict classroom quality and children's academic outcomes from the educational attainment and majors of teachers of 4 year olds, the researchers found null or contradictory associations.

For example, Early and colleagues (2007) noted that previously published relationships between teacher's education and classroom quality disappear when more complex models of analysis, such as hierarchical multiple regression, are used to control for other variables linked to quality. Control variables for classroom-level analysis included ratios, group size, length of day, teacher ethnicity, the proportion of White students in each class, and the proportion of low-income students in each class. Interestingly, the researchers concluded that previously determined links between teacher education and classroom quality are artifacts of simple analysis and, as a result, they espoused that simply increasing teacher education will not suffice. Rather, they recommended that a broader range of professional development activities and supports need to be examined in increasing teacher effectiveness.

Notably, Early and colleagues (2007) used the same set of questions, definitions, and controls across the large number of data sets extricated from the seven studies reviewed, allowing the researchers to conduct a series of common analyses using comparable data. This approach was chosen specifically to address the lack of common definitions and controls that greatly challenge the testing of direct affects of teacher professional development on classroom quality; and, in turn, most research in this field. Teacher education and training was explored as a 4-level variable to help specify the highest degree attained by the lead teacher: (a) high school education or GED and includes teachers who had taken some college or technical courses, but post-secondary

degree not achieved; (b) AA; (c) BA, including people who had taken some graduate coursework, but not completed graduate degree; (d) graduate degree including MA, MEd, Ed.D., or Ph.D.

Further, bachelor's degree was created as a 2-level variable (BA vs. no BA) with all teachers with a BA or graduate degree lumped together as BA and all teachers with a high school diploma/GED or AA lumped together as no BA. Major was created as a 3-level variable to describe the lead teacher's highest degree major. Descriptive levels included (a) ECE/CD, (b) all other education majors (i.e., elementary or special education), and (c) noneducation majors, including psychology, sociology, biology, or business. Classroom quality was measured by the ECERS-R in six of the seven studies. Composite mean ECERS-R scores were used in analysis, as was the Observational Record of Care-giving Environment (ORCE) used solely in the NICHD study.

Early and colleagues (2007) determined that only two studies yielded an association between higher teacher education and classroom quality. In both the EHS and NICHD studies, evidence was found that more educated teachers had higher quality classroom experiences. More specifically, in the EHS study, a linear relationship was found. For example, lead teachers with graduate degrees tended to instruct in classrooms in which ECERS-R ratings were higher as compared to lead teachers with only bachelors' degrees. In turn, lead teachers with bachelors' degrees tended to teach in classrooms with higher ECERS-R scores than classrooms with lead teachers who only had an associate degree or high school level of education. Of the remaining five studies, one (FACES) revealed the opposite association—teacher's with bachelors' degrees had lower quality classrooms compared to those without. The remaining four studies found

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no association between teacher education and quality. Of the five studies with sufficient data to explore associations between different levels of degrees specific to ECE (including child development) and quality, while significant findings were sparse, EHS again found a linear relationship between the highest level of content-specific education and observed quality.

Early and colleagues (2007) concluded that this overall lack of significant findings is most likely not due to limitations of the studies design; rather, "the lack of significant findings reflects the current reality of the field" (p. 573). The researchers described three alternative explanations for a lack of a significant relationship between teacher professional development and classroom quality. First, the teacher preparation system may not have provided adequate preparation for teaching preschoolers. This is a notion recently brought to light at the elementary education level, with a recent review of k-12 teachers' education research (Cochran-Smith & Zeicher, 2005). Additionally, the researchers muse that teacher preparation programs may offer content knowledge around academic instruction, but lack in providing the skills necessary to nurture individual relationships thought by many in the field to be the basis for academic learning.

A limitation to directly testing these ideas about teacher preparation programs and content is that the studies included did not provide the necessary data. As Early and colleagues (2007) indicated:

> The field currently lacks information about what is taught in teacher preparation and in-service programs, how the instruction is delivered and the mechanisms by which it translates into classroom practice. (p. 574)

Relevant to this point, many teachers in the study had received their degrees a decade to 3 decades prior. As a result, the researchers contended these teachers may not

have received curricula specifically pertaining to developmentally appropriate practices for 4 year olds or opportunities for supervised practical experience (i.e., supervised field placement). Furthermore, similar to most studies to date, the data from this study lacked information relevant to course content, rigor, and field placements (i.e., supervised practical experience).

Tapping into the idea of how classroom instruction translates into classroom practice, Early and colleagues (2007) postulated another explanation for a lack of finding significant associations. Their second explanation is that teachers may not receive the support needed to transfer course content into classroom practice (i.e., coaching or mentoring) during the transition from teacher preparation to actual teaching.

Finally, a third explanation explores the possibility that the current labor market plays a role. For example, most teachers in this study taught in publically funded classrooms (i.e., Head Start, state funded Pre-K), which tend to offer higher salaries and benefits than center-based classrooms (Early et al., 2007). The researchers speculated that, as a result, these teaching positions are highly in demand and may attract and retain the highest quality teachers without bachelors' degrees. On the other side, teachers in pre-K classrooms tend to earn less than teachers in elementary-level classrooms. As a result, the researchers hypothesized that teachers with bachelors' degrees tend to teach in older classrooms and there is likely an increase in teacher turnover (due to insubstantial wages) for those with bachelors' degrees who do choose to work in pre-K rooms. Nationally, approximately half the early care and education work force leaves the field every year with insubstantial compensation as a leading factor (Whitebook et al., 1998). Additionally, school administrators may place their best teachers with bachelors' degrees

in older grades, where high-stakes testing occurs. These potential trends can result in an overabundance of "fishing" in a minimally stocked pond, with just a few prized teachers to fill vacancies at the pre-K level (i.e., negative selection for highly skilled bachelor's or higher level Pre-K teachers).

Early and colleagues (2007) concluded that in-depth information about course content, grades, supervised practical experience, in-service training experiences (described in terms of quantity, quality. and content), as well as on-the-job support, supervision, and monitoring would help provide the current gaps in understanding what effective professional development in the field of ECE looks like. Most recently, Vu, Hyun-Joo, and Howes (2008), in response to Early and colleagues (2007), conducted research intended to "widen the debate" (p. 479) regarding the importance of a bachelor's degree in teacher preparation. The researchers examined whether formal education, credentials, or both predicted quality in 279 classrooms employing multilevels of analysis (e.g., chi square, MANOVA, ANOVA, and hierarchical linear modeling). Similar to this study, actual documentation of professional development documentation (i.e., credentials and transcripts) was reviewed, and the researchers found that teacher education and credential levels predicated classroom quality (as measured by the ECERS-R, CLASS, AIS). Notably, this study was limited to examining professional development within the context of California credentialing; as a result, specifics pertaining to content were somewhat lost as to levels of credentialing (i.e., credential levels included completion of multiple and variable professional development options). Furthermore, this study examined the qualifications of other support staff (i.e., including assistant teachers and directors) in relationship to quality.

Taking into account that teachers do not work in isolation, Vu and colleagues (2008) examined interactions between the qualifications of program directors, lead teachers, and assistant teachers. When teachers had any level of a credential permit, the level of feedback teachers shared with children increased as the directors' qualifications increased. When the lead teacher had a BA or higher, higher levels of directors' qualifications, predicted higher scores related to teaching and interactions. When controlling for auspices, they found that across types of programs (e.g., private, nonprofit, and public Head Start and general childcare agencies), differences in quality based on professional development still emerged; however, differences in levels of professional development in relationship to quality emerged based on auspice:

> When they are teaching in preschool programs that were not under school district or California state preschool auspices, lead teachers who held a BA were more effective than teachers with a permit but no BA in providing feedback for student learning and creating classrooms high in sensitive teacher-child interactions and classroom materials. . . . However, in school district and state preschool classrooms, no differences were found between lead teachers with a BA and lead teachers with a permit and no BA. (Vue et al., 2008, p. 500)

Vu and colleagues (2008) concluded that, depending on the program auspice, having a BA in child development or ECE (or a BA in another field with 24 content-specific credits) does matter to classroom quality. The lack of a difference in practice between teachers who held a BA with a permit versus no BA, the researchers suggested, in school district and state preschools, is possibly a result of lack of variance in these types of programs. Furthermore, there may be more types of program supports to help teachers with fewer qualifications meet higher standards than in other types of programs (i.e., private, non-profit, Head Start, and general childcare programs). In general, the

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researchers surmise, "there appear to be differentially effective combinations of auspice, supervision, and teaching for creating effective classroom practices" (p. 500).

Summary

In response to demand, early care and education is one of the fastest growing fields (Clarke-Stewart & Allhusen, 2005; NRCIM, 2000). However, according to the National Child Care Information and Technical Assistance Center ([NCCIC], 2008), as recent as 2007, most states required minimal qualifications to enter the field and, based on earlier research, on average, children's experiences in ECE programming has been deemed mediocre (CQCO, 1996).

Currently, change is evident. For example, a number of states (i.e., Colorado and Illinois) are introducing more stringent professional development requirements. However, across states and even within the same state, this change is resulting in a myriad of varying requirements.

Although a growing body of research exams the relationship between early childhood educators' professional development and the quality of child experiences in ECE programs, there are limitations that need to be addressed in determining the type of preparation required to create a qualified workforce. Researchers in the field have prescribed additional research for guiding the development of professional standards (e.g., Clarke-Stewart & Allhusen, 2005; Curenton, 2006; Howes, 1997; Kontos & Wilcox-Herzog, 2002; Maxwell et al., 2006; Tout et al., 2006; Whitebook, 2003).

Kontos and Wilcox-Herzog (2002) described two serious limitations in existing research that need to be addressed. First, it is difficult to differentiate the effects of general education and related education in the field because the two are heavily

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intertwined (Howes, 1997; Clarke-Stewart & Allhusen, 2005; Whitebook, 2003). For example, teachers with more formal education are more likely to have more ECE related instruction. Second, general and ECE education are typically calculated as continuous variables in the form of years of education. Kontos and Wilcox-Herzog (2002) also contended that more research is needed for categorizing training and education into groups, such as high school diploma, related associate's degree, unrelated associate's degree in the field, unrelated bachelor's degree, or related bachelor's degree in order to actually inform policy pertaining to the type of teacher preparation necessary to significantly impact quality care and early education for young children.

Curenton (2006) argued that researchers are turning detailed information into simple binary categories (i.e., training or no training; formal education or no formal education) or into multiple categories in which different experiences are combined (e.g., CDA or associate degree; certification, vocational/adult education training, or degree in a related field) to fit neatly and robustly into quantitative analysis. Because of this condensing, Maxwell and colleagues (2006) maintained, a major foundation for understanding the impact training and education plays—capturing content and quantity— is lacking.

Furthermore, research examining relationships between teacher qualifications and professional development is compromised by poor measurement (i.e., self-report relied upon in collecting professional development information from study participants). As a result, conclusions drawn from such studies must be interpreted with caution due to human error, which is intrinsic to data collected in this manner (Raikes et al., 2005; Maxwell et al., 2006). A lack of consensus regarding the definition and categorization of

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training and education in research that is intended to inform "best practice" for the professional development of the ECE workforce is also lacking (Tout et al., 2006; Maxwell et al., 2006). Additionally, others (Blau, 2001; Clarke-Stewart & Allhusen, 2005; Early et al., 2007) have noted that associations between training and education and classroom quality are evident, but not very strong.

The intent of this present study is to begin to address some of these limitations and to add breadth and depth to this ongoing discussion by employing well-defined categorizations of training and education, actual documentation of staff qualifications (i.e., primary sources), a reliable and valid measure of classroom quality (ECERS-R), and exploratory analysis in examining relationships between staff professional development and observed quality in ECE classrooms serving children aged 2½ to 5 years old.

Research Questions

Two overarching questions guide this study:

1. Do the professional development experiences of teachers in 10 high quality ECE classrooms serving children ages 2½ to 5 years old differ from the professional development experiences of teachers in 10 classrooms rated as poor quality, as measured by the ECERS-R?

2. If the answer is yes, how do they differ?

Out of interest in examining the bigger picture (i.e., structural quality beyond a teacher's control), the following overarching subquestion was also explored:

Do any interesting between-group differences emerge regarding other factors that might influence observed classroom quality (i.e., program, classroom, and support staff

characteristics—assistant teachers, directors, and support staff professional

development)?

Chapter 2
Method

Rationale

"We need both words and numbers to understand our world" (Goodwin & Goodwin, 1996, p. 171).

To date, findings from purely quantitative studies are insufficient to provide a basis for understanding the impact of professional development experiences on the quality of ECE (Maxwell et al., 2006). For example, important questions that have not been sufficiently addressed include the following: Does the type of training really matter? If so, what type is better than another? Is on-site training, for example, better than off-site training? Does a workshop at a professional meeting differ from a workshop in the community? Does an AA in early childhood education differ from a BA in elementary education or a BA in an unrelated field with a CDA? How might the qualifications of support staff (i.e., supervisors and assistant teachers) interrelate and influence classroom quality?

Though answering all of these questions is beyond the scope of this study, understanding course and training content is crucial in gleaning answers to these questions. In general, course and training content has been lost to binary (e.g., training vs. no training) and categorical (e.g., high school, AA in field, BA unrelated, BA in field) descriptors employed in purely quantitative approaches to understanding the role training and education plays in teacher behavior and quality environments (Curenton, 2006). As a result, researchers (e.g., Tout et al., 2006; Maxwell et al., 2006, Early et al., 2007) have

posited that the next step is to employ more qualitative strategies, such as the rigorous review of professional development documents. This step is deemed necessary in the advancement of accurately describing and understanding the actual content of effective teacher professional development experiences.

In this endeavor to advance understanding, the researcher employed a historical, descriptive-comparative design. In general, a historical approach involves the use of existing data—preferably primary sources defined as original sources of documentation and information—for the sake of modifying existing knowledge via clarification and elaboration. Cuban (1993) described his role as a historical researcher as that of a map-maker. He elaborated:

> I compared my task to that of . . . a 13th-century cartographer trying to map a new world on the basis of what knowledge seafarers bring back, what had been written in books, and informed guesses. The maps he produced contained numerous mistakes and lies, and yet the sea captains who used them explored the world and returned with new information that reshaped subsequent maps. (p. 20)

In the spirit of the mapmaker, I used post hoc data (see the section "Data Origin") to map out the professional development pathways of teachers and their classroom practices and to bring insight into the content of those paths. Using the descriptive-comparative approach, I made comparisons of the likenesses and differences among phenomena to determine whether certain factors or circumstances (i.e., professional development) tend to accompany certain events, conditions, or processes, that is, classroom quality (Goodwin & Goodwin, 1996). In accordance with this approach (Goodwin & Goodwin, 1996), I organized, tabulated, depicted, and described the data

collected from at least two groups of participants for the sake of analyzing interesting differences (i.e., in professional development experiences and classroom practices).

The rationale for using this combined approach was to examine closely the extensive, previously collected, documentation of actual classroom practices and professional development experiences in order to achieve the following:

1. Compare the professional development experiences of teachers whose practices were rated overall as poor to those whose practices were rated overall as good (i.e., between-group comparisons).

2. Compare professional development experiences (e.g., type, content, quantity, intensity, and duration) with teacher practices.

3. Compare other factors that might influence classroom quality, including program, classroom, and support staff characteristics, (i.e., assistant teachers, directors), as well as across-staff professional development.

Charts, bar graphs, full and abbreviated narratives, and vignettes were constructed from post facto data borrowed from Qualistar Early Learning's Quality Rating System's evaluative study in order to:

1. Help organize or "map-out" the professional development experience of each lead teacher.

2. Describe and compare program, classroom, and lead teacher and support staff characteristics and professional development.

3. Summarize findings.

Notably, charts were used simply to create a picture of interesting between-group differences that emerged. Charts in this study do not indicate statistical significance.

In describing classroom and teacher characteristics, I collected information from a variety of primary sources. For example, documents capturing elements associated with classroom quality included the following:

1. Classroom observation score sheets (including teacher responses to structured interview questions),

2. Observer reflections,

3. ECERS-R classroom reports, and

4. Program QRS application forms.

Primary sources capturing each teacher's professional development included the following:

1. College transcripts,

2. Training certificates,

3. Diplomas, and

4. Records of certification.

Examination of this documentation was guided by the overarching questions:

1. Do the professional development experiences of teachers in 10 good quality ECE classrooms serving children ages 2½ to 5 years old differ from the professional development experiences of teachers in 10 classrooms rated as poor quality, as measured by the ECERS-R?

2. If the answer is yes, how do they differ?

Out of interest in examining the bigger picture (i.e., structural quality beyond a teacher's control), the following overarching subquestions were also explored:

3. Do any interesting between-group differences emerge regarding factors that might influence observed classroom quality (i.e., program, classroom, and support staff characteristics—assistant teachers, directors—and support staff professional development)?

4. If the answer is yes, what differs and how?

The outcome of descriptive educational research is an account of "natural or man-made" educational phenomena that are of interest to educators and policy makers (Borg & Gall, 1989). Exploratory in nature, the purpose of this study was to advance understanding regarding the actual content of teachers' professional development experiences in context of their classroom practice. A limitation to this type of design is that findings and conclusions apply only to the sample studied. Additionally, descriptive research cannot be used to draw firm conclusions; rather, this study offers in-depth examination and description of interesting differences between two cohorts of teachers and what these differences might suggest for further study. An overview of the study follows, beginning with a description of the origin of the data and then proceeding to descriptions of the role of the researcher, study sample selection, primary data sources, the analysis process, and limitations.

Data Origin

For the purpose of this study, the researcher was granted permission by Qualistar Early Learning (formerly Educare Colorado) to use data collected between 2000-2003, by Qualistar, OMNI, and RAND for a large-scale evaluation of Colorado's Qualistar Quality Rating System (Q-QRS). These data are the property of Qualistar Early Learning and

permission was granted to use Qualistar's post hoc data to examine professional development content and classroom quality.

The Qualistar Rating System is a tool to measure quality in licensed center and family care homes and preschool programs for children from birth to pre-kindergarten. The rating is intended to help parents, financiers, and other stakeholders make more informed choices about child care and to encourage providers to improve. In the bigger scheme of things, the rating system is intended to encourage system change (Zellman & Perlman, 2008). It evaluates programs in five areas, generally agreed to contribute to quality (Zellman, Perlman, Le, & Setodjim, 2008), and assigns a rating of 1 to 4 stars:

1. Learning environment (as measured by the ECERS-R, FDCRS, and ITERS),

2. Family partnerships,

3. Staff training and education,

4. Adult-to-child ratios and group size, and

5. Program accreditation.

In the longitudinal evaluative study from which data for this survey were originally collected, RAND assessed the five Qualistar Quality Rating components separately, then examined how they related to each other; compared Qualistar QRIS measures to other established measures of quality; and examined whether quality improvements as measured by the Qualistar Rating components were associated with better child outcomes. The sampling population for Qualistar's evaluative study included licensed ECE programs that were (a) located in Mesa County; (b) licensed as childcare centers and funded through Mile High United Way, Catholic Charities, or the Daniels Foundation; (c) licensed as family childcare homes in the Denver metro area and Boulder

County, and (d) participating in The School Readiness Initiative (HB1297). Recruitment for these representative samples occurred at slightly different times due to poor sampling methodology at the onset of the study. All programs recruited were scheduled for three cycles of annual assessment.

In the first round of recruitment, 22 Mesa County sites were randomly selected to participate from all of the licensed childcare programs in that county. In the second round of recruitment, four center-based programs were randomly selected from all sites receiving private foundation funding through Mile High United Way, Catholic Charities, or the Daniels Foundation. Invitations to participate were sent to all licensed childcare home providers in the Denver metro area that receive funds from these foundations. Ten Hispanic childcare home providers in Boulder County were also solicited; however, when only one provider agreed to participate, the invitation was extended to all home caregivers in that county. In all, 27 family childcare homes agreed to participate (i.e., self-selection). These programs were dispersed through Douglas, Arapahoe, Adams, Jefferson, Denver, Boulder, and Broomfield Counties.

The third round of recruitment included 45 center-based programs participating in The School Readiness Initiative (HB1297). Signed into law in 2002, HB 1297 was created to assess quality in licensed ECE programs serving families in low-income communities and to provide subsidies with the intent to improve school readiness for children 5 years of age and younger. The Child Care Commission adopted Educare Colorado's Quality Rating System (now Qualistar) as the accepted school-readiness rating system, whereas The School Readiness Child Care Subsidization Program allotted 6 million dollars from the federal Child Care Development Fund to participating

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programs. Approximately 450 ECE classrooms serving an estimated 5,500 children participated in this program. Sample bias is a possible limitation, for example, due to self-selection. (See the "Limitations" section.)

The researcher was involved in data collection from 2001 through 2003, first as an employee of the Center for Human Investment Policy (CHIP) and then as a Quality Rating Specialist for Educare Colorado. In 2004, Educare Colorado and the Colorado Office of Resource and Referral Agencies (CORRA) merged and became Qualistar Early Learning. One classroom assigned to the good quality cohort was observed by this researcher and is included in the data subset. At the time of the observation, there was no inkling that the data collected would be used for a personal study by the researcher. (My role and possible biases are discussed further in the "Researcher's Role" section.)

Notably, the evaluative study findings indicate that the Qualistar Quality Rating System's five components of quality correlate moderately well with each other. Concerning variables used in this study, at the individual classroom level, ratios and ECERS-R scores were negatively correlated (i.e., higher adult-to-child rations correlated with lower scoring classrooms). Lead teacher professional development (i.e., whether teacher had a BA and number of ECE credits) and teaching experience also correlated with ECERS-R scores. Additionally, the quality of care and education for childcare providers participating in the Qualistar study improved over time. The evaluative researchers suggested that this may be the result of the providers' response to being held to higher standards.

There was little evidence, however, that the ratings predict child outcomes. Further, conclusions about the validity of the QRS and its components could not be

drawn because of study design and implementation limitations (Zellman et al., 2008). These limitations include child outcome criterion measures (Arnett, 1989) collected from a single classroom in each center, data primarily drawn from low-stakes settings, a new measure of parental involvement yet to be validated; a general lack of measurement reliability (excluding the ECERS-R), lack of a randomized design, nonrandom provider attrition, and very high child attrition (Zellman et al., 2008). Most notably, the nonrandom provider attrition resulted in programs who scored poorly on their initial Environment Rating Scale (i.e., ECERS-R, FDCRS, or ITERS) exiting the study before the second wave of data collection. The researchers noted this attrition restricted the range of quality in the sample, which may have reduced the likelihood of finding effects of quality on other outcomes.

As a data collector, I sensed that rich information was perhaps lost due to these limitations and the quantitative nature of the study. For example, snapshots of hundreds of Colorado ECE classrooms, in the form of ECERS-R score sheets and reports, including observer details and reflections, sat locked away in files. Additionally, actual professional development documentation accompanied these classroom snapshots. These primary sources (i.e., transcripts, training and credential certificates) typically elude professional development research due to the cost associated with collection and analysis. Hence, permission was sought and granted to use data from Qualistar's evaluative study to advance an understanding regarding content of effective teachers' professional development experiences, with the objective of modifying existing knowledge via clarification and elaboration based on actual documentation. Less reliable data from the original study (i.e., parental involvement and child outcome data) were not used.

Additionally, only baseline data (i.e., each program's first or baseline Quality Rating) were used for this study in order to minimize potential for observed quality resulting as an artifact of previous ratings.

<center>*Researcher's Role*</center>

This is a post facto study. Unlike many qualitative studies in which data collection, data analysis, and data interpretation are conducted simultaneously (Creswell, 1994), this study relied on data that had previously been collected. As a result, a review of existing data was the foundation for "sorting the information into categories, formatting the information into a story or picture, and actually writing the qualitative text" (Creswell, 1994, p. 153). A limitation to searching through data belonging to the past is that it does not allow for the generation of new data for further inquiry (Goodwin & Goodwin, 1996).

In creating each teacher's "story or picture"—via full narratives, abbreviated narratives, and vignettes—I pulled from personal experience as an employee for CHIP, Educare, and then Qualistar, collecting and writing over 350 descriptive classroom reports and at least 100 descriptive program Quality Performance Profiles. Though the reconstruction of what was observed may not be exact, the information is taken directly from the data sources secured for this study. I include personal experiences here and in the role of data collector to frame any liberties that may have been taken in putting the different data sources together into rich classroom descriptions and to illuminate bias that may have caused personal interpretation, springing from individual values and experiences.

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For instance, while writing the classroom narratives and vignettes, I found myself filling in blanks based on personal observation experiences. That is, if a teacher's classroom score was marked down by the observer for having incomplete or minimal materials set out for children's use, my job as the researcher was to look at the observers' score sheets, notes, reports, and/or reflection for clues to answering: "How come?" As one observer noted:

> Program has a lot of materials stored in common areas. Looks like class could meet Learning Activity criteria with coaching on what to rotate in and what [materials] to make accessible daily.

Based on this information, the answer to the question is "teacher planning," and I, therefore, categorized it as such. However, not all observers are equal in note-taking. In cases in which no notes were made beyond a description of what was present or lacking, based on personal experience, I still categorized the practice of providing children access to incomplete or minimal materials as teacher planning.

The argument could be made to categorize a lack of materials as out of the teacher's control (e.g., a result of the program's lack of funding for materials); however, based on experience, teacher planning is typically the case. The possibilities for creatively providing children with rich experiences with limited resources are endless. For example, I have been in classrooms lacking funding in which ingenuity prevails and materials are abundant as exemplified by the use of oatmeal containers and cardboard boxes for blocks; laundry detergent lids, empty plastic bottles of different sizes, old kitchen strainers, and spoons accessible for children's sensory exploration with beans in a bin; a large empty box used as a pretend play house, cozy area, tunnel, or rocket ship;

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play-dough made with flour, salt, water, and oil; and broken crayons melted down and reformed in ice cube trays to make new crayons.

I have also been in classrooms in which children have minimal access to materials while a wealth of materials sat unused in closed cabinets to prevent children from making a mess. In this case, the limited materials are a result of teacher planning (i.e., classroom management), rather than a lack of planning. I have also observed classrooms in which shelves are lined or even overflowing with materials, yet most of the resources are incomplete. This also falls under teacher planning, but is more likely the result of lack of planning. For example, it is evident there is no plan in place to check materials at the beginning or end of the day to see what may need to be restocked, found, or replaced. A lack of supervision or guidance of the children's use of materials may also be a reason for missing materials. Hence, provision of materials is categorized consistently as a practice within the teacher's control and, in instances where there is a lack of materials, it has been categorized as teacher planning.

Prior to a personal role as a data collector and quality rater, my experience with the Environment Rating Scale (ERS) assessment tools began with an introduction through the classroom over a decade ago. A colleague had left the ECE program in which we had worked together to pursue a career in early childhood research through a local university as a data collector and data administrator. This colleague assumed my classroom as training grounds for use of the ERS. On occasion, Brenda would call to ask if she and an ECERS-R "trainee" could come and observe the classroom for the morning. I never received feedback on these observations. I was only told that it was fun to come and observe and an easy environment to train in because everyone was so relaxed.

Though these observations offered no insight into my classroom practices, it was a pleasure to see a former colleague and share the classroom activities.

A couple of years into being employed with this particular program, our director decided it would be of value for each classroom to have a copy of the environment rating scale corresponding to the ages each room served. During a review of the assessment booklet, rather than taking the opportunity to reflect on personal practices, I found myself questioning what some of the standards meant and, in general, questioning how the tool worked. No follow-up support was provided in understanding or using the tools in practice, and, as a result, my copy of the ECERS-R gathered dust on the classroom resource shelf. I remember thinking at the time that I was too busy meeting my other classroom obligations and focusing on my own vision of quality to give the assessment scale more thought or energy.

Multiple facets of curiosity catalyzed personal use of the ERS. First, their increasingly prevalent use in research led me to question whether cookie cutter classrooms would be an artifact of widespread use of this tool. Second, my years in the classroom helped formulate the notion that early care and education programs are arenas for early socialization and group mores outside the family. In essence, based on the sample of ECE classrooms I reflectively observed classrooms (including my own and others') to enhance my own practice. I began to think of each classroom as its own microculture and became fascinated with this concept. As a result, most of the research I did as a graduate student in child and family studies was based on this concept and allowed for even greater access to different types of classrooms.

One classroom in particular stood out. It was a Buddhist-based classroom studied over a 9-week period in accordance with a research class assignment. The classroom walls were bare except for a light layer of softy colored pastel paint and a few inspirational quotes written on plain paper. This struck me because it was the first classroom I observed in which children's artwork was not displayed in some fashion. There was no parent communication board, no store-bought displays, no photos, no artwork . . . and it felt peaceful. With what little I knew about the Environment Rating Scales, I did know that this classroom's display would be rated at the 1 level, indicating poor quality; however, I sensed there was intent behind this chosen practice of bare walls and questioned the teacher, Naomi, about her intention.

Naomi stated that her intention was to create a sense of calm. She viewed wall décor as noise that could over stimulate children and went on to explain that, in the same vein, she had purchased the billowy, shear cloth that hung from the ceiling to help minimize the brazen light coming from the fluorescent bulbs above. She further explained that the wall color and use of cloth and quotes were her way to calm and center herself. In turn, she modeled and shared her sense of calm and centeredness through her interactions with the children. In this scenario, Naomi's intention was evident and I was merely triangulating a hunch.

This experience and the idea of wanting to continue to pursue research in the field dictated that I needed to have a better understanding of the widely used ERS. Personally and professionally, I needed to know how a tool could measure quality without taking into consideration a teacher's intent. This question led to registration in the day-long trainings offered in the Infant Toddler Environment Rating Scale (ITERS) and the Early

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Childhood Environment Rating Scale-Revised (ECERS-R). During the trainings, I shared

concerns and, in general, heard that there is room for choice in applying the standards.

For example, Naomi's classroom could still achieve an overall score of at least a 5.00, a

good quality score, even if scored at the 1.00 level (poor quality) for the classroom

display.

Nevertheless, my personal concerns were not eased, and 2 days of training on two

quality measurement tools, without hands-on experience, was not going to allow a

significant understanding and acceptance to be achieved. With the aid of a practicum

connection, my role as a reliable classroom rater for the Center for Human Investment

Policy came to fruition. With this role came the opportunities to become reliable in use of

the tools, access hundreds of classrooms throughout the state of Colorado, and gain

hands-on understanding.

As a rater, I found great responsibility in being privileged with access to each

classroom. To address personal concerns of the Hawthorne Effect (Rosenthal, 1966)—in

which observer presence impacted what was seen—I worked hard at putting the teachers

at ease and was regularly thanked for these efforts. However, it cannot be said with 100%

certainty that my presence did not impact the course of events in the classrooms, nor can

I account for the effect other observers in this study may have had in the classrooms they

observed.

I cannot say that I ever became completely enamored with the tool. With 7 years

working with ECERS-R and hundreds of observations under my belt, I am largely at

peace with the tool. In part, this acceptance is due to the practice of helping teachers and

their respective directors understand the standards being asked of them and how they

could choose to apply those standards in a meaningful way to their programs when

reporting on how they fared in their classroom assessments. Zellman and Perlman (2008)

shared a wider perspective from interviewees in their examination of five pioneering

states' Quality Rating and Improvement Systems, including Colorado:

> Ohio dropped the ERS when their initial evaluation indicated that ERS scores were not significantly different across Steps [levels of rated quality], which suggested that the ERS components 'do not capture it all,' in the words of one interviewee. Ohio still uses an ERS as a self-assessment tool. . . . Several interviewees noted that ERSs are cumbersome and felt that they overemphasize health and safety. . . . Other interviewees commented on inconsistency in ratings among ERS raters, on raters' disruptiveness in the classroom, and on ERSs being the greatest source of complaints about the QRIS rating process. At the same time, some states, Pennsylvania, reported no ERS problems. (p. 55)

The personal conclusions of this researcher regarding measuring and scaffolding quality

using the ECERS-R is that it is an excellent tool for bringing to light practices that can be

detrimental to children (e.g., harsh interactions, developmentally inappropriate

expectations, lackadaisical supervision, etc.) and for providing clear teacher expectations.

These expectations or standards can serve as a basic foundation for good practice,

particularly in programs lacking clear expectations or standards or in which inappropriate

expectations or standards have been set due to a lack of understanding or resources for

knowing better.

For teachers who are more cognizant of their practice (e.g., can articulate their

intent, goals, developmentally appropriate expectations), the ERS typically allows room

for teachers to have choices either to implement a standard in a way that resonates with

their intent or discard a standard. Though the tool may not honor all practices, with

understanding, a teacher can take ownership of the tool and, as described, seize the little boxes they are being asked to fit into and wrap them up with their own pizzazz.

Without understanding or buy-in, the standards are merely hoops—hoops that are ignored without understanding the "why's" behind the standards or are jumped through with artificial practices (e.g., teachers displaying pictures from *National Geographic* to meet standards regarding cultural diversity, only to take them down after the observation). I also still struggle with the fact that, outside of this study, I assessed a few classrooms as average quality (e.g., on a scale of 3.00-4.99 the classroom received a score of 4.95) in which inventive practices and that indefinable "special something" not captured by the tool were observed. However, due to small missteps in practices within the teacher's control (e.g., missed meeting all of the criteria regarding children having access to a wide variety of materials for 1/3 of the day by 3 minutes that greatly diminished the average classroom score across 7 of the 37 indicators rated) and criteria beyond the teacher's control (e.g., bathroom and playground location, fence height too short, water temperature inadequate for effective handwashing), the "good" was lost to an average score. Thus, in part, the rationale for this study's use of teachers only from classrooms on either the poor (1.00-2.99) or the good quality (5.00-7.00) end of the spectrum was to maximize differences in levels of practices.

Of note, in maximizing between-group differences, within-group similarities in practice were maximized. For example, for a classroom to have scored lower than a 3.00, very few, if any, good practices were in place. Most subscale practices were scored at the inadequate to minimal level (1.00-3.00), whereas in classrooms that scored over a 5.00, most practices were rated at the good to excellent level (5.00-7.00).

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Sample Selection

Sample selection for this study began with using Statistical Package for the Social Sciences software 14.0 (SPSS, Inc., Chicago IL) to narrow the number of participants from Qualistar's database using the following criteria:

1. Teachers taught in classrooms serving preschool-aged children, 2.5 years to 5 years old, as indicated by an ECERS-R score (rather than an ITERS or a FDCRS score).

2. Data were complete or near complete (i.e., enough variables to tell a classroom's story).

3. Files containing hard copies of the program's data (i.e., documentation) were accessible.

Next, using widely accepted parameters for categorization of quality (Howes & Smith, 1995), SPSS software was used to select classrooms with composite ECERS-R scores that fell within the range of unacceptable or "poor quality" (1.00-2.99) and classrooms with ECERS-R scores that fell within the range of "good quality" (5.00-7.00) from a data subset of 66 ECE classrooms in programs that had participated in Qualistar's Quality Rating for their baseline (i.e., first) rating (see the section "Assessing Process Quality Quantitatively" regarding calculation of ECERS-R composite scores). This sampling procedure was used to maximize between-group differences in quality.

To further the selection process, each classroom's identification number was recorded on an index card. The resulting collection of cards was used as a reference in locating each classroom's hard file for documentation review. Notes were recorded on each classroom's card regarding the extent of documentation available in the hard file.

In total, out of the 66 classrooms in the subset, 33 classrooms fell within the poor or good quality ranges. Sixteen classrooms fell within the poor quality range (i.e., composite ECERS-R scores ranging from 1.00-2.99), and 17 fell within the good quality range (i.e., composite ECERS-R scores ranging from 5.00-7.00). The data note cards for these 33 programs were reviewed in an attempt to ensure inclusion of the most robust data. Eight classrooms where pertinent documentation was missing (i.e., missing documentation of training and education, hard to read copies of the ECERS-R scores sheets, or missing observation reports limiting insight into observed teacher behaviors) were pulled from the study. An SPSS spreadsheet was created for random selection of 10 poor and 10 good quality classes from the remaining pool of 25 classrooms to allow for even probability of selecting these for further examination.

Two comparison groups of 10 resulted ($N = 20$), with 10 teachers who led classrooms with scores ranging from 1.69 to 2.91 designated to the poor quality group and 10 who led classrooms with scores ranging from 5.06 to 6.65 designated to the good quality group. While the small sample size allows for in-depth qualitative analysis, it creates a limitation for quantitative analysis (i.e., insufficient power).

The resulting sample of 20 lead teachers in 20 different ECE classrooms serving children ages 2½ to 5 years of age was predominantly female (18 female lead teachers and two male lead teachers, with both males in the good quality cohort). Each of the programs in which these teachers were employed was state licensed and met the criterion of having at least 50% of enrolled families qualifying for reduced-price or free lunches. Seventeen of the programs were located in urban communities (as defined by the U.S.

Census Bureau, see Glossary) and three were in rural communities (with one rural

program in the good quality cohort and two in the poor quality cohort).

<center>*Data Sources*</center>

The following are descriptions of the data used for this study and how they were

collected.

Assessing Process Quality Quantitatively

The ECERS-R (Harms et al., 1998) was used to measure process quality.

Observers who collected this data were experienced early childhood education

practitioners, who had an associate's degree or above, and were employed by the Center

of Human Investment Policy (CHIP) at the University of Colorado-Denver and Educare

Colorado. Each observer took the role of "complete observer" (i.e., observed without

participating; Creswell, 1994) after completing an extensive ECERS-R training, which

included how to be as least intrusive as possible to reduce the common problem of

observer effect (Borg & Gall, 1989).

During the training, observers completed a reliability process in which they had to

be at least 85% reliable for three consecutive observations with an expert observer who

had been trained by the authors of the tool (i.e., inter-rater reliability). Reliability was

determined after each of the three training observations, using an interrater reliability

sheet created by the authors. Reliability was calculated by comparing the trainee's score

to the consensus score agreed upon by the trainee and the expert. Scores for each item

needed to be within one point of each other to be considered a reliable match. For

example, a match occurred if a trainee scored an item a 3 and the consensus score was a

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4. If the trainee had scored that same item a 6, a match would not have occurred, bringing the trainee's overall reliability rating down.

Observations for the study were typically conducted within a window of 3-5 hours for each classroom on a "typical day." For full-day programs, observations typically occurred in the morning (i.e., from children's arrival to naptime), which is considered a more active time for children in full-day programs (Cryer, 1999). For half-day programs, observations occurred for the duration of the children's day. For the purpose of consistent data collection, a day was considered "typical" if at least 75% of children typically enrolled were present, all staff normally participating in the classroom during the time of the observation was present, and no special events were planned (i.e., celebrations, field trips, visitors). If an observer arrived on an atypical day (i.e., teacher absent, low attendance, unexpected visitor), the observation was postponed. Black-out dates were provided by the lead teachers prior to classrooms observation in an effort to avoid a return visit by the observer.

Description of the ECERS-R

In total, the ECERS-R tool is composed of 473 indicators that are scored on a 7-point Likert scale with 1 considered poor; 3 minimal; 5 good, and 7 excellent on overall classroom quality (Cryer, 1999). These indicators fall under 43 items divided into seven subscales that address space and furnishings, personal care routines, language and reasoning, activities, interactions, program structure, and parents and staff. An overall classroom composite score is tabulated as an average of the scores of the subscales and the items actually used in the tool. Average subscale scores are calculated by summing the scores for each item in the subscale and dividing by the number of items scored. The

overall composite or mean score is the sum of all of the items scored for the entire scale divided by the number of items scored. Notably, given the ranges of teachers' overall scores in this study, there was minimal in-group variation in the presence or absence of practice within a subscale that were within a teacher's control, although how the practice was carried out or not carried out could look different (see "Full Narratives").

Descriptions of the tools subscales follow:

The *Space and Furnishings* subscale includes indicators relevant to creating a comfortable, physical environment that supports children's inclination to learn through self-directed exploration and different types of play (i.e., individual and group play, quiet and active play, etc.). The indicators under this subscale assess the indoor space; furnishings for routine care, play, and learning; furnishings for relaxation and comfort; room arrangement for play; space for privacy; child-related display; space for gross-motor play; and gross-motor equipment.

The *Personal Care Routines* subscale includes indicators intended to produce a welcoming, healthy, and safe environment for children. These criteria assess how teachers support daily routines related to greeting and departure times, meals and snacks, nap and rest times, toileting and diapering, health practices, and safety practices.

The *Language and Reasoning* subscale is intended to evaluate the presence of interactions and activities that support children's development of language and reasoning skills. The indicators examine how teachers incorporate the following into their classroom: books and pictures, encouraging children to communicate, using language to develop reasoning skills, and informal use of language.

The *Activities* subscale assesses the materials teachers make accessible to children, as well as the interactions and activities they provide to support children's overall growth and development. The types of activities assessed include fine motor; art; music and movement; blocks; sand and water; dramatic play; nature and science; math and number; use of TV, video, and/or computers; and promoting acceptance of diversity.

The *Interaction* subscale measures the quality of different types of interactions that children are exposed to daily. The indicators included under this subscale are considered integral to creating a safe and nurturing environment, as well as a positive social arena for children. The types of interactions assessed include supervision of gross motor activities (typically outdoor supervision); general supervision of children (typically indoor supervision); discipline; staff-child interactions; and interactions among children.

The *Program Structure* subscale includes standards related to supporting the flow of the day, so that children spend most of the day engaged in purposeful activity. This subscale includes indicators related to schedule, free play, group times, and provisions for children with disabilities.

Last, the *Parents and Staff* subscale relates to more structural elements of the program, relating to provisions for parents, provisions for personal needs of staff, provisions for professional needs of staff, staff interaction and cooperation, supervision and evaluation of staff, and opportunities for professional growth. Notably, many of the criteria included in this subscale involve program policy and are not within a teacher's control. Additionally, since most of this subscale is scored based on self-report, bias is likely. Therefore, this subscale was not included herein. Structural components integral to

this study, such as staff professional development and group size and ratios were collected through other methods that will be discussed further.

The psychometric properties of the ECERS-R lend to its global appeal. In test research on the tool, completed by the authors of the ECERS-R (Harms et al., 1998), correlations between the two observers resulted in interrater reliability of 0.921 (Pearson product-moment correlation) and 0.865 (Spearman) for the total scale, based on a sample of 21 classrooms and two observers. Analysis of the internal consistency of the scale at the subscale and total score levels yielded internal consistencies ranging from 0.71 (Parents and Staff subscale) to 0.88 (Activities subscale), with a total scale internal consistency of 0.92. Unfortunately, empirical evidence on the test-retest reliability is unavailable for this tool (Harms et al., 1998).

In regard to construct validity, research and opinions vary. For example, Scarr and colleagues (1994) found that the ECERS-R could be broken down into two subscale constructs: (a) caregiver-child interaction and (b) quality of activities and facilities. However, Perlman, Zellman, and Le (2004) concluded from their factor analysis that the tool statistically yields only one general quality construct; therefore, the overall composite score is the most valid measure of the quality provided. While these findings are noteworthy, given the qualitative nature of this study, quality was examined first at the general level, and then at the subscale and individual indicator levels to offer breadth and depth in bringing meaning to the scores: What is actually happening in a classroom with a score of 1.97 (poor quality)? Which quality practices are observed? Which are not? What is in the teacher's control? What might not be?

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Assessing Process Quality Qualitatively

During each ECERS-R classroom observation, observers recorded descriptive information onto their score sheets as it occurred. Upon leaving the program, observers were urged to write reflective notes, outlining observed classroom strengths, as well as areas needing improvement. The following are examples taken from Observer Reflections for a teacher's classroom delegated to the poor quality group with a composite ECERS-R score of 2.00:

> Pure chaos-children have no direction, one staff . . . children are tough . . . need more staff, materials, room arrangement . . . staff needs training

> Communication from staff to director . . . fear of answers to my questions

> Very limited materials-none to interchange-children bored, frustrated-fighting, biting each other-staff need help and guidance

> No one cleaned up the slop/mess from lunch

> Children left unsupervised 7 times for 30 seconds or more

Within 24 hours of each observation, observers were required to write a Learning Environment Report, delineating indicators that were and were not met (i.e., observed strengths vs. observed areas for improvement) under each subscale. In many instances, observers included specific examples in these reports and/or score sheets regarding what was observed or what needed to be observed for credit to be given.

The following are recommendations based on quality indicators (i.e., standards) that were not observed, from this same classroom's Learning Environment Report, in which the teacher's informal use of language with children was assessed as a 1.00 (poor quality). Observer notes from the classroom score sheet are also included:

18-1.1) Assure that staff talk to children, not primarily to control their behavior and manage routines. Only direction or demands were observed.

18-3.1) Assure some staff-child conversation (Ex. Ask "yes/no" or short questions; give short answers to children's questions). No language stimulation was observed.

18-5.1) Assure many staff-child conversations during free play and routines. (Must see several examples; none observed).

18-5.2) Assure language is primarily used by staff to exchange information with children and for social interaction. This was not observed.

18-5.3) Assure that staff add information to expand on ideas presented by children. (Must see several examples; no examples were observed.)

18-7.1) Have individual conversations with most of the children (at least 75% of the children; this was not observed).

18-7.2) Ask children questions that encourage them to give longer or more complex answers (Use of "how" and "why" questions not observed).

The only indicator met was 18-3.2: Children allowed to talk much of the day. (This indicator means that the teacher allowed children to engage in verbal interactions with each other throughout the observation.)

Information from this report is essential to the interpretation process because it expands on what "poor quality" looks like and what children are experiencing within the context of this classroom, beyond a numeric representation. By design, practices captured by the ECERS-R tool during the window of observation are considered embedded in regular classroom practice, whereas practices not observed, while possibly occurring from time to time, are likely not to be embedded.

For example, based on the indicators not met and observer notes regarding what was observed, it could be deduced that the lead teacher in this classroom primarily used language to control children's behavior and to manage daily routines (i.e., restrictive

teacher behavior). Language was used by the teacher in only a directive or demanding way and no language stimulation was observed. Also based on none-met indicators (or standards), it is evident the teacher was missing opportunities to use informal language throughout the day to exchange information, to validate and build on children's ideas, and to model and encourage social conversations. Consequently, children in this classroom were missing opportunities to develop and hone language skills.

For each classroom, ECERS-R score sheets, observation reports, and observer's reflective notes were reviewed to glean insight into observed classroom practices beyond a numeric representation of quality. Care was taken to sort out indicators specifically targeting teacher behaviors (e.g., interactions, supervision, accessibility and organization of materials, informal use of language and reasoning, etc.) from indicators that are likely to be out of a teacher's control (e.g., classroom size, classroom repair, playground location, bathroom location etc.). Indicators considered beyond the teacher's control, were left out of analysis.

Assessing Professional Development

Each staff member participating in the Qualistar evaluation was required to fill out a training and education form delineating his or her professional development experiences. For each experience reported (i.e., training, degree, content specific coursework), the submittal of documentation for verification was required (i.e., college transcripts, vocational diplomas, certification certificates, and/or training certificates). Classroom volunteers, as well as other staff present less than 30% of the time children were present during the programs' hours of operation, were not required to fill out forms.

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To address validity, during initial data collection, in cases where information reported by staff on their Training and Education form did not match documentation, efforts were made to understand the discrepancy. For example, data collectors called the contact person for a specific program (typically the program's director) to verify and address missing documentation or error in reporting. In cases where the discrepancy was caused by missing documentation, programs were asked to provide the additional documentation needed to give credit. When reporter error occurred, data collectors made and initialed corrections to the survey to reflect submitted documentation. Each program also had the opportunity to go through a dispute process if they felt that any part of the data was reflected inaccurately; hence, there is a high level of confidence in data related to staff training and education.

Professional development categories, including trainings and college courses deemed early childhood related, were reviewed by local early childhood experts Diana Schaack and Joni Goodwin to establish validity. Diana formerly served as the Director of Research with Qualistar Early Learning and was instrumental in the design and collection of the data used. Diana was completing her PhD in Early Childhood Education at the Erickson Institute at the time of the study. Joni Goodwin's expertise includes over 25 years in the field as an early childhood educator and consultant (i.e., coach, mentor, and professional development coordinator) for ECE programs throughout the Roaring Fork and Grand Valley. At the time of the study, Ms. Goodwin's professional pursuits also included sharing her expertise as Qualistar-approved early childhood trainer and as a Colorado Community College ECE instructor. With an MA in ECE, she recently

completed the Buell Early Childhood Leadership Program through the University of Denver.

Years of Experience

On the Training and Education form completed by each participating program, staff members were asked to report years of experience in the field as either an administrative capacity (e.g., director or assistant director) or as a classroom teacher (e.g., lead teacher or assistant teacher). A limitation to using these data is that they are based on self-report. Since no documentation was required, it is subject to human error.

Adult-to-Child Ratios and Group Size

Adult-to-child ratios and group sizes were collected in three different ways during the data collection period. Changes in method were in direct response to identified limitations regarding accuracy. For example, during the 2001 data collection, information regarding group sizes and ratios was collected through program self-report. During the 2002 data collection, ratios and group size were collected through sign-in sheets in which staff and children's parents or guardians were required to sign in daily upon arrival and at departure, for a period of 3 consecutive weeks.

These varying collection methods resulted in compromised data. For example, staff and parents regularly failed to sign in and/or out and the movement of children and/or staff from one room to another or the merging of rooms to meet adult-to-child ratio licensing requirements or for specific activities was not accurately documented (i.e., children and staff were regularly counted in more than one room at the same time). Hence, in 2003, adult-to-child ratios and group sizes were collected through a time sampling system. This involved direct observation by a trained data collector who

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dropped into each site on random days during the observation window (to control for any adjustments the program may make to bolster ratios and group size). An average group size and overall average adult-to-child ratio was then calculated for each learning environment (i.e. classroom).

Notably, these problems with measurement allowed for analysis for a valid and reliable measure of ratios and group sizes (see Le, Zellman, Perlman, & Hamilton, 2006); however, a limitation to this study is that the group size data collected throughout each version of data collection is questionable. For example, while ratios tend to remain similar when groups merge, group sizes tend to get bigger (Roupp et al. 1979); however, due to documentation error, this was not accurately reflected in the sign-in sign-out method. Furthermore, in the time sample method, it became evident that data collectors counted group sizes differently when classrooms merged. For example, while one data collector counted the total number of children on the playground, another counted only the children from a specific classroom. Children from other classrooms, also outside with their teachers, were left out of the count. Very different information was therefore collected.

Hence, due to low confidence in the data, the highest group size taken on the day of the ECERS-R observation in each classroom, as well as the number of teachers reported as present, were used for this study. A record of the number of staff present, how many children were typically present, and the highest number of children actually present was documented on each observation score sheet. A limitation is posed in that daily fluctuations from varying schedules of staff, volunteers, and full-time and part-time children, as well as variation due to absences (i.e. illness or vacation) were not taken into

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account. However, this limitation was somewhat offset by the fact that an observation could not take place unless it was a "typical" day, with the normal composition of teachers present and at least 75% of the children who are typically in attendance present. The adult-to-child ratio and group size score sheet records were included in each teacher's narrative.

Program Characteristics

In order to capture structural influences that may or may not impact quality, characteristics of each teacher's program, program size, location, and type of program (i.e., non-profit or for-profit status, length of day, or agency or college affiliations) were pulled from an application form completed by the director of each program. This information was based on self-report. Information was pulled from a copy of each program's license and is more reliable since it was verified by the Colorado Department of Humans Services.

Unlike other studies, in which the relationship between licensing regulations and quality has been explored (i.e., Burchinal, Howes et al., 2002; Dunn, 1993), the programs that comprise the sample in this study are all under the licensing regulations of a single state (Colorado); therefore, the role of licensing was not evaluated due to lack of variability. Variance due to socioeconomic composition of the program (i.e., subsidy density) was accounted for in the sample, which included only programs with at least 50% of enrolled families qualifying for reduced-price or free lunches.

Analysis

> Interpretation . . . is not derived from rigorous, agreed upon, carefully specified procedures, but from our efforts at sense making, a human activity that includes intuition, past experience, emotion-personal

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attributes of human researchers that can be argued endlessly but neither proved nor disproved to the satisfaction of all. Interpretation invites the examination, the "pondering," of data in terms of what people make of it. The basis of symbols and meanings upon which anthropologists derive patterns of cultural behavior, for example, can be described and examined analytically, but discerning the patterns themselves is a matter of interpretation. (Wolcott, 2001, p. 32)

Descriptions of how the data were carefully examined and interpreted follow.

Full Narrative

Four narratives included in the body of this study include reconstructions of what children experienced in each of the four classrooms on the day of observation. Two of the narratives portray classrooms from the good quality cohort, whereas two portray classrooms from the poor quality cohort. These full narratives were written to contextualize experiences of children in a "poor quality" classroom versus those in a "good quality" classroom. In essence, these narratives put meaning behind the numeric scores and address the "So what?" of it all, by shedding light on differences in observed practices across the two cohorts. The highest and lowest scoring classes were chosen, as well as two other classrooms whose data were particularly rich in detail. For the sake of anonymity, each teacher was given a pseudonym.

Re-creations of visible teaching practices, assessed through the ECERS-R, over which teachers have direct influence, serve as the bulk of the narratives. As Larry Cuban (1993) described in his historical study *How Teachers Taught: Constancy and Change in American Classroom 1890-1990*, "observers can . . . categorize instructional patterns of individual teachers by careful attention to visible area of classroom decision making over which teachers have direct influence" (p. 9). Within the context of this study, patterns

pulled from each of the classroom's data (i.e., score sheets, reports, observer reflections) and incorporated within the four classroom narratives included the following:

1. Arrangement of classroom.

2. Presence of interest centers that are used by children as part of their normal day.

3. Types of materials accessible for children's exploration.

4. Presence and types of teacher talk.

5. Time spent in child-selected, teacher-directed small group or teacher-directed whole group activity.

6. Type and level of supervision.

7. Type of guidance.

8. Arrangement of classroom schedule.

To add more breadth and depth to the narratives, other characteristics relating to structural quality, which may impact a teacher's practice, were also incorporated. Such data include prior ECE experience, group-size, adult-to-child ratios, and program characteristics. Program characteristics include the program's profit status; length of day; Head Start, public preschool, or college affiliation in which funding and/or in-kind space from a community college or university are received and the program serves as a training ground for students and/or serves as a service for students and faculty of a community college or university, and so on. Related to structural quality, these characteristics were selected for further exploration based on findings (i.e., variables that may confound professional development) and recommendations from other studies (e.g., Early et al., 2007; Helburn, 1995; Howes, 1997; Howes et al., 1996; Kontos & Feine, 1987; Roupp et.

al. 1979; Whitebook et al., 1990). As Goodwin and Goodwin (1996) noted, in making between-group comparisons, an inherent responsibility of the researcher is to attempt to identify rival hypotheses (i.e., identify between-group differences other than professional development that may help explain differences in classroom quality). Doing so necessitated addressing relevant data to either rule out or give program characteristics relating to structural quality their just due.

There are, for example, mixed findings regarding associations between caregiver behavior and the number of preschool age children in his or her care at one time (adult-to-child ratios and group size). While many researchers have documented significant relationships between ratios (Helburn, 1995; Howes, 1997; Howes et al., 1996; Kontos & Feine, 1987) and group sizes (Roupp et. al. 1979) with caregiver behavior, others have not found relationships between ratios (Clarke-Stewart et. al., 1994; Phillips, Scarr, & McCartney, 1987; Ruopp et al., 1979) or group size (Clarke-Stewart et. al., 1994; Kontos & Feine, 1987) as significant indicators. Other researchers have deemed length of day and profit status as possible quality indicators (Whitebook et al., 1998; Early, Maxwell, & Burchinal, 2007).

Furthermore, while some researchers have indicated a teacher's prior experience is related to quality (e.g., Burchinal, Howes et al., 2002; Raikes et al., 2005) others contend prior experience is not (e.g., Roupp et al., 1979; Helburn, 1995; Whitebrook, Howes, & Phillips, 1990). Data regarding years of experience were included in this study for further exploration and to enrich interpretation. For example, is there a tendency for teachers who have been in the field a shorter period of time to fall within the "poor quality" category? If so, could inference and conjecture regarding the role professional

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development plays in quality be impacted by this finding? Notably, ratios and teacher experience were found to be significantly correlated with classroom quality in Qualistar's evaluative study.

When available, other characteristics of interest pertaining to teacher exposure to professional development experiences were also incorporated in each narrative. These characteristics included when content specific classes or degrees were completed, grades received in ECE classes below satisfactory (*D* or *F*), number of colleges attended, types of colleges (i.e., 2-year, 4-year, community, state, private, accredited), types of courses (i.e., on-site; online; independent study; correspondence courses, etc.) and training (i.e., conferences, off-site and on-site workshops, online and other correspondence trainings, such as mail in modules, etc.).

To add further breadth and depth to understanding the environment in which each teacher worked and to possibly take analysis to another level, the qualifications of the director of each lead teacher's program, as well as the qualifications of the other teachers working in the classroom the day of the observation, were also examined and woven into each teacher's narrative.

Abbreviated Narrative

Abbreviated narratives were constructed for all 20 classrooms to contextualize information from a variety of primary sources for purposes of analysis. They are included in Appendices A (poor quality cohort) and B (good quality cohort) at the end of this paper. For the sake of anonymity, each teacher was given a pseudonym. Similar to the full narratives, abbreviated narratives entail the content of the developmental pathways of each of the lead teachers constructed from the training and education forms originally

completed delineating her or his highest level of recent training (i.e., completed in the past 3 years) and education, as well as the college transcripts, vocational diplomas, certification certificates, and/or training certificates submitted to verify reported credentials.

In order to capture structural influences that may or may not impact quality, characteristics of each teacher's program, program size, program location, and type of program were included in each teacher's narrative. This information was pulled from a program application form completed by the director of each program (self-report) and a copy of each program's license (information verified by the Colorado Department of Humans Services).

Characteristics possibly related to structural quality, including prior ECE experience, group-size, adult-to-child ratios, and program characteristics (e.g., profit status, length of day, small or large center, etc.) were also included. While each teacher's classroom quality score was included in his or her abbreviated narrative, characteristics of process quality (i.e., specific teacher practices) were not; rather, relevant classroom practices were included in short vignettes created to describe and summarize findings in the "Results" chapter. Similar to the full narratives, the information pertaining to teacher practices included in the vignettes was pulled directly from classroom observation score sheets (including teacher responses to structured interview questions), observer reflections, and ECERS-R classroom reports.

Analyzing Education

The next step of analysis involved examining each teacher's education experiences. Table 2 shows the categories and corresponding definitions used to sort through and compare the educational experiences of lead teachers in both cohorts.

Content-specific coursework was examined using criteria created by a cohort of early childhood experts in 2004 (Qualistar Early Learning, 2004) and reevaluated in 2007 (Qualistar Early Learning, 2007) as guidelines. Per these guidelines, any early childhood education, child development, human development, consumer science/home economic courses, or general education courses with a clear early childhood focus qualified as ECE credit in this study.

Table 2

Operationalizing Teacher Education

Category	Definition
Quantity	Level of Degree (i.e., AA, BA, MA, etc). Number of content specific credit hours completed.
Type	Form of educational institute, such as accredited versus a non-accredited program (i.e., correspondence, online), on-site learning versus distance learning (i.e., correspondence, online), 2 versus 4-year program.
Content	Major. ECE topics covered.
Time Frame	When degree or courses completed, including in progress.
Grades	Grades received with Good: *A-B*; Satisfactory: *C* or *P*; Poor: *D*; Failing: *F*

Courses with different titles but similar content were also credited as ECE related. *Component* means that a portion of the class was devoted to ECE or young children. *Emphasis* means that the entire class was geared toward ECE or young children.

The following list served as an ECE related course content guide (Qualistar Early

Learning, 2007):

Art Education (preschool or ECE emphasis)
Child Development
Child Study and Observation
Children's Literature (ECE emphasis)
Children with Special Needs in Child Care
Collaboration with Families
Critical Thinking in Educational Issues and Trends (ECE component)
Developmental Psychology (ECE emphasis)
Education and Law (ECE component)
Educational Psychology
Family Literacy (ECE component)
Guidance, Organization, and Supervision
Individual and Family Development (ECE component)
Infant and Child Development
Improvement in Instruction (ECE emphasis)
Introduction to Teaching (ECE emphasis)
Kindergarten Education
Language/Literacy Development (early elementary, ECE emphasis)
Learning Theory and Learners
Models of Teaching
Motor Learning (ECE emphasis)
Nutrition (ECE component) or Nutrition and Preschool Child
Observational Skills
Overview of Special Education or the Exceptional Child (ECE emphasis)
Play Behavior
Positive Behavioral Support
Programming for Children and Families
Psychology of Learning
Public Policy and Children (ECE component)
Public policies and Family (ECE component)
Sociology of the Family
Sociology of Parenting
Storytelling
The Learning Process
 Urban and/or Multicultural Education

For individuals who had at least 18 early childhood credits, up to six credits of

related coursework were counted toward 24 early childhood credits if they were part of a

course of study leading to certification (e.g., Director Certification) or degree. The

reasoning of the experts who came to this conclusion was that the teachers with an early

childhood foundation already in place could integrate that foundation within the context

of these courses. For the sake of clarification in this study, these courses will be referred

to as conditional content-specific courses. The following list served as a guide for

conditional content specific courses:

Adult-Child Relationships in Families
General or Introduction to Psychology
Introduction to Sociology
Philosophy of Education
Foundations of Education
Sociology of Education
Educational Technology
School and Society
Education in the United States
Child Exceptionalities and Psychopathology
Developmental Disabilities and Mental Illness
Current Issues in Education
Testing and Measurement
Child Exceptionalities and Psychopathology
Developmental Disabilities and Mental Illness

For the 13 teachers who completed ECE-specific coursework, their course content

was charted, along with their grades for each of the courses, the number of credits

completed in each course and overall (credits completed in a quarter system were

transformed into semester credits using the quarter hours x 0.67 = semester hours

formula), and notes regarding the type of education, level of education, and the time

frame of their educational experiences. Each chart was coded with a classroom

identification number for the sake of anonymity. Next, I color coded course names by

"content category." Table 3 shows the courses within each content category.

Table 3

Content Categories and Corresponding Courses

Content categories	Corresponding courses
Introduction to early childhood education	Introduction to Early Childhood Education Introduction to Early Childhood Professions Early Childhood Education
Introduction to early childhood lab	Introduction to Early Childhood Education Lab Introduction to Early Childhood Professions Lab
Supervised observation	Observe and Participate Observe and Participate–Center Reflective Teaching: Fieldwork/Observation Child Growth and Development Lab Lab in Montessori Method Supervised Lab Experience Supervised Observation Child Study Young Children Assessment, Instruments, Process, Observation, Use
Practicum/student teaching[a]	Supervised Practicum with Seminar ECE Internship Practicum Student Teaching
Guidance	Guidance Strategies Social-Emotional Development and Positive Guidance of Young Children
Curriculum/method	Principles of Working with Young Children Methods and Techniques Curriculum, Methods, and Techniques Infant/Toddler Curriculum Early Childhood Curriculum Multicultural Curriculum Curriculum and Instruction: Montessori Method Creative Curriculum Cognitive Curriculum Infant Toddler Development Theory and Practice
Administration	Administration Early Child Care and Education Administration Childcare Center I Program Management: Family Day Care Professionalism in Early Childhood Education
Literacy	Children's Literature Exploring Children's Literature Language and Literacy

Table 3

Content Categories and Corresponding Courses (cont.)

Content categories	Corresponding courses
Supportive relationships	Child, Family, and Community
	Family and Parent Issues
	Family Relationships and Parent Involvement
	Family Styles and Dynamics
	Human Relations for Early Childhood Professions
	Parent Education and Involvement
	Administration: Program and Human Relationships
	Administration and Parent Issues
Child development	Introduction to Child Development
	Child Development
	Theoretical Foundations Montessori Education
	Child Growth and Development
	Child Psychology
	Physical, Language, Cognitive, and Creative Development of Young Children
Life span development	Human Growth and Development
	Educational Psychology
	Developmental Psychology
DAP activities	Music Methods in Early Childhood
	Creative Play Activities–Dance
	Creative Play Activities–Drama
	Early Childhood Art
	Montessori Sensorial and Practical Life
	Pre-primary Math and Language
	Primary Math and Language
	Recreational Activities
	Math and Science for Young Children
	Creative Play Ages 2-8
	Creativity and Young Children
	Planning Home Environments for Young Children
	Early Childhood Themes and Lifecycle
	Cultural subjects (music, art, handwork, geography, history, biology)
Special needs	Children with Special Needs
	Special Needs
ECE policy and issues	Issues and Trends in ECE
	Developmental Education (ECE issues and trends, political strategies)

[a] Supervised practical experience

Courses involving opportunities for students to observe classrooms and to reflect on practice (i.e., supervised observation and labs) or opportunities to work with children in a classroom with supervision (i.e., practicum and student teaching experiences) were recoded as "Supervised Practical Experience." Goodwin and Goodwin (1996) describe this next step as "axial coding" in which one makes connections between categories and features of the categories.

A less obvious categorization involves isolating Introduction to Early Childhood Education and its accompanying lab. I coded Introduction to Introduction to Early Childhood Education with its corresponding Introduction to Early Childhood Education Lab to ensure nuances of interest were not lost. These two courses are often taken in conjunction with each other, or sequentially with Introduction to ECE as a prerequisite to the ECE Lab. As of May 2010, new minimum Group Leader (i.e., Lead teacher) qualifications in Colorado require completion of Introduction to Early Childhood Education and another three credit ECE content-specific course (for a total of six credits). The ECE Lab is not required. Notably, when charting, it became evident teachers who took an Introduction to Early Childhood Education did not necessarily take the accompanying lab, making for the emergence of an interesting between-group difference that was desirable for further examination (described further in the next chapter). I also categorized the lab component under supervised observation, since supervised observation is typically the emphasis of the course.

Also less obvious is the distinction between Child Development and Life Span Development. Courses categorized under Child Development offer an early childhood emphasis, where as the courses categorized under Life Span Development offer an early

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childhood component. Notably, interesting patterns began to emerge while teasing these two categories out regarding the different disciplines (e.g., educational departments) in which these courses were taught. These patterns are described further in the next chapter.

Diana Schaack and Joni Goodwin lent their expertise in refining and validating these education categories. A recommendation was made to re-categorize administrative courses pertaining specifically to creating and maintaining supportive relationships (i.e., within the program and with children, their families, and the community) from the Administration category to the Supportive Relationships category to allow all courses that covered the topic of fostering relationships to be grouped together. Consensus was reached and two courses were re-categorized: (a) Administration: Program and Human Relationships and (b) Administration and Parent Issues. Furthermore, the decision was made to move Theoretical Foundations in Montessori Education from Curriculum and Methods to Child Development given the courses emphasis in Piagetian developmental theory (i.e., cognitive constructionism).

Once the course content was coded, each teacher's exposure to educational experiences was carefully examined and identified as comprehensive or piecemeal based on the following assumptions:

1. Comprehensive education: ECE coursework completed at one institution of higher education (or two institutions if other coursework transferred), indicating the completion of or a goal to complete a specific path of study; intentional integration of topics over duration of time.

2. Piecemeal education: ECE coursework completed though multiple higher education programs; pattern of one and two credit hour ECE classes; myriad of topics with limited exposure.

Bar graphs, charts, and descriptive statistics, such as percentages, were used to describe and compare education data between cohorts. In discussion with experts about what would constitute a meaningful difference, between-group differences of 30% or more were included in this study's findings as "interesting differences" worth further investigation. An interpretive narrative of these differences is included in the next chapter. Notably, in the process of interpretation, the examination of quantity became enmeshed with an examination of piecemeal versus comprehensive education. Consequently, a category combining these characteristics emerged in reference to teacher exposure: intensity and duration.

Analyzing Training

Next, this research work examined lead teacher training experiences. Table 4 shows the categories and corresponding definitions used to sort through and compare the training experiences of lead teachers in both cohorts.

Table 4

Operationalizing Teacher Training Experiences

Category	Definition
Quantity	The number of hours of training completed.
Type	Form of training, including: on-site workshops; off-site workshops, conferences, and distance training (i.e., correspondence, online).
Content	ECE related topics covered.

For the 13 teachers who completed ECE training, their training content was charted, along with the number of training hours completed in each topic and the overall

number of hours completed in the past three years, and type of training. Once charts were

completed for each of the teachers, content was topically color coded. Content color

coding was guided by Maxwell and colleagues' (2006) list of early childhood relevant

topics, based on their extensive review of the literature. This list follows:

Adult-child Relationships in Families
General or Introduction to Psychology
Introduction to Sociology
Philosophy of Education
Foundations of Education
Sociology of Education
Educational Technology
School and Society
Education in the United States
Child Exceptionalities and Psychopathology
Developmental Disabilities and Mental Illness
Current Issues in Education
Testing and Measurement
Child Exceptionalities and Psychopathology
Developmental Disabilities and Mental Illness
Child Development
  cognitive/intellectual/language
  social-emotional
  physical
  general/early childhood education
Curriculum planning/educational programming
Health & Safety
Working with Parents
Classroom or Behavior Management
Program Administration
Working with Staff
Child Abuse
Stress Reduction
Parenting
Education
Child Assessment and Evaluation
Child Care Food Program
Child Health Issues (e.g., immunizations, childhood disease)
Children with Special Needs
Multicultural Education/Curriculum/Sensitivity
Providing case Management Services to Families
Involving Parents in Program Activities

Providing Supervision to Staff
Head Start Principles and practices
Physical Care of Children
Social Services
Discipline Practice

Additionally, teachers' training experiences were coded as comprehensive or piecemeal based on the following assumptions:

1. Comprehensive training: multiple hour/day trainings covering specific, interrelated content; intentional integration of topics over duration of time.

2. Piecemeal training: ½ to 2 hour trainings on a variety of topics; myriad of topics with limited exposure.

Unlike the analysis of education content, in which complete transcripts were submitted and early childhood content courses sifted through and identified, teachers were directed to submit only documentation from recent ECE related training (i.e., completed in the past 3 years). While this approach made identification of ECE related trainings more clear-cut, it also poses a potential limitation in that teachers with more experience may have participated in prior trainings for which documentation was not provided.

Trainings pertaining specifically to CPR, First Aid, and Universal Precautions were not counted. During data collection, teachers were informed not to submit records of these trainings because they were considered necessary for meeting basic health and safety standards and represent the minimum standard of training required (i.e., licensing vs. quality standards). While some teachers did submit documentation from participation in these trainings, for the sake of consistency, those training hours were not included in analysis.

Bar graphs and descriptive statistics, such as percentages, were used to describe and compare training data between cohorts. Between-group differences of 30% or more were included in this study's findings as interesting differences worth further investigation. An interpretive narrative of these differences is included in the next chapter.

Analyzing Credentials

Next, I examined credentials. Table 5 shows the categories and corresponding definitions used to sort through and compare the credentials achieved by lead teachers in both cohorts.

Table 5

Operationalizing Credentials

Category	Definition
Quantity	The number of credentials completed.
Type	Type of credential achieved

For the eight teachers who completed credentials, their credentials were charted under the notes section of each teacher's education and/or training charts. Credentials were color coded by type: vocational, teaching certificate, Montessori certification, CDA, director qualified. Current credentials held by each teacher were counted, resulting in another category: multiple credentials. Credentials were not examined in terms of comprehensive or piecemeal because, by design, credentials are comprehensive in nature.

Bar graphs and descriptive statistics, such as percentages, were used to describe and compare credential data between cohorts. The same criteria of between-group differences of 30% or more were identified as worth further investigation. A narrative describing findings appears in the "Results" chapter.

Analyzing Teacher Practices

By design, in examining only classrooms that were rated on the low end (poor quality) versus the high end (good quality) of the ECERS-R, between-group differences in practice were maximized, as were in-group similarities. However, given the ranges of scores in both cohorts, some in-group variance did exist. In order to contextualize teacher professional development with practice across cohorts, teacher practices were examined to see whether patterns emerged regarding specific professional development experiences and teacher practices. (For example, when teachers have this particular professional development experiences, teacher practices tend to look like . . . ; Teacher practices tend to look like . . . when they don't have this particular professional development experience.)

Patterns in practice were highlighted and vignettes were created based on interpretation of ECERS-R score sheets, reports, and observer reflections in order to describe differences in relevant classroom practices. The use of these vignettes is limited to describing interesting differences in practice, in light of teacher professional development or lack thereof. Causal relationships cannot be drawn due to data and design limitations, neither is it possible to isolate professional development experiences from the variety of professional development experiences any one teacher might bring to his or her practice.

Analyzing Other Factors Potentially Related to Structural Quality

This research also examined and compared other factors that might influence observed classroom quality. Descriptive frequency measures (range, mean, and percentages) were analyzed using SPSS to help rule out between-group differences other

than professional development. Program characteristics related to structural quality examined through frequency statistics included years of experience, ratios, profit status, and length of day.

In examining these components of structural quality the following assumptions served as guidelines:

1. Years of experience: The lead teacher brings at least 3 years of experience to his or her practice (i.e., the current number of years of experience necessary to be a lead teacher in Colorado without a BA). Teachers with at least 3 years of experience were categorized as yes, and teachers with less than 3 years of experience were categorized as no.

2. Adult-to-child ratios: The classroom adult-to-child ratio meets Howes, Phillips, and Whitebook's (1992) threshold level for quality, which she found to be one adult for every eight children. Ratios of 1:8 or less were categorized as yes (i.e., meets quality standards). Ratios of 1:9 or higher were categorized as no. Notably, the Colorado licensing standard for preschool classrooms serving children 2.5 to 5 years old is 1:10.

3. Group size: The classroom group size meets Howes and colleagues' (1992) quality threshold of 18 children or less. Group sizes of 18 children or less were coded as yes. Group sizes of 19 children or more were coded as no.

4. Profit status: Each classroom was coded as for-profit or nonprofit based on the program's profit status at the time of the of data collection.

5. Length of day: Classrooms in operation 6 hours or more a day were coded as full-day and classrooms in operation less than 6 hours were coded as half-day.

Further, as abbreviated and full narratives were written and then reviewed, notes were taken regarding any similarities in professional development across classroom staff working in the same classroom. The professional development experiences of each teacher's program director were also reviewed. Flow charts of the professional development experiences of these staff were drawn for closer comparison as possible patterns began to emerge. This information was transferred into a comprehensive chart depicting characteristics of the focus teacher (i.e. lead teacher), assistant teachers, the director, classroom, and program for convenient comparison (see Appendix C). Descriptions of interesting between-group differences regarding other characteristics potentially related to structural quality follow in the next chapter.

Limitations

Currently there are no in-depth, large-scale studies examining professional development content due to prohibitive costs and time requirements. While a small sample size allows for the in-depth qualitative examination of documented professional development pathways and teacher classroom practices lacking in larger studies, the use of a smaller sample size and post hoc data presents different limitations. A potential limitation regarding use of a small sample is a lack of similar data across the model. Additionally, insufficient power, due to small sample size, prohibits the examination of significant differences through quantitative analysis as well as generalizability.

Limitations regarding the use of post hoc data include sample bias. For example, one limitation of this study is using a convenience sample composed of caregivers involved in Colorado ECE programs electing to participate in a voluntary early care and education quality improvement initiative, rather than a random sample of the total early

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care and education population. Additionally, specific ECE programs were eligible for funds based on participation in the School Readiness Child Care Subsidization Program. This population may differ from programs that were not eligible and thus did not participate. The population of providers included in the sample is not necessarily similar to the populations of other states, or for that matter, to programs within the state of Colorado that did not elect to participate in a quality improvement initiative. Hence, generalizability of this study's findings is limited by the sample.

The use of Qualistar's post hoc data specifically, from their recent evaluative study, also posed its own limitations. Since the inception of this study, RAND released its findings regarding the validity of Qualistar's Quality Rating System (Zellman et al., 2008). These limitations include child outcome criterion measures (e.g., Arnett, 1989) collected from a single classroom in each center, data primarily drawn from low-stakes settings, a new measure of parental involvement yet to be validated, a general lack of measurement reliability (excluding the ECERS-R), lack of a randomized design, nonrandom provider attrition, and very high child attrition (Zellman et al., 2008). Most notably, the nonrandom provider attrition resulted in programs that scored poorly on their initial ERS (i.e., ECERS-R, FDCRS, or ITERS), exiting the study before the second wave of data collection. The researchers note this attrition restricted the range of quality in the sample, which may have reduced the likelihood of finding effects of quality on other outcomes.

Regarding training, the Qualistar Rating awards points only for trainings completed in the past 3 years. By way of this criterion, teachers are awarded for participating in ongoing professional development to stay abreast of current best practices

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in the field. This poses a limitation in that data regarding training for this study are limited to instruction completed in the past 3 years. Training completed previously by teachers with more experience is, therefore, not reflected. Notably, collecting training documentation for instruction completed over 3 years prior would pose its own challenges and limitations (e.g., finding a sample of teachers who actually retained training certificates over the years).

A limitation in using the ECERS-R as this study's measure and definition of quality is subjectivity. The ECERS-R defines *quality* in terms of a specific approach to ECE (e.g., child-centered approach to learning, developmentally appropriate practice). Supporters of other philosophies (e.g., core knowledge or more adult-directive philosophies) may not subscribe to these standards. However, subjectivity is a limitation of any tool implemented to measure esoteric concepts such as quality, and the ECERS-R is the most widely used measure (Whitebook et al., 2000). While the ECERS-R does not measure child outcomes, it has been linked repeatedly through research to positive child outcomes (CQCO, 1996; Peisner et al., 2000; Peisner-Feinberg & Burchinal, 1997; Whitebook et al., 1990), though emerging research has suggested less of a link (i.e., modest) and questions what is actually known about measuring quality (Office of Planning, Research, & Evaluation [OPRE], 2009).

> According to the Office of Planning, Research, and Evaluation (OPRE, 2009),
>
> [e]merging evidence suggests that prediction of specific child outcomes, like development in the area of language and literacy, is more effective when measurement focus on specific aspects of the environment that promote development in this area. (p. 2)

Hence, global measures such as the ECERS-R—which broadly rate physical classroom features, routines, and interactions—may not greatly capture aspects of quality that are related to specific areas of development (e.g., language and literacy, early mathematics, social-emotional, and general cognitive development) and the outcomes on which children are being measured. As a result, there are recommendations in the field to refine and strengthen quality measures by tapping into specific aspects of practice and caregiving that are aligned with specific desired outcomes (Burchinal et al., 2009). As Zellman and colleagues (2008) noted:

> It may make more sense, particularly until we can build a stronger empirical basis for our measures of quality, to focus on program outputs rather than child outcomes. We might focus on what children are doing in child care, particularly their engagement in developmentally appropriate tasks in a safe and supportive environment. (p. 103)

Notably, the purpose of this study was to capture and examine overall quality in terms of classroom practices that are generally thought to be "good" for children (i.e., comfortable and convenient room arrangement, verbal stimulation, warm interactions, developmentally appropriate expectations, and supportive guidance) as opposed to poor practices that could possibly be detrimental to child development (i.e., lack of classroom planning, lack of verbal stimulation, little interaction or harsh interaction, inappropriate expectations, or ineffective discipline techniques). As Lambert (2003) suggested, when looking at different measures of quality, there is a need to differentiate what type of measurement is more practical for the purpose of measurement. For the purpose of this study, the broadness of the ECERS-R supported my intent to examine and compare the professional development experiences of teachers whose overall practices fell at opposite ends of the "quality" spectrum.

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In examining other potential limitations, one classroom I collected data on, including the classroom observation, is included in the data subset. While identifiers were blacked out for purposes of confidentiality, the researcher's handwriting was recognizable. This classroom is assigned to the good quality cohort. At the time of the observation, there was no inkling that the data collected by the researcher would be used for personal study.

Regarding structural quality data, a limitation to using Qualistar's years of experience data is that it is based on self-report. Because no documentation was required, it was subject to human error. Additionally, group size data collected throughout each version of data collection are questionable. Therefore, due to low confidence in the data, the highest group size taken on the day of the ECERS-R observation in each classroom, as well as the number of teachers reported as present, was used for this study. A record of the number of staff present, how many children are typically present, and the highest number of children actually present are documented on each observation score sheet. A limitation is posed, in that daily fluctuations from varying schedules of staff, volunteers, and full-time and part-time children, as well as variation due to absences (i.e. illness or vacation), were not taken into account. However, this limitation was somewhat offset by the fact that an observation could not take place unless it was a "typical" day, with the normal composition of teachers present and at least 75% of the children who are typically in attendance present.

Notably, there are three classrooms in this study, two in the poor quality and one in the good quality cohort, in which temporary staff were present, such as a substitute or other program staff filling in because a teacher had left and not been replaced. Such a

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situation is a reflection of teacher turnover, an unfortunate reality that greatly impacts the field (Berk, 1985; CQCO, 1996; Howes & Hamilton, 1993; NRCIM, 2000; Whitebook et al., 2000). It is distinctly different from a typical teacher being absent due to illness or vacation, in which case the ECER-R observation was postponed until the teacher returned. In cases of teacher turnover, in which a program agreed to participate in the study and then lost a teacher, efforts were made to postpone the observation until a replacement was found; however, given the time and cost restraints on data collection, the observation could not be postponed indefinitely. In such cases, the decision was made to go ahead with the observation, contingent on program approval, based on the notion that the observer would be capturing what children were typically experiencing within that snapshot of time.

Further, there appears to be one instance, in the poor quality cohort, of "teacher shuffling." Teacher shuffling refers to the practice of moving classroom staff from one class to another to cushion adult-to-child ratios in order to meet licensing requirements or with the intention of making things look better for an observer or visitor. This is a prevalent practice that this researcher has often observed. In fact, I was once called in as a substitute teacher, only to learn on arrival that I was there as a "cushion." Concerning the classroom in this study, it appears that a teacher who worked an afternoon shift in another classroom came and spent the morning of the observation co-teaching with a teacher who was typically alone in her classroom, likely skewing the adult-to-child ratios for that particular classroom. Interpretations and implications of "teacher movement" (i.e., teacher turnover and teacher shuffling) and teacher qualifications are discussed further in the "Results" and "Discussion" chapters.

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Given the limitations of this study, the question of the practical use of this research arises. The answer is that, in existing research pertaining to links between professional development and classroom quality, self-report was relied on as the measure of professional development and there is little consistency in how professional development has been categorized across studies, as well as little differentiation in the types of experiences (e.g., college classes from accredited university clumped together with college classes from a nonaccredited university, clumped together with a one-hour workshop and a 30-minute video).

While the first large study (Vu et al., 2008) in which actual transcripts were reviewed was only recently published, currently, there are no extensive studies examining different types of professional development as in depth as this study due to prohibitive costs and time requirements. Exploring actual documentation of professional development content, from two cohorts of teachers distinguished by maximum differences in the quality of their classroom practices as measured by a standardized tool, could offer practical direction for further inquiry. Why is this important? There is a current trend toward more stringent, yet diverse, professional development standards and each comes at a cost without a clear understanding of the return. Findings and interpretation are described in the "Results" chapter.

Full Narratives: Inside Four Classrooms

The narratives that follow are reconstructions of what children experienced in Laura, Penny, Joy, and Cass' classrooms on the day of observation. Two of the narratives portray classrooms from the good quality cohort, and two are from the poor quality group. These four full narratives were written to contextualize what children in a poor

quality classroom experience versus children in a good quality classroom. By research design, only classrooms at the highest and lowest ends of the quality spectrum, as measured by the ECERS-R, were selected for this sample. Consequently, between-group differences in practice were maximized, as were within-group similarities. In essence, these narratives put meaning behind the numeric scores and address the "So what?" of it all, by shedding light on differences in observed practices across the two cohorts. The highest and lowest scoring classes were chosen, as well as two other classrooms whose data were particularly rich in detail. For the sake of anonymity, each teacher was given a pseudonym.

In creating each teacher's "story or picture," I pulled from personal experience as an employee for CHIP, Educare, and then Qualistar, collecting and writing over 350 descriptive classroom reports and at least 100 descriptive program Quality Performance Profiles, using like data. While the reconstruction of what was observed may not be exact, the information is taken directly from the data sources secured for this study.

Laura's Classroom—A Glimpse Inside a Classroom Rated as Poor Quality

Laura's classroom received an ECERS-R score of 1.69, indicating poor practices were typically in place. Hers was the lowest scoring classroom in the database. Laura's classroom was one of six classrooms in a large for-profit childcare center located in a metropolitan area. Her classroom was open for 12.25 hours a day and served children ages 4 to 5 years old. On the day of the observation, for most of the day, Laura's class held 23 children.

Laura worked with a teaching assistant, and on the day of observation, a volunteer "Grandma" was also present. Because volunteers are not required to go through background check by state licensing, Grandma could not officially be included in the adult-to-child ratio counts. For the bulk of the day, Laura and her teaching assistant allowed for a 1:12 adult-to-child ratio. It was apparent from the observer's notes that Grandma interacted with the children and impacted their day, so the decision was made to include her interactions in this narrative. Laura did not appear to adhere to a particular philosophy or curriculum in her classroom, but based on documentation, a teacher-directed approach was evident in Laura's interactions and instruction.

A snapshot of Laura's classroom. Laura's classroom offered children an adequately lit and well maintained space for play and learning. Some attention had been paid to creating a realm of comfort. For example, there was carpeting and some soft toys, such as puppets and a stuffed bear to lend a sense of warmth. However, no thought had gone into designating a classroom space where a child could go to unwind, get away from group energy, play quietly, read, and daydream. While Laura did report that children were allowed to find or to create a space if they desired, by design or lack thereof, the

onus of creating and protecting a space for individual play was placed on the children. Further, while effort was made to create a connection between the children and their classroom environment by displaying store-bought items depicting healthy habits, the observer noted that these items were displayed above the children's line of vision, indicating a lack consideration for a child's perspective.

Thought evidently had been put into dividing the room into different activity areas. For example, there was an art area, a block area, a computer area, a science area, a dramatic play area, a book area, and a fine motor (i.e., manipulative toy) area. However, the lack of a curriculum to support center-based learning and an evident lack of teacher planning appear to have foiled their intended purpose. For example, in the art area, there were scissors, crayons, colored pencils, stencils, markers, magazines, a few bottles of glue (3 for 23 children's use), a "little bit of paper," and play-dough with cookie cutters; however, the observer noted that there was little opportunity for children to use these materials in a creative way. While the art materials were available on child accessible shelves, children did not have permission to independently obtain the materials and make creations on their own way. According to the observer, "art" in Laura's classroom predominately consisted of worksheets and teacher-directed coloring projects.

The dramatic play area offered a hodge-podge of materials intended to support child pretend role play, yet a lack of teacher planning in how these materials were to be used was evident. For example, children's dress-up choices consisted of "girl's dress-up clothes" and a hard hat served as the solo garment that supported gender neutral or male gender role play. A collection of pretend food lacked accessories to support children's pretend use of the food, such as a kitchen set, plates, or picnic basket and blanket. While

there were 15 baby dolls accessible to support domestic role play, they were accompanied by a sole toy highchair. Furthermore, a dollhouse that lacked dolls and furnishings merely took up space. Additional accessible pretend play materials included a collection of puppets, a single truck, and a collection of plastic animal figures. While numerous materials were evidently accessible, the observer indicated credit could not be given for having enough props to support children's play around at least two different themes (e.g., housekeeping and different types of work, leisure activities, or fantasy). The materials on hand lacked the interconnectedness needed to support rich thematic play and the odd quantity of different types of props (e.g., one hard hat and one truck; 15 babies and one baby doll accessory) likely discouraged harmonious group play.

In the block area, children had access to a shelf with wooden blocks, a small basket with small blocks, and large Lego blocks. The observer noted there were no accessories in this area (such as the aforementioned animals or trucks or other types of vehicles, people, or dinosaur figures) to enrich children's block play. Notably, the block shelf was located along the pathway to the outside door; hence, children's block play was situated in a high foot-traffic throughway, which could result in disrupted play.

The fine motor area offered children a few different types of materials to challenge their dexterity. For example, there were numerous types of puzzles. One puzzle encouraged matching skills, but the observer indicated most of the puzzles depicted commercial cartoon characters. Whether toys portraying media connected characters are developmentally appropriate (DAP) is open to debate. Some early childhood experts argue that they are not DAP (Linn, 2008) with the assertion that media-connected toys perpetuate a cycle of television and movie viewing and media-related consumerism. In

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turn, commercial characters become archetypes that shape children's play, diminishing the role of a child's own creative process. Others (Livingstone & Bovill, 2001) view commercial toys as culturally relevant in this media-based age. They acknowledge that these types of toys serve as a common topic for interaction among children and can contribute to children's cultural literacy and status (popularity).

Whether Laura gave either of these arguments any thought when selecting the puzzles to include in the children's fine motor area will remain unknown. What could be deduced is that puzzles offer children excellent opportunities to practice their fine motor skills and spatial planning and to explore how parts make up a whole. Based on their subject matter, they can also support children's understanding of specific concepts (e.g., matching, seasons, sizes, colors, shapes, numbers, occupations, animals, and letters). Puzzles simply depicting cartoon characters lack this last element; therefore, children were missing an additional opportunity to learn through their self-directed play.

Small building toys, such as Duplo-blocks and connecting people, were also accessible in the fine motor area. Wooden lacing shoes, a pretend workshop bench, and a Mr. Potato Head with just a few parts intact rounded out usable items in this activity area. Small chalkboards with erasers were missing the chalk necessary for them to be used in a meaningful way by children, yet another example of a lack of teacher planning.

With regard to science activities, children had science books (in the book area) and some other materials at hand. There was an aquarium with shells, as well as magnets that children could use. A couple of classroom plants offered children opportunities to explore nature indoors. Additionally, a collection of buttons allowed children to compare and contrast properties such as shape, size, color, and quantity. However, what is unclear

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is whether children actually used any of these materials in their intended way, given the lack of teacher interaction and support provided.

In the book area, the observer noted that children's access to books was limited, surmising, "during free play children have enough books to avoid conflict." Subject matter was limited to rhymes, Mother Goose tales, science, and math (e.g., counting). The observer indicated that opportunities for teachers to share in a child's or small group of children's book exploration (i.e., informal reading) were missed. In turn, missed were opportunities to support children's emergent literacy skills, such as modeling how pages turn from right to left, identifying words through pictures, supporting children's awareness of print and that print tells the story, and hypothesizing what will come next in a story. Indeed, at no point in the observation was there any facilitation by Laura or her co-teacher to help make a connection between children's interests and activities and the books that were accessible; books were simply provided, and the array of books provided met minimal standards at best.

Other types of materials were evidently present throughout the room. For example, there was no math center per se; however, in addition to the button collection, children had access to an abacus and a matching puzzle. The observer also noted that some musical instruments were accessible (less than enough for half the children to use) and that Laura provided some opportunities for children to experience different types of music, rhythms, tempos, and movement. For example, as observed and reported by Laura, at least one music activity was scheduled daily (e.g., singing songs, finger plays, or movement to songs on CDs). Laura also reported that a movement or dance activity was offered to children weekly. However, Laura's CD selection was limited to two types

of music genres: children's music and nature music. Hence, opportunities to expose children to a wide variety of music such as jazz, classical, blues, reggae, world, folk, blue grass, country, and pop were missed. Notably, the nature music specifically served as a tool for quieting children down at naptime, although it was not a particularly effective tool, as described later in this narrative.

Computers and videos were two forms of media used with children in this classroom. The observer indicated that the computer area was composed of two computers that offered children nonviolent and developmentally appropriate computer programs. Children's computer time was limited to no more than 20 minutes a turn, which the observer credited as good practice.

Laura's practice around video use, on the other hand, was less favorable. Based on the schedule and teacher report, videos were viewed as a whole-group activity on Fridays ("movie day"). Laura reported that movie time typically lasted an hour—the maximum time allowed under "good practice;" however, Laura's practice of requiring all children to pay attention to whatever video was shown, with no alternative activities available, was considered developmentally inappropriate because children who were not interested were made to sit and watch. Further examination of Laura's practice concerning video use, given the movie was shown at the end of the day, indicated that children were likely picked up by their parents during movie time; hence, children who were interested may not have had the opportunity to see the video in its entirety, causing one to question the intention of movie day.

Based on Laura's reported practice and my experience observing similar practice and discussing video use with a wide variety of teachers, Laura's practice was indicative

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of using video as a "babysitter" or a form of passive supervision. In this scenario, the intended purpose of video would be to occupy children passively so that teachers could have "down-time" to unwind, plan, or take care of classroom chores. Given the observation did not occur during a time when video was used, this interpretation is purely speculative. What can be deduced is that children in Laura's classroom missed an opportunities for video to be used in an intentional and meaningful way such as to expand on current classroom activities and topics of interest.

In general, it appears little planning had gone into the arrangement of Laura's classroom beyond housing materials in interest centers. For example, enrolled children could spend over 60 hours a week in this classroom, but there was very little that personalized the environment for the children (e.g., their creative artwork; dictated ideas and stories; pictures of the children, their families, or pets lacking). Further, little consideration had gone into creating spaces that were conducive to different types of play and intentional learning. Activity areas were set up along major throughways and materials were placed around the room with little thought regarding how materials might be used together to further enhance exploration and to scaffold new skills. Multiple materials were missing pieces integral to their use and enjoyment by children and, therefore, simply cluttered their play space. Overall, the arrangement of Laura's classroom lacked the cohesive planning and design necessary to support effective classroom management as well as child-directed discovery and learning. In turn, the lack of a curriculum, positive guidance, and active supervision undermined any organizational efforts in place, as discussed further in the next sections.

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A typical day. The schedule in Laura's classroom lacked a dependable sequence of daily events. A typical day, as outlined in the schedule posted on the wall, started at 6:00 a.m. The rest of the day was scheduled as such:

6:00 am - 8:00 am: Free choices

8:00 am - 8:30 am: Breakfast

8:30 am - 9:30 am: Recess

9:30 am -10:00 am: Circle

10:00 am - 11:15 am: Art/Recess

11:15 am - 11:45 am: Music/Center

11:45 am - 12:30 pm: Lunch

12:30 pm - 2:00 pm: Nap

2:00 pm - 2:30 pm: Table Toys

2:30 pm - 3:00 pm: Snack

3:30 pm - 4:00 pm: Recess

4:00 pm - 4:30 pm: Story

4:30 pm - 4:45 pm: Table Learning

4:45 pm - 5:15 pm: Centers

5:15 pm - 6:15 pm: Movie

Based on the observer's notes, the day of the observation, in fact, looked quite different from the schedule. For example, the day actually began with the arrival of the children and their parents. It is noteworthy that the morning arrival of children and their parents was not a part of the daily schedule because, based on the arrivals observed, it was apparent that greeting children was not embedded in Laura's classroom practice. For

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example, upon their arrival, children were ignored and only some of the parents were spoken to when dropping off their children.

Once children said good-bye to their parents, they were free to choose activities from any of the classroom's interest areas. During this time, active supervision was notably lacking. The observer noted no examples in which staff participated in or supported children's learning through play, so it was unlikely that many of the materials were used as intended. For example, while the observer credited the button collection as a math and science activity, without teacher guidance or modeling, it was unlikely the buttons and other accessible materials were used by the children to the extent that they could be (e.g., grouping, sequencing, counting, 1:1 correspondence; shape identification, and patterning).

This lack of active supervision appeared to be typical of what children experienced throughout the day. Based on documentation, teachers were busy doing classroom tasks (i.e., cleaning, breakfast prep) and telling children what to do or not to do. As noted by the observer: "Staff mainly tend to other tasks . . . belittle kids . . . "no" . . . "sit" . . . "do . . . ." The observer further noted that there was "no staff guidance for positive peer interaction." Consequently, there was "little or no positive peer interaction," resulting in teasing, bickering, and fighting.

Not explained in the schedule is the fact that the pre-kindergarten children had additional company in the classroom for their early morning activities. According to the observer, before 8:00 a.m., there were 37 children present with the two teachers. During this time, school-aged children who attended Laura's program for before-school-care were combined with Laura's children. This mixed-group practice resulted in violation of

licensing as a result of being out of ratio. The observer indicated that, on top of being in violation of licensing standards, the classroom actually lacked the space and furnishings necessary to meet the needs of this larger group. While this was a programmatic issue that was not within Laura's control, it did appear to set a tone for the rest of the day. Crowding was alleviated once the "before-school" children left; however, based on the observer's notes, the early morning chaos seemed to remain through the rest of the day.

Story time followed 2 hours and 15 minutes of free play. This story time was not on the schedule, but appeared to be a transition activity into handwashing for breakfast. As the children headed to the sink, Laura insisted, "Ladies need to go first." No other supervision was provided. In being left on their own, children's handwashing efforts were negated because soap was not used and teachers reportedly did not wash their hands.

When breakfast was complete, the teachers teamed up each of the pre-K children with a school-aged child for participation in a teacher-selected fine motor, science, or math activity. There was no mention of this 30-minute peer pairing activity on the schedule. According to the schedule, recess was typically scheduled for this time, and it was evident that the children's energy level was rising as they were instructed to make a "boy . . . girl . . . boy" circle for the teacher-led Circle Time activities that followed. Notably, the beginning of Circle Time marked the end of the large, combined group, with the school-aged children heading off to school.

Laura began Circle Time with a "good morning" song and discussion about what day it was (i.e., calendar time). The observer indicated that Laura confused the children by describing it as the 4th day (of the week) and the 7th of February. Attempts were apparently made to talk about the letter *W* and for the children to sing the "10 Little

Indians with W [*sic*] sound." One can imagine Laura leading "1 wittle, 2 wittle, 3 wittle, windians . . . ." However, this was short-lived because much of the adult focus turned to trying to get children to behave, with regular reminders to "sit down" and "criss-cross apple sauce" (i.e., sit with your legs crossed). When these orders went unheeded, Laura threatened, "We were going to do our dance this morning, but you guys are not settling down." Grandma also contributed to the reprimands, telling a child to "get away from that toy." As the adults focused on the unwanted behavior, the children's focus apparently became increasingly diverted, with children talking, wiggling about, and throwing things. This situation lasted for 32 minutes. During this time, the observer pondered on her score sheet whether she should even count Laura's assistant teacher in the adult-to-child ratio because she appeared so disengaged from the group.

Next, the whole group was separated into two smaller groups, with one group transitioning outside with Laura's teaching assistant and the other focusing on art time with Laura and Grandma. While it appears breaking into smaller groups was an attempt to make this transition go smoothly, negative interactions erupted, and it was not only the children contributing to the resulting chaos. Adults were observed pointing their fingers in children's faces, emphasizing the seriousness of their demands for the children to hurry up or to sit down. Grandma was observed poking a child in the back and demanding, "let's go," resulting in the child breaking into tears, with no teacher intervention. The observer added: "Grandma yanks on kids . . . bonks on back to hurry up." Further, a child who did not have gloves was given the ultimatum to "put the socks on your hands or you don't go out."

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These attempts to discipline children through humiliation, physicality, and authority proved ineffective, and the children's interactions with each other, during this drawn out transition (over 10 minutes), turned negative as well. Children were observed scratching and choking each other, and the teachers continued to respond to children with ineffective discipline techniques. For example, "the scratcher" was made to sit on the floor while "the choker" was led to sit in a chair. No other attempts by the teachers to lend guidance were observed. The teachers merely got the children under "control" and out of the way. The observer noted that the children later got up on their own accord with no notice from the teachers. In essence, "Time Out" was poorly practiced (e.g., no Time-Out" follow-through, such as discussing the behavior that warranted the Time-Out; no set time or clear purpose of Time-Out). No attempts were made by Laura or her assistant to help the children understand and resolve the conflict. Based on documentation, the provision of behavioral support of any type was completely lacking.

Once Laura's teaching assistant made it outside with her group, the observer stayed inside to watch Laura and Grandma with the remaining group of children. (Note: It was typical practice for an observer to stay with the designated lead teacher when a class divided into multiple groups.) The children who remained inside for art with Laura were given coloring dittos and the adult-child interactions continued to be unpleasant. For example, a child who attempted to engage Grandma in finding the rocket on his coloring worksheet was told, "I'm not interested in your rocket." A child upset about having a crayon broken by a classmate was all but ignored. Within 10 minutes, this group joined Laura's assistant's group outdoors.

Outside, children had several built-in climbing structures on which to play. No other materials were brought out to enhance children's gross motor play (e.g., balls, hula hoops, or riding toys) and again supervision was lacking. The observer noted that the teachers tended to have their backs to the children, and when interactions with children did occur, these adult-child interactions were neither positive nor comforting. For example, a hurt child was "brushed off" with a simple "You're okay." Another child, crying "I miss my mommy" was left to wander around the playground.

After some time with both groups together on the playground, Laura's assistant's group headed in for a teacher-directed music activity, involving children listening to the musical storybook *Going to the Zoo* (i.e., passive participants). Laura's group of children followed indoors shortly thereafter. The children in Laura's group were allowed to choose from accessible fine motor materials. Laura's assistant's music group then transitioned into what the schedule delineated as block and choice time. (There were no observer notes describing what this activity entailed.) Within a 17-minute period, these activities ended with clean-up, which was followed by a story to help transition into lunch.

At this point in the observation, some children had had up to 14 transitions into and out of different types of activity times since their arrival. Notably, the majority of activities were prescribed by Laura, and each activity period brought different expectations for how children should adjust their behavior. The necessary behaviors fluctuated between selecting materials and playmates with minimal supervision to sitting down and being quiet with oppressive supervision, waiting long periods, to participating in an activity chosen by the teacher with a teacher-chosen playmate. Evident was the

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observer's summation: "Expectations for behavior are largely inappropriate for age and developmental level of children."

Children transitioned into handwashing, without teacher support, before sitting down at what the observer described as dirty tables. Children's food was then served to them by teachers who had also not washed their hands and a negative social atmosphere was noted. For example, a teacher threatened to withhold food from a child who was apparently not listening: "stop . . . you're not going to have lunch." As lunch progressed toward naptime, children were told to "hurry up, go nap." The observer noted that in the process of hurrying children, the teachers took children's food away from them before they were finished.

With yet another mealtime over, missed were opportunities to engage children in conversations and to encourage children to converse amongst themselves. Also missed were opportunities to promote self-help skills, such as setting the table, serving one's self, clearing one's place, or helping with clean-up. Handwashing provided the one scenario in which self-help was promoted, yet it was not teacher facilitated, and the children's efforts were ineffective (i.e., did not use soap, did not use water).

After the teacher-driven rush to transition into nap, nature music was played to help the children relax. Besides the nature music, there was no indication that other means were used to help the children unwind and relax. For example, rather than spreading out the children's nap mats to give them space to relax, the children's mats were crowded together. Not surprisingly, given the events of the day leading up to this time, the observer indicated that nap time was chaotic with punitive supervision, although no specific examples were noted.

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With nap, the official observation ended, but the observer was in and out during the afternoon to do group size and adult-to-child ratio counts. She noted that, after nap, children woke up to worksheet activities (noted as table toys on the schedule), evoking yet another example of classroom management through teacher control. In most of this example, teacher control was manifest through managing what children do, where they do it, and for how long they do it, with children in the role of passive, nonmotivated participants.

Interactions. "Children are controlled with severe methods." Across the board, the observer rated interactions as a 1.00 or "inadequate" to support children's social, emotional, and cognitive development. The observer indicated that not even the minimal standards for adult-child interactions including discipline, supervision, and peer interactions were met.

All adult-child interactions appeared to be missing an underlying respect for children's feelings. In general, the adults in the classroom were nonresponsive to children's needs and positive attempts at adult engagement (e.g., children told to sit down rather than being listened to, excitement squashed, children left on their own to cry). Interactions that occurred were described by the observer as "severe." Examples of severe interactions observed included shouting, confining children for long periods, and withholding food.

Rather than physical contact being used to demonstrate warmth (e.g., a hug, gentle hand on the shoulder, pat on the back), touch was mainly used for control. Grandma, the volunteer, was particularly prone to respond harshly to and physically with children (e.g., humiliating, poking, and yanking). While Grandma was a volunteer

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teacher and not a regular classroom teacher, it was Laura's responsibility to ensure classroom volunteers followed 'best practice" and, at the very least, that volunteers did not put children in physical or emotional harm's way.

Not only was discipline severe, but it was ineffective. The staff set the tone of the children's day early on by using irritated voices for barking orders: "Sit on the floor, you're not listening. . . . You need to be with the group." When children refused to listen, Laura pulled out empty threats from her bag of ineffective teacher tricks. For example, a child who would not sit down at circle was told threateningly "you're not going to have lunch." Another child who was told by Laura "we are going to the office, you're causing nothing but problems" was never taken to the office. Other examples of ineffective discipline practices were noted in the preceding description of the children's day.

Scaffolding of children's learning through active supervision and positive behavioral support was lacking from Laura's repertoire of classroom-management skills. For example, the lack of responsiveness demonstrated toward meeting children's emotional needs carried over into supporting children's interests and hands-on learning through active supervision. The observer noted no evidence of the teachers engaging in children's activity center exploration and learning or outdoor play and learning.

The only evidence of "teaching" was Laura's attempts to engage children in direct instruction (i.e., Circle Time activities, music) and to enforce children's completion of coloring worksheets. Teachable moments, such as discussing the freshly fallen snow when the class went outside or having a child figure out how many plates were needed to set the table for lunch, were missed. Additionally, language stimulation was significantly

lacking. The observer noted that "staff talk to children primarily to control their behavior and manage routines . . . staff rarely respond to children's talk."

In general, children's ideas were ignored or responded to with one word responses, such as "wow." Notably, "wow" bore the closest resemblance to encouragement observed. Adult stimulation of children's reasoning skills was also absent. For example, there were no instances observed of a teacher helping a child figure out what comes next in the day, how to put together a puzzle, or how many blocks a child would need to make a tower as tall as his friend.

With regard to peer interactions, the observer noted that there was "little or no positive peer interaction" and "no staff guidance for positive peer interaction." In addition to missing opportunities to model and scaffold conflict resolution and other desired social behaviors, as noted earlier, staff actually modeled disrespect (e.g., finger pointing in face, poking, yanking, yelling, disengagement, and non-responsiveness).

Indeed, the adult-adult interactions were minimally supportive. For example, while the adults took on different roles to support the day and each other (i.e., leading activities, cleaning, and preparing for the next activity of the day), there was a great lack of coordination of those roles, so nothing ran smoothly. The staff had evidently not mastered the fine dance of collaborative teaching, and the addition of a volunteer teacher had apparently complicated the choreography. At times during the observation, it appeared that Laura's teaching assistant ceased dancing altogether. Additionally, the observer indicated that the interactions of adults' in the classroom lacked the conveyance of warmth and support. In general, the children in Laura's classroom would have greatly benefited from an established set of social mores (e.g., clear, consistent, and

developmentally appropriate rules and expectations for classroom conduct) that the staff and all classroom volunteers were expected to abide by as well.

Flow of the day. The day appeared to flow in a tide of chaos. Children were allowed to ebb out into free play activities without any type of guidance, only to be reigned back into teacher-directed activities and transitions guided by adult-demanded restraint. Throughout the observation, transitions were numerous (at least 16 transitions during the duration of the observation alone) and hectic. The observer noted that teachers were irritable, and children had long periods in which they had nothing to do but sit and wait. During these times, misbehavior escalated, and Laura started pulling out ineffective classroom-management tools (e.g., berating, empty threats, physical coercion) only to have the tide grow larger and farther out to sea. It appeared as though child misbehavior grew as it became the focus, perhaps the result of actually getting adult attention. In response Laura's methods and those of the other adults in the classroom became more severe in misguided attempts to gain control of the flow.

Overall, it appeared that Laura used teacher-directed activities and authoritarian discipline as her main tools for classroom management. Evident was Laura's effort to create interest areas to support children's self-directed exploration and learning, yet the lack of a curriculum that supported center-based learning and an apparent lack of effective teacher planning appeared to have foiled their intended purpose. Also absent were coordinated teamwork among the adults in the classroom, positive guidance, clear and appropriate expectations, and positive interpersonal relationships on all levels. Left then were nothing but a tight (teacher-directed emphasis on what needs to happen when) yet erratic schedule (much teacher ordering around but little order to the day; children

expected to hurry up, then made to wait for long periods) and ineffective teaching practices (punitive guidance and ineffective teaching content) to control the flow, yet these very practices appear to have helped invoke the angry swell of the tide.

Inclusion. At the time of the observation, none of the children enrolled in Laura's class were identified with special needs. There is the possibility that there were children enrolled whose needs may have been overlooked and therefore not identified.

Lead teacher qualifications. Laura's highest level of education was the completion of high school. Professional development through piecemeal training is evident, with documentation submitted for 19 hours of ECE training completed in the past 3 years. Trainings include one-hour workshops covering such topics as behavior, developmental milestones, positive teaching, Circle Time, and storytelling and a 2-hour workshop on food handling. Laura also took advantage of attending a locally held, one-day, 6-hour conference, 2 years in a row. Topics covered include kindergarten readiness, music and movement, working with a "problem child," and big books. These conferences were categorized as piecemeal because, although 6 hours in length, there was no interconnectivity of subject matter. Each topic was covered as a separate workshop led by a different individual.

Lead teacher experience. At the time of data collection, Laura brought 18 years of experience to her practice and had been working in this program for 3 years.

Director qualifications. The director of Laura's program brought 20 ECE credits to her leadership role. It was apparent that her education was piecemeal in nature. Fourteen of the credits were matriculated at a nonaccredited, private, metropolitan university. The Department of Human Services indicated that she was six credits shy of

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being director qualified, with three semester hours needed in early childhood growth and development and three semester hours still needed in nutrition. Experiential credits from the nonaccredited university included early childhood education (experiential credit), administration (three credits through practical experience and exam), and methods and techniques in working with preschool children (two credits through practical experience and exam). Credits through coursework included content in the following areas: curriculum and ECE strategies, psychology of teaching, and socialization (nine credits total). Nine years prior, six additional one-credit courses were completed at an out-of-state accredited college. Five of those credits involved administrative coursework (program planning and evaluation, staffing and supervising staff, and parent communication). The remaining credit was matriculated through a course that covered children's development of self-discipline.

It is also evident that Laura's program director participated in ongoing piecemeal training through workshops, with 9 hours of training completed since her time of hire. Trainings varied from 30 minutes to 90 minutes in length and covered such topics as handwashing and oral care, fire safety, food handling, nutrition, developmental milestones, gross motor skills, fine motor skills, behavior, and setting up a stimulating ECE environment.

Director experience. Laura's director brought 7 years of teaching and 3 years of administrative experience to her practice. She had been the director of Laura's program for 8 months. Her role at the time of data collection was strictly administrative.

Qualifications of other staff classroom characteristics. Laura's teaching assistant's highest level of education was the completion of high school with no evident

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early childhood training. "Grandma" the volunteer was not considered to be staff, so data on her were not collected.

Penny's Classroom—A Glimpse Inside a Good Quality Classroom

Penny's composite ECERS-R classroom score was a 6.65 and considered "very good quality." It was the highest in the study.

Penny's classroom was one of seven classrooms in a large, urban, non-profit childcare center run by a social service agency and Head Start affiliated. Her classroom was open for 11 hours a day and served children ages 3 to 5 years old. During the observation, Penny's classroom group size reached 12 children. Penny worked with two teaching assistants, allowing for an adult-to-child ratio of four children per adult.

Penny indicated that her classroom practice was influenced by the Creative Curriculum. The philosophy behind this early childhood curriculum, targeting children 0-5 years of age, is that children learn by doing and using all of their senses. Materials for the curriculum elucidate: "Learning isn't just repeating what someone else says; it requires active thinking and experimenting to find out how things work and to learn firsthand about the world we live in" (Creative Curriculum, n.d.). It is the teacher's role to create an environment conducive to such learning, to assess children's progress, and to make adjustments based on children's individual needs and learning styles. Penny also infused a theme-based component to her classroom curriculum. On the day of her classroom observation, the children were exploring the theme of fruits and vegetables.

A snapshot of Penny's classroom. "The classroom is bright and the layout is inviting." Penny's classroom offered a warm and inviting environment for play and learning. For example, the classroom reflected the children who regularly used this space. Children's personalized artwork, in which children chose their medium for creative expression, adorned the walls. On several pieces of the artwork, teachers had written

children's dictated ideas. Photos of the children were also prevalent, including a family photo-board that displayed pictures of the children with their families, creating a visual connection between home and the classroom.

Children's comfort was evidently a priority. Soft surfaces were abundant. In addition to carpet, children could relax on soft furnishings, including a bean bag chair and sofa. Stuffed animals were accessible for play and cuddling, as were plush puppets. Child sized furnishings throughout the classroom further enhanced comfort. When seated for activities and meals, children's feet touched the floor and their elbows rested comfortable on the table tops. Child-sized shelves allowed children to see and easily access materials.

Resonant of the Creative Curriculum, the room was divided into multiple activity centers, allowing children to choose from a multitude of activities. The art area invited children to explore and to express their creativity with a variety of media. A child interested in painting, for example, had access to an easel, water colors, eye droppers, and finger paints. Playdoh, straws, and pipe cleaners were accessible for 3-dimensional creations on child-sized shelves while markers and crayons were accessible for drawing. The possibilities for creativity were endless, with collage materials and tools, such as: glitter, tissue, scissors, stamps and stamp pads, stencils, yarn, glue, feathers, cotton balls, woodchips, grass, and colored pasta. As evidenced by the artwork on the walls, the art area materials were used by children to express their creativity in their own way.

A designated block area offered children a large space to build, imagine, and cooperate with each other. It was a space that invited active group play. Small and large wooden blocks, as well as colored cardboard blocks lined the shelves. To support children's imaginative play, dinosaur figures and vehicles were also accessible.

The nature/science area offered a variety of science-related activities, games, toys, and natural objects and collections. Magnifying glasses were on hand to study the finer nuances of rock, shell, seed, and pine cone collections while a scale offered further opportunity for property comparison. A sensory table and liquid discovery tubes allowed children to explore properties of liquid through play. Cactus plants and recently planted seedlings provided opportunities for children to experience cycles of life and growth and to experience guided nurturing of living things. It was evident that Penny had put thought into incorporating the classroom theme of fruits and vegetables by including seeds and a food memory game in this area.

The dramatic play area was set up to further encourage children's exploration of the classroom theme through their pretend play. For example, props were provided to support pretending to go on a picnic and buying fruits and vegetables in a store. Additionally, dress-up clothes were provided to support gender role play, job role play, and fantasy play and to expand children's understanding of diversity in the world (e.g., cowboy and safari hats, African pants, a Mexican shawl, butterfly wings, US mail bag, scarves, purses, etc.).

A music area offered tapes and a tape deck for children to listen to. Tapes included books on tape set to music, a listening lotto game, and different types of music such as children's music, Celtic and Spanish music, and rap. Children were also encouraged to move and groove in their own ways and to explore musical concepts, such as sound, rhythm, and tone with the many musical instruments that were accessible. The observer noted that the "teachers make phenomenal use of music and movement to 'get the wiggles out'" (i.e., positive redirection) and "encouraged or initiated more than five

separate music or movement activities." In addition to facilitating musical activities, such as the group dance the Electric Slide, the teachers reported that musical guests were invited into the classroom to help extend children's appreciation and understanding of music.

Penny's room further enticed children's exploration with a manipulative area (i.e., fine motor activities), computer area, writing table, and language area. The computer area offered math and drawing programs, and Penny indicated that she used computer programs related to themes when available. The observer noted that children's computer use was supported by teachers and a timer was used to help children take turns and to keep track of their time at the computer, whereas the manipulative area offered children a space to play while honing their fine motor, spatial, and math skills. The child-sized shelves in this area offered materials such as small building materials (e.g., Legos, triangle builders, and snap together building blocks), puzzles, small counting and sorting materials (e.g., counting dinosaurs and bears), lacing beads, and dressing boards (e.g., buttons, zippers, and snaps). A description of the writing table and language area were not provided in the observer's notes.

Completing the room were two quiet areas. First was the library area. It offered many genres of books that children could choose from, including fantasy and factual books, science books, story books, and topical books related to the current classroom theme. The books were displayed on child-sized book shelving, inviting children's exploration. This area was designed to be a space where children could go to get away from larger group energy. It was a space where children could "read," rest, or daydream without interruption. If more active play was observed in this area, teachers redirected the

children with choices in active play areas, such as the block, dramatic play, or music areas. A tent located in an out-of-the-way corner of the room offered children an additional space in which to find a sense of calm and privacy.

In general, Penny's room was arranged so that quiet and active play centers were separate from each other, allowing for different types of play to occur at the same time. For example, the placement of the shelves that housed the blocks and accessories encouraged children to walk around the block center, rather than through it, while the quieter library center and space for privacy (i.e., tent) were distant from the block center.

A typical day. The observer indicated "staff closely followed the posted schedule, thereby providing the children a routine day that is familiar to them." A typical day in Penny's room, as outlined in the schedule posted on the wall, started at 7:00 a.m. The rest of the day looked like this:

7:00 am - 9:00 am: Arrival, breakfast, activities, brush teeth

9:00 am - 9:20 am: Morning activities

9:20 am -9:30 am: Small group

9:30 am - 9:45 am: Circle Time

9:45 am -11:00 am: Centers

11:15 am - 12:15 pm: Outside

12:15 pm - 1:00 pm: Lunch

1:00 pm - 3:00 pm: Rest

3:00 pm - 3:30 pm: Snack

3:30 pm - 4:00 pm: Music

4:00 pm - 4:30 pm: Outside

4:30 pm - 5:00 pm: Story/Small group

5:00 pm - 5:45 pm: Centers

5:45 pm - 6:00 pm: Departure

The day began with "arrival." During arrival time, children and their parents were "greeted warmly" by the classroom staff. Classroom staff used this time to communicate with each parent and to help children who needed assistance transition into their day with an activity. Children were free to participate in an activity of their choice until 8:30, when breakfast was served.

Next, children transitioned into breakfast with handwashing accompanied by songs. On the day of the observation, children sang the alphabet song while washing their hands and then sat down to enjoy a family-style breakfast. Penny and her staff encouraged children to serve themselves with child-sized serving utensils. A relaxed atmosphere was noted, with teachers facilitating conversation. For example, children were asked, "What's your favorite part of breakfast?" and were asked to ponder "What does milk do for you?" In reference to the current classroom theme, children were also asked, "What is your favorite fruit?"

From breakfast, children smoothly transitioned into brushing their teeth. As each child finished with his or her tooth brushing, he or she was allowed to transition into individual, self-selected activities of choice for about 10 minutes until everyone was finished brushing their teeth. The observer noted that, throughout the day, the teachers facilitated smooth transitions, with minimal wait time (less than 3 minutes), if any, for children.

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A 15 minute small-group time followed. During small-group time, children divided into three groups, with an adult leading each group in an activity. The observer noted: "Each teacher led a small group in concurrent morning activity, thereby giving children the opportunity to have more one-on-one attention." These teacher-led activities included number bingo, number puzzles, and a memory game.

Next, during Circle Time, all of the children and teachers joined together as a whole group and, according to the observer, enjoyed counting the number of children present, singing, and talking about the current classroom theme: fruits and vegetables. The observer also noted that Circle Time lasted for 15 minutes, which seemed appropriate, because all of the children appeared interested and remained engaged for the duration of this whole group activity.

According to the written schedule, children typically transitioned into centers. In essence, this was open free-play time, in which children could explore and experiment in any of the activity centers based on their interests. On the day of the observation, however, an unannounced fire drill pushed center time back just a few minutes. The classroom staff and children were able to successfully evacuate and re-enter the building in 5 minutes. According to the staff, fire drills were practiced at least once a month. Doing so is considered a "best practice."

Upon returning to the room, center time commenced. During this time, staff circulated around the room supporting children's play and exploration. For example, children playing with puzzles were encouraged to think about concepts related to the puzzles, such as big and little, before and after, which pieces went together, and which puzzle pieces depicted opposites. In the dramatic play area, staff engaged in children's

imaginative play on going to a movie. In the block area, children building a house out of blocks were asked, "What do we need so we can go into our house?" with further prompting: "How are you going to get in? How are you going to get out?" In the library area, teachers informally read books to children in response to their interests and requests. In general, the observer noted that teachers regularly asked children to share ideas regarding play. Examples indicated included "What do you think happened?" "What is it?" "What are you making?" "How many people will be there?

Following an hour of center time, children participated in getting their nap cots ready and using the bathroom before transitioning into outside time. The observer noted that, throughout the observation, both the children and teachers demonstrated excellent handwashing practices, in which songs were sung as a part of their daily handwashing ritual.

Once outside, children were free to enjoy the gross motor activities the playground had to offer. The teachers also added balls, stacking blocks, and dress-up clothes to the mix. During this time, the observer cited that teachers used active supervision to help ensure children's safety and to support and extend children's gross motor play (e.g., talking to children about their gross motor play, helping a child with a new skill, and helping children cooperate in using a piece of equipment).

After a smooth transition inside, lunch followed. Similar to breakfast, the teachers sat with the children and facilitated a family-style meal, rich with conversation. It was a time to model positive socialization and to take advantage of teachable moments. For example, a child helping to set the table was asked to reflect on "How many kids do we

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have for lunch today?" and then was asked how many cups would be needed. As each child finished his or her meal, he or she was excused and began to get ready for rest time.

At rest time, children had a space to rest conducive to resting. For example, children had soft mats with clean bedding to rest on, and almost all of the mats were at least 3 feet apart. Soft music was used to help create a sense of calm, and children's backs were rubbed by staff to help children settle into rest mode. Nap time marked the end of the observation.

The flow of the day. The observer indicated that Penny's classroom offered children a "balanced" day. For example, based on the observation and teacher report (via the post observation interview), the daily schedule provided a balance of structure (e.g., the children know what to expect next) and flexibility (e.g., an unexpected fire drill runs smoothly; outdoor time may be extended on a beautiful day). Amid a variety of activities offered, both teacher-directed (story, music, small group, etc.) and child-initiated (centers and outdoor play) activities occur each day, with a third of the day used for play activities. Different groupings provided a change of pace throughout the day, and whole group gatherings, such as Circle Time, were deemed suitable to the individual needs of children (i.e., all children remained engaged for the 15-minute duration of circle time). As noted earlier, the teachers also facilitated smooth transitions throughout the day, helping to ensure children did not have long periods of waiting that could result in problematic behavior.

Interactions. Across the interpersonal spectrum, excellent interactions were noted. The spectrum included teacher-parent interactions, teacher–child interactions, teacher-teacher interactions, teacher-specialist interactions, and child-child interactions. For

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example, as earlier noted, parents were warmly welcomed into the classroom, and the teachers checked in with each parent about his or her child and how their day was going so far at drop-off time. The observer also indicated that teachers were "genuinely happy to be in the classroom working with the children . . . there was a lot of positive energy and enthusiasm." Throughout the observation, the observer noted the use of discipline, including positive reinforcement, citing that children were thanked by teachers for "using their words" and "<u>much</u> praise and attention for positive behavior and good work." Redirection, in the form of using music to get the wiggles, was also used. Warmth was shown through appropriate physical contact, such as a pat on a child's back or a hug. In addition to showing respect to children (e.g., listening attentively and making eye contact), credit was given to the teachers for encouraging the development of mutual respect between children and adults (e.g., offering "wait-time" such as waiting until children finish asking questions before answering questions).

In addition to working closely with each other and modeling "interactions that are positive and add a feeling of warmth and support," the "teachers work closely with the professionals who provide disability services in the classroom." The observer also credited the teachers for modeling good social skills with the children (e.g., demonstrated kindness, active listening, and cooperation). Peer interactions were encouraged throughout the day, and the teachers provided opportunities for children to cooperate on tasks (e.g., working together as helpers, creating a group art project, and collaborating on a group dance). Peer interactions were noted as routinely positive, but when a few small conflicts did arise, the teachers helped children develop appropriate social behavior with their peers (e.g., effective conflict resolution).

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Inclusive practices. Penny reported that two children in the classroom had been identified with special needs. The observer noted that excellent practices were in place. For example, children with identified needs were integrated into group participation in most activities, with needed modifications. Parents and staff were involved in setting goals, and most of the professional intervention was carried out within the regular activities of the classroom. The classroom staff also worked closely with specialists working with the children. The specialists who provided services for the children in Penny's classroom were from a nearby program that served as a model for inclusive practices.

Lead teacher qualifications. Penny's highest level of education was the completion of an AAS in early childhood professions from a local, accredited community college, with at least 45 early childhood related credits. Her degree was conferred 2 years prior to data collection. She was certified through the college as a program director and early childhood education group leader (i.e., lead teacher).

Unfortunately, while the data collector collected a diploma, credential certificates, and training certificates, transcripts were reviewed on-site with 60 ECE credits verified. As a result, a record of Penny's personal transcripts was not available for analysis. However, based on her program's degree criteria, Penny needed to complete a comprehensive program, including the following course topics: Introduction to ECE, including lab (6 credits); guidance strategies (3 credits); young children's assessment instruments: process, observation, and use (2 credits); supervised practicum, including seminars (6 credits); nutrition, heath, and safety (3 credits); curriculum development, methods, and techniques (3 credits); child growth and development, including lab (4

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credits); administration: programming and human relations (6 credits); working with parents, families, and community systems (3 credits); language and literacy (3 credits); creativity (3 credits); and special needs (3 credits).

Documentation of professional development through ongoing piecemeal training was also evident, with certificates verifying 15.5 hours of recent in-service ECE training (completed in the previous 3 years). Trainings topics included participating in the food program, family-style meals, gross-motor activities, working with challenging behaviors, identifying developmental assets, designing learning goals for children, trauma, sexualized behaviors, and abuse and neglect.

Lead teacher experience. At the time of data collection, Penny brought 23 years of experience to her practice and had been working in this program for 8 months.

Director qualifications. The director of Penny's program brought a bachelor's degree in human development and family studies with an early childhood specialization (31 ECE credits) to her leadership role. Her formal education was completed at a 4-year, out-of-state, public university, with her degree conferred almost 10 years prior to data collection. The Department of Human Services indicated that she was 11 credits shy of being director qualified, with three semester hours needed in early childhood guidance techniques, three semester hours in administration/human relations, and two semester hours in early childhood health and safety.

Experiential credits included ECE student teaching (3). Credits through coursework included content in the following areas: theory and practice for young children (6), ecology of parenting (3), human development and family studies (6),

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prenatal and infant development (3), evaluation of education programs for young children (3), addressing special needs (6), and movement activities (1).

It is also evident that the director of Penny's program participated in ongoing training through workshops, with 15.5 hours of training completed since her time of hire. Trainings varied from 1-2 hour in-service trainings (piecemeal) to 3-6 hour comprehensive workshops offered in the community, such as working with dual diagnosis and addiction as well as changes in licensing rules and regulations. Topics of in-service trainings included abuse and neglect, guidance procedure, and confidentiality.

Director experience. The director of Penny's program brought 2.5 years of teaching and 13 years of administrative experience to her practice. She had been working at this program for 3 years at the time of data collection. Her role at the time of data collection was strictly administrative.

Qualifications of other classroom staff. Penny worked with two teaching assistants, both whom had completed high school as their highest level of education. Additionally, both brought piecemeal training to their practice, with one having completed 9.5 hours of recent in-service training on such topics as working with challenging behaviors, identifying developmental assets, designing learning goals for children, developmental screening, and abuse and neglect. The other had completed 16.5 hours of recent in-service training on the following topics: participating in the food program, nutrition and fun nutrition activities, family-style meals, gross-motor activities, trauma, sexualized behaviors, domestic violence, and reporting child abuse.

Joy's Classroom—A Glimpse into a Classroom Rated as Poor Quality

Joy's classroom (#652) received an overall ECERS-R score of 2.00, indicating poor quality practices were generally in place. Joy's classroom was one of five classrooms in a large, for-profit childcare center located in a metropolitan area. Her classroom was open for 11.5 hours a day and served children ages 4 to 5 years old.

During the observation, Joy's classroom group size reached 10 children. Joy was alone with the children, indicating an adult-to-child ratio of 1:10. Based on documentation, Joy intended for children to learn "their vowels and a new letter each week" through whole group, teacher-planned and led activities. Her practice can best be described as teacher-directed in nature with no evidence she implemented a particular curriculum, though the director reported the High Scope curriculum was implemented in Joy's room.

A snapshot of Joy's classroom. It was evident that the children in Joy's classroom spent most of their day in a space that was lacking in cleanliness and aesthetic features. *Filth* was an adjective specifically used by the observer. While ample in size, Joy's classroom was in disrepair with peeling paint, rough and damaged floors, dirty walls, and frayed rugs. Such structural maintenance was most likely not in Joy's control; however, there was evidence that Joy took a less than active role in daily classroom upkeep. For example, the observer stated: "Floors left sticky and dirty, tables had food on them from breakfast to lunch . . . food and milk left on tables . . . [sic] till lunch time then swished on the floor." The observer noted that this practice of leaving meal remnants was not only unsanitary, but dangerous; hence, spilled juice left on the floor was cited as a safety issue because it resulted in a slippery surface on which children or Joy could fall.

Certainly one could conclude that, working alone with 10 children, Joy was too busy to attend to such matters as cleaning up a mess as it occurred and, thus, deem this practice as out of Joy's control. On the flip side, based on other documentation, one could conclude that Joy was lacking classroom management skills and her classroom culture was void of any sense of shared responsibility. For example, any evidence that children's self-help skills were being nurtured was lacking because children were not enlisted to help to clean up after themselves and did not take on "helper" roles for classroom upkeep. Empowering children with helper roles could not only lead to a cleaner space but could help to embed a classroom culture in which teamwork was fostered and children's efforts were valued. Hence, I categorized the lack of daily classroom upkeep within Joy's control.

Some efforts to make the classroom inviting were apparent. For example, most of the furnishings were child sized, and soft dolls and animals were accessible to children, but as the observer noted, the materials on hand to lend children a sense of comfort were "not clean." Items relating to current classroom activities, including store-bought texture, numbers, shapes and color charts, were displayed, as were children's colored ditto sheets, but personalized items were distinctly absent (e.g., children's creative artwork, photographs, etc.). Also lacking was a comfortable, private space where children could get away from large group energy and relax, protected from general activity.

Overall, evidence of intentional classroom organization was minimal. For example, three defined interest areas were housed in what is noted as "ample space." These interest areas included a book area, a dramatic play area, and a manipulative area (i.e., fine motor). The observer noted that, in general, "materials and shelves very old and

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not at all age appropriate." While classroom equipment such as shelves was most likely not in Joy's control, the degree to which Joy probably had control over the provision of materials is discussed toward the end of this section.

The book area was the richest of the children's activity areas. It offered children a wide variety of books to choose from, including fantasy, factual, science, and multicultural books. The observer noted that the program director was responsible for the classroom's book selection and it was the director's practice to supply books from the library, allowing children diverse and novel selections. The director's role in providing the books is noteworthy in that it can help explain the wide representation of books accessible for children's exploration, yet there was a lack of connectedness between the books and classroom practice beyond story time. For example, the observer did not see any examples of Joy reading to children in response to their interest or as an extension of an activity. Additionally, none of the books related directly to current classroom activities.

The dramatic play area offered some dress-up clothes that supported play around female gender roles (e.g., woman's hat, shirts, dresses, shoes and jackets), as well as a doctor's bag, dolls, and a crib. The observer reflected that there were no dramatic play props to support male gender role play and not enough materials to support children's play around multiple themes (i.e., home and work, or fantasy, store, doctor's office, and school, etc.). The children's manipulative area also offered limited materials. The few materials on hand to support children's fine motor, eye-hand, and spatial skills included Legos, push toys, and puzzles. A lack of teacher planning was apparent across all three interest areas, resulting in a lack of connectedness on how the materials were intended to

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be used for child-centered exploration and learning (e.g., no direct connection to other classroom activities, a doctor's bag without tools, no dress-up clothes for male role play, a single doll prop).

Further, Joy's lack of classroom planning prevailed beyond these three interest areas. Other materials, such as musical instruments and unit blocks were present, although not in organized centers, and their placement invited disrupted play. For example, children's active block play was located "at the doorway" in the path of heavy foot traffic. It was also next to the quiet book area.

Further, children's exposure to math and science concepts through hands-on materials was minimal. The observer indicated that except for science-related books, there were no science materials accessible for children's exploration. "Teachable moments," such as talking about the weather or observing insects on the playground were missed, but Joy did report offering a planned science activity at least every 2 weeks. Math materials were sparse as well. For example, children's exposure to mathematical concepts such as number shapes, sizes, and so on through self-exploration was limited to the number chart on the wall and a number floor puzzle. Joy did indicate that a teacher-directed math activity was offered every 2 weeks, and on the day of the observation, children counted the colors on their clothes as a whole group activity during Circle Time, yet, as noted in the next section, many children refused to participate.

Opportunities to explore math and science concepts through sand and water play (e.g., float, sink, empty, full, conservation, etc.) were also limited. This type of sensory play was accessible for less than an hour a day, with limited toys to support children's

exploration (e.g., three toys for 10 children), and as a result, children had minimal

exposure to the potentially soothing benefits of these sensory experiences as well.

Art materials, such as scissors, crayons, paper, and yarn, were only brought out

for teacher-directed activities such as Circle Art (a daily teacher-directed whole group art

time), ditto sheets, and writing activities. Hence, beyond the musical instruments, there

was little, if any opportunity for children to express themselves creatively.

Rounding out Joy's classroom was a television and videos. Other technology,

such as computers, were not used in the classroom and, therefore, not assessed. It should

be noted that the ECERS-R assesses the quality of how technology is used only if it is

used in a learning environment. Based on teacher report, movie viewing was a regular

part of the classroom routine and appeared to be used for an hour at the end of the day

"till [sic] parents come for pick-up." The observer indicated that videos were not used to

support other classroom activities, and while videos were played, no alternative activities

were available to the children. Children had no choice but to passively watch videos.

Cited videos included selections for which parental guidance was suggested due to

mature or sensitive content (e.g., themes such as parental loss, evil forces, etc.); hence,

Joy's video selection was deemed as developmentally inappropriate. Further, given the

duration of the movies cited and the fact that children were being picked up during movie

time, children rarely had the opportunity to see a video beginning to end. In essence, it

appeared videos were used as an end of the day babysitter—an inappropriate vehicle for

keeping children occupied.

The observer reflected that, in general, throughout Joy's classroom, there were

"limited materials . . . outdated . . . very old items . . . not DAP . . . children board [*sic*],

frustrated." In reading the observer's reflection, I questioned to what extent the conditions were under Joy's control.

Joy did not contribute any teacher- or child-made or collected materials to the classroom to enhance exploration. For example, in asking Joy if children were ever encouraged to bring in anything found in nature to share, the observer noted "nothing encouraged to share" as the answer. If she had been in the practice of encouraging children to collect nature from outside—sticks, for example—, the children in Joy's classroom would have a natural collection with different properties to explore (science), sticks to count (math), sticks to peel (fine motor), sticks to compare sizes (math), and sticks to glue to paper and/or to each other or to wrap in yarn (art, fine motor). Collecting and sharing rocks and leaves could serve a similar purpose. Furthermore, it was evident Joy did not make available materials accessible for children's personal use (e.g., crayons, yarn, beads, scissors, and paper). The possibilities for Joy to inexpensively enrich her classroom could be endless via understanding (i.e., child development, developmentally appropriate practice), intent (i.e., the goal of provision, principles of practice), and ingenuity (i.e., the how of provision).

Overall, there was no evidence that Joy took measures to go beyond what was readily, but inadequately, available. As a result, Joy's classroom minimally supported children's interest in exploring and learning. Instead, Joy depended on her teacher-directed activities to instill learning in children, without apparent guidance from the High Scope curriculum—or any curriculum for that matter—as described in the next section.

A typical day. "All expected to do the same thing." The observer indicated the classroom schedule was "not dependable" and "chaotic." A typical day in Joy's room, as

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outlined in the schedule posted on the wall, started at 6:30 a.m. with the children's

arrival. The rest of the day was scheduled as follows:

6:30 am - 8:30 am: Breakfast, blocks, stories, puzzles

8:30 am - 9:00 am: Playtime

9:00 am - 9:10 am: Clean up

9:15 am - 9:35 am: Settling down, bathroom time

9:35 am - 9:50 am: Circle Time, poems, story, discussion, talking

9:50 am - 10:15 am: Writing letters

10:15 am - 10:30 am: Shapes

10:30 am -10:45 am: Vowels

10:45 am - 11:45 am: Clean-up, hands, lunch

11:45 am - 12:00 pm: Nap mat set up

12:00 pm - 2:30 pm: Nap

2:30 pm - 3:00 pm: Clean-up mats

3:00 pm - 3:30 pm: Snack

3:30 pm - 3:50 pm: Circle Art

3:50 pm - 5:00 pm: Outside

5:00 pm - 5:30 pm: Review

5:30 pm - 6:00 pm: Pick up time

The day began with children being warmly greeted by Joy. It was noted that

parents were welcome to come into the classroom with their children, but that a greeting

was typically not extended to them. The observer indicated that, once greeted, children

were left on their own accord to transition into and become involved in their day, even

when support was evidently needed (e.g., child distracting others, misbehavior, etc.). It appeared children had access to all of the classroom materials for 45 minutes during this time. Notably, this was the only time all day that children had indoor free play with access to the interest areas. Time was provided to eat breakfast.

Not noted in the schedule was the fact that, until 8:30 a.m., the preschool children were mixed with school-aged children. This mixed age group reached its peak size at 20 with two teachers (within licensing regulations). Once the older children left for school, Joy's preschoolers began Circle Time (an hour earlier than scheduled) with songs, calendar time, the aforementioned color counting game, and then more songs with clapping. From there, Circle continued with stories, phonics, journal writing, books, and then more songs, including the Hokey Pokey. Circle then went on with Talent Time and something else that lasted another 15 minutes, but was illegible in the observer's notes. In all, children participated in these whole-group, teacher-directed activities for approximately 2 hours and 20 minutes straight. The observer noted that there was "limited group involvement . . . thus chaos trying to make all children attend [to] journals, songs, etc." As a result, most children were passive or unruly participants.

Following Circle Time, children went outside. The outdoor area was in poor repair with limited gross motor equipment that was rusty and dirty. A few pieces were described as developmentally inappropriate (e.g., too high for the ages and abilities of the children). While these structural components of the playground were not in Joyce's control, opportunities to support children's gross motor play were, yet children received no assistance from Joy in developing their gross motor skills such as facilitating a game (e.g., Red Light, Green Light) for interested children or pushing children on the swings

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while supporting children's efforts to pump their legs back and forth. Similarly, opportunities to speak with children about ideas related to their play and to help develop positive social interactions were missed.

Overall, Joy's supervision of the children during this 55 minute stretch of outdoor time was described as inadequate to protect children's health and safety. Twice children were left alone on the playground, without adult supervision. During outdoor time, Joy's classroom was evidently joined by other classrooms on the playground and the observer noted that the teachers on the playground were "loud," "inconsistent" and offered "no guidance."

Once outdoor time was over, children were instructed to go as a group straight to the bathroom to relieve themselves and to wash their hands for lunch. This created a situation in which the children had to wait in line until it was their turn. There was no adult supervision of children's toileting and handwashing, and toilets were left unflushed. It was also noted that there was no toilet paper for children's use. Children's hands went unwashed due to the lack of teacher supervision and support as well as a lack of soap. Certainly transitions like this were made more difficult with having only one staff member present; however, there was no indication that Joy attempted to facilitate a smooth transition during this time or any other transition time throughout the day. She was typically off preparing the next activity (in this instance lunch), and the children were left to transition on their own accord, with no direction or guidance. As a result, transitions were drawn out (over 5 minutes) and chaotic.

From the bathroom, children transitioned to the lunch table, where they waited without activity for everyone to sit down. Children's pleas of hunger were apparently

ignored. While children were made to wait for everyone to arrive to sit family style, other practices conducive to a family-style meal were lacking. For example, there was no child involvement in getting the table ready, and there were no child-sized utensils to make self-help easier. Children were required to clear their own plates (e.g., self-help), but that was the extent of their contribution cleaning up after themselves. Further, there was no encouragement of conversation between Joy and the children nor the children with each other. In general, lunch was described as a "chaotic atmosphere" and "punitive" in which Joy, in a loud voice, demanded that children eat. The observer noted what she saw as a lack of all-around encouragement.

Following lunch, Joy and the children transitioned into preparation for nap time. This period was described as "CHAOS" with the "teacher getting mats and putting on sheets." Opportunities for children to help and to encourage children to work as teams in getting their mats ready were missed. The observer indicated that children ran aimlessly as Joy struggled to get the mats ready for each child. During nap, some effort was made to help children relax, such as darkening the room and playing soft music, but supervision was described as punitive and children's nap mats were placed a mere 2 inches apart, allowing for crowded conditions and "no privacy." The observer noted that the environment was not conducive to sleeping, yet children were made to stay on their nap mats for 2½ hours without any provision of quiet activities for children who did not sleep or who awoke early. With naptime, the observation ended, and just as the observation began in chaos, it ended in chaos.

The flow of the day. "Pure CHAOS-children have no direction, one staff . . .

children are tough…need more staff, materials, room arrangement . . . <u>staff needs

training</u>."

Indeed, the word *chaos* was used to describe the observed goings-on of the day no

less than 6 times. It appeared that a day in Joy's room resembled a chaotic roller coaster

ride. The coaster track was broken down and rickety, and the person on the controls,

repeatedly allowed the cars to speed out of control and then would abruptly pull the

brakes, resulting in jarring stops, in which the cars were left sitting on the track, inactive,

for long periods of time. There were no rules for riding the coaster, the track was

insufficient for keeping everyone in the cars safe and "on track," and the person on the

controls lacked the skills and support to address these issues.

A rough flow to the day resulted, resembling the peaks and valleys of a coaster

ride, in which children's unharnessed energy was harshly reigned in, only to be released

and harshly reigned in again. For example, free play typically involved children running

around aimlessly and picking fights with each other, with little-to-no teacher

involvement. Out of an 11.5 hour day, Joy's classroom schedule only allowed for 1 hour

and 40 minutes of free play, including both indoor and outdoor free play time.

Consequently, children were harnessed into whole-group, teacher-led activities for almost

10 hours a day, with little regard for their individual interests or developmental needs. In

all, according to documentation, children had only 45 minutes to interact with the

classroom materials, limited as they were.

Long periods of waiting also contributed to the large amount of time children

spent as a whole group, contributing to the chaos. The observer reflected: "Transitions

long . . . drawn out . . . no direction to control the group . . . running around aimlessness, whole group sitting at tables waiting for lunch, waiting in line to go outside or use the bathroom." All aboard the Coaster of Chaos!

Interactions. Across the interaction gamut, interactions in Joy's classrooms were scored at the 1.00 level or as "inadequate." In general, besides a warm welcome, Joy's interactions with the children were noted as "unpleasant . . . voices sound strained and irritable." Active supervision was lacking. At no point in the observation did Joy participate in the children's play or exploration, nor did she offer encouragement or show appreciation for efforts. The observer reflected, "Staff need training & to know expectations." As noted in the roller coaster metaphor, there were no rules. Borrowing from the concept that each classroom is its own microculture, Joy's classroom was void of agreed-upon social mores in which Joy and the children had a shared understanding of how to act and interact with common goals and respect for each other.

With Joy as the only adult in the room, the children also missed out on modeling of "good social skills" among adults, whereas Joy lacked adult support in meeting the demands of the day. In Joy's stressed-out modus operandi, she also missed opportunities to model good social skills through her interactions with the children. The observer noted that children would have benefited from Joy modeling acting kindly toward others, listening, and demonstrating empathy and cooperation.

Encouragement of positive peer interactions was also lacking. As a result, the observer reflected: "Teasing, bickering, and fighting are common." As children hurt each other, they were told, "Stop hitting. . . . Stop biting." There was no guidance, and the observer noted that a quality improvement goal for Joy was to "help the children to

develop appropriate social behavior" by helping "children talk through conflicts instead of fighting . . . help[ing] children understand feelings of others." The observer further reflected: "staff need help & guidance."

Additionally, throughout the observation, Joy primarily used language to control children's behavior and to manage daily routines (i.e., restrictive teacher behavior). Language was used by Joy only in a directive or demanding way, and no language stimulation was observed. Beyond the litany of teacher-directed Circle Time activities, the observer indicated the following:

> No discussion . . . no communication . . . no dictation [of children's ideas] . . . no language stimulation . . . interest areas have minimal materials [to encourage and support children's language use and development] . . . no information added [to children's ideas] . . . no logical thinking, concepts or skills . . . no problem solving . . . only direction or demands . . . .

The observer went on to note that there were missed opportunities to facilitate problem solving and attributed this misstep to the "CHAOS." For example, Joy could have asked a child who spilled his or her milk, "What do we need to do to clean that up?" and then helped the child through the sequence of steps. Children who were in a conflict could have been asked, "What can we do to work this out?" A child frustrated when his block tower fell could be asked, "How can we build the tower so it is more balanced?" Further fun activities that promoted reasoning skills could have been used to engage children through transition times, promote turn-taking, and allow children opportunities to lead (e.g., singing or language/reasoning games such as I Spy, 20 Questions, Simon Says, etc.).

It was evident Joy missed opportunities to use language throughout the day to exchange information, validate and build on children's ideas, encourage logical thinking,

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and model and encourage problem-solving and social conversations. Consequently, children in this classroom regularly missed opportunities to develop and hone their language, reasoning, and social skills.

Inclusive practices. According to Joy, there were no children in her classroom with identified special needs. The question that lingers is whether Joy would know how to help identify a child's individual or special needs.

Lead teacher qualifications. Joy's highest level of education was the completion of high school. There is no record of any early childhood related training, and Joy reports that her program offers no professional development support.

Lead teacher experience. At the time of data collection, Joy brought 3 years of experience to her practice and had been working in this program for 6 months. Her 3 years of experience evidently allowed her to become group leader qualified.

Director qualifications. The director of Joy's program had an AA in early childhood education and management from a local, accredited, community college (comprehensive education). Her degree was conferred 21 years prior to data collection, with her coursework starting 3 years after the college had become accredited. She completed 55 college credit hours, including two semesters of supervised internship (14 credits) and one semester of supervised lab experience (eight credits). Course topics ranged from child development (6), early childhood education (eight credits), childcare business management and program administration (6 credits), nutrition (two credits), classroom management (three credits), independent study (three credits), curriculum development (five credits).

Director experience. Years of prior administrative experience were unavailable. The role of Joy's director was reported as strictly administrative; however, the observer noted, "at times the director steps in for meals, but not much help."

Qualifications of other staff members. Joy worked alone in her classroom.

Cass' Classroom—A Glimpse into a Classroom Rated as Good Quality

Cass' (#621) classroom practices were measured as "good quality" with a ECER-R score of 5.91. Cass' classroom was one of six classrooms in a large, urban, non-profit program. Her preschool classroom was opened for 12 hours a day and served children ages 3 to 5 years old. During the observation, Cass' classroom group size reached 16 children. Cass worked with two teaching assistants, and on the day of the observation, a practicum student was also present. The observer counted the practicum student in the adult-to-child ratio tally, which resulted in an adult-to-child ratio of 1:4.

Cass' indicated she implemented the High Scope Curriculum in her classroom. According to the HighScope Educational Research Foundation (2009):

> Active learning—whether planned by adults or initiated by children—is the central element of the HighScope Preschool Curriculum. Children learn through direct, hands-on experiences with people, objects, events, and ideas.

Teaching practices that pertain to adult-child interaction, arrangement of the classroom and materials, and planning the daily routine are intrinsic to this curriculum that was developed for children 3 to 5 years old. In implementing the curriculum, trained teachers must bring an understanding of child development to scaffold learning and offer guidance and support (HighScope Educational Research Foundation, 2009).

Cass also implemented the ECE Cares curriculum in her classroom. This curriculum is based on teaching children social skills to enhance social competence and support school readiness. With teacher support, children take an active role in creating their classroom rules based on the premise that it is their responsibility to keep everything and everybody, including themselves, safe.

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A snapshot of Cass' classroom. "[A]t least five different interest centers . . . provide a variety of learning experiences." Cass' classroom offered an inviting and supportive environment for children's direct hands-on learning experiences. For example, the classroom reflected the children who regularly used the space. Children's personalized artwork, in which children chose their medium for creative expression, adorned the walls. Three photo albums filled with pictures of the children engaging in activities and with each other were displayed for easy access and viewing. Further, a poster depicting the classroom's social mores was posted at the children's eye level, acting as a friendly reminder for children to: "keep ourselves safe . . . keep our friends safe . . . keep our things safe."

Attention to children's comfort was also evident. For example, windows were open to let in fresh air. Area rugs lined the floor, and a couch and beanbag chair provided soft surfaces for children and adults to sit, creating a homelike feeling. Stuffed animals and baby dolls were accessible for play and cuddling. Throughout the room, child-sized shelves allowed children to see and easily access materials. While the tables the children used were child sized, the observer specified that, for 31% of the children, the chairs used for meals and table activities were too large for the children's feet to comfortably touch the floor. The purchasing of this equipment was most likely not in Cass' control, but affected her classroom score because best practices were not met. For a child with identified special needs, an adaptive chair was provided to allow the child to comfortably join his friends.

Based on documentation, the space and materials in Cass' room exemplified a HighScope setting that was carefully arranged to promote active learning with interest

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areas organized around specific kinds of play. For example, children could choose to participate in activities in the classroom's thoughtfully arranged and well equipped art area, block area, science area, dramatic play area, music area, manipulative area, math area, book area, and cozy area. A writing area was identified, but no further information was documented.

The art area invited children to explore and express their creativity with a variety of media. For example, a child interested in painting had access to an easel, tempera paints, watercolors, and "dot paint." Recycled compact disks, craft sticks, and silk plants were accessible for 3-dimensional creations while markers, crayons, and chalk were accessible for drawing. The possibilities to create continued with a variety of collage materials accessible, including magazines, flower petals, and macaroni. Additionally, children had access to tools needed to support their process of creating. These included paper, scissors, glue, tape, and paint brushes.

The block area offered children a large space to build, imagine, and cooperate with each other. Homemade foam blocks, as wells as colored cardboard blocks, window blocks, and a few unit blocks lined the shelves. In addition, there were many different types of accessories to support children's imaginative block play. These included hammers and pegs so children could "construct" with the foam blocks, vehicles and road mats, and people and animal figures.

The science area offered children a variety of science-related activities, games, toys, sensory experiences, and natural objects and collections to explore. Magnifying glasses were on hand to study the finer nuances of seashells and different types of soils, as well as anything else the children came upon that piqued their interest. A water table

and oil and water tubes allowed children to explore properties of liquid through play (e.g., sink, float, mixing, dispersion, melt, freeze, etc.). Classroom pets, including a bird and an aquarium of fish, as well as mature plants and recently planted onion sprouts, allowed children hands-on experiences understanding and nurturing living things. For example, on the day of the observation, the teachers in Cass' room helped children water their onion sprouts. Additionally, the sand table was set up to encourage children's exploration of animals that live in sandy habitats.

The dramatic play area was set up to support children's role play around multiple themes. For example, props were provided to support domestic role play (i.e., "house"), such as dress-up clothes to act out male and female gender roles, dolls and doll clothes, and food and dishes. Additionally, children could pretend to be a firefighter or a nurse or incorporate a worldly dimension to their play with a kimono. The observer did indicate this area could be enriched by organizing "the dress-up clothes and doll clothes for better accessibility." Evidently, the trunk in which the clothes were stored had a lid that could close on children. The observer noted this as a safety concern as well and made the recommendation to "Remove or repair lid on dress up storage trunk to avoid danger of accidental closure on children."

The music area welcomed children to experience different types of music, as well as opportunities to create their own. In this area, children had access to a variety of tapes and a tape deck with headphones. On-hand music for children to select from included multicultural music, rock music, classical music, children's music, and musical activity tapes. The observer noted that this area also offered numerous musical instruments, as well as scarves and bean bags with which to dance and move. Activities, such as the

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practicum student accompanying circle time songs with her guitar, also helped to extend children's appreciation and understanding of music.

Cass' room was further arranged to give children a space where they could hone their fine motor and spatial skills. For example, the manipulative area offered small building materials (e.g., Legos, Lincoln Logs, stackers, and marble works), puzzles with varying degrees of difficulty, and manipulative materials (e.g., lacing beads, peg boards and dressing boards).

A math area was also arranged to support children's exploration of math concepts with a variety of materials. For example, children have access to many different counting activities, including counting bears, fish, and bugs; a counting cake pieces game; and magnet counters. Children were free to explore measurement and compare quantities with rulers, a growth chart, and a fraction fruit game. These materials also exposed children to written numbers, as did a cash register, cookie cutters, and puzzles. Materials that familiarized children with different shapes, such as blocks and puzzles, were accessible throughout the room.

The observer noted that approximately once a month, a video interest area was offered as a choice. Cass used this interest area to support and extend classroom themes and activities through media. All video content was noted as being educational in nature (e.g., *National Geographic*) and less than an hour in length. Cass reported that she and her staff were actively involved in the children's video use. On the day of the observation, this area was not offered, so the observer relied on Cass' self-report.

Completing the room were two quiet areas. First was the library area, and it offered many genres of books that children could choose from, including fantasy and

factual books, science books, story books, and topical books related to the current classroom activities. The second area, the cozy corner, was designed to be a space where children could go to get away from larger group energy. It was set up away from more active centers, such as the blocks, music, and dramatic play areas, specifically as a space where children could go to rest, daydream, or play quietly without interruption. This area of the classroom housed the bean bag chair, as well as soft pillows, stuffed animals, puppets, and quiet counting toys. The observer noted that it was the teachers' practice to redirect active play from in or around this area.

Overall, Cass' room was arranged so that quiet and active play centers were separate from each other, allowing for different types of play to occur at the same time, uninterrupted. For example, the placement of the shelves that house the blocks and accessories encouraged children to walk around the block center, rather than through it, while the quieter book area and cozy area were distant from the block, music, and dramatic play areas.

A typical day. The observer indicated, "Written schedule is posted in the room and related generally to what occurs . . . provides a balance of structure and flexibility." A typical day in Cass' room, as outlined in the schedule posted on the wall, started at 6:00 a.m. The rest of the day was scheduled as follows:

6:00 am - 7:30 am: Free Play

7:30 am - 8:15 am: Breakfast

8:40 am - 9:00 am: Large group

9:00 am - 9:10 am: "Plan" planning

9:10 am - 10:15 am: "Do" centers, snack, clean-up

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10:15 am - 10:30 am: Transition Circle

10:30 am - 11:00 am: "Review" small group

11:00 am - 11:30 am: Outside

11:30 pm - 12:00 pm: Lunch

12:30 pm - 2:30 pm: Nap/rest

2:30 pm - 3:00 pm: Wake/snack

3:00 pm - 4:00 pm: Centers

4:00 pm - 5:00 pm: Outside

5:00 pm - 6:00 pm: Quiet activities, music and movement

The children's day began with their arrival. Upon entering the classroom, children and their parents were individually greeted by the classroom staff. Teachers and assistants used this time to communicate with each parent and to help children who needed assistance transition into their day (e.g., helping the get involved in an activity of interest). Children were free to participate in an activity of their choice in any of the activity areas until 7:30, when breakfast was served. During this time and other center times throughout the day, staff circulated around the room supporting children's play and exploration, in essence providing educational or "active" supervision. For example, "much" informal reading was observed in the book area, in which teachers supervised while making themselves accessible to read child-selected books to a child or small group of children. Throughout the centers, the observer notes that teachers could be heard using open-ended statements such as "I wonder what . . . " and asking children, "What? . . . Why? . . . How? . . . and Who?" questions to extend children's ideas and to stimulate their problem-solving and reasoning skills.

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Additionally, throughout indoor and outdoor free play and center time, the teachers were observed using supervision as an educational interaction in scaffolding conflict resolution skills. "Use your words" was a classroom mantra regularly instilled by teachers, and the teachers helped children identify the feelings of others: "look she is really upset . . . why is she crying?" With staff facilitation, the observer noted, there were "many examples" of "great problem solving" and "conflict resolution" amongst the children.

Children transitioned into breakfast with handwashing. The observer reflected that "staff did a good job teaching hand washing and supervising it—the water temperature just not hot enough"; hence, credit for effective handwashing practices could not be given even with the "teacher's <u>great</u> efforts" (most likely not in Cass' control).

Breakfast and meals in general, were served family style, in which the teachers helped children set up, as well as clean up. Children were encouraged to serve themselves lunch with child-sized serving utensils. The observer notes that teachers sat with the children throughout the meal and helped to create a pleasant social atmosphere. Notably, there was a gap in the written schedule from 8:15 am-8:40 am. Based on observer clarification via written documentation, children were allowed to excuse themselves when they finished their breakfast to resume their free play; hence, this time served as a continuation of free play. It also served as an indication that thought had been put into the schedule meeting children's individual needs (i.e., children not made to wait or rushed to finish).

Next, children smoothly transitioned into large group ("Circle Time"). The observer noted that smooth transitions such as this, with minimal wait time (i.e., less than

3 minutes) were typical throughout the day for the children. Circle began with Cass leading the children in their "Good Morning" song. Resonant with ECE Cares curriculum, children then recited their classroom safety pledge. Cass then helped children conceptualize what day of the school week it was with a day of the week song accompanied by finger play: "three fingers means Wednesday." Next, the practicum student took the lead with her guitar, and the children joined her in singing "Twinkle, Twinkle, Little Star," "Baa, Baa Black Sheep," and a song about colors. The observer noted that the children remained actively engaged throughout this 20-minute large-group time, indicating the expectations for this time were developmentally appropriate.

Following large group, children divided up into small groups to "plan" what they were going to do next during their center time and to reflect on what the rest of the day was going to be like: "Who knows what we do after lunch . . . then what . . . then what?" This marked the beginning of the plan-do-review sequence of the day, in which children were active participants in planning, participating, and then reflecting upon their daily activities. True to the HighScope curriculum, this practice was intended to give children a sense of control over the events of the day and, along with the other daily activities (e.g., large group-small group times, outdoor time), enabled the children to anticipate what would happen next in their day (HighScope, 2009). This activity took about 5 minutes.

Centers followed and children were free to do what they planned for 45 minutes. The observer noted that children's plans included pretending to be firefighters or playing "house" in the dramatic play area, constructing and playing with marble works in the fine motor area, creating with water colors in the art area, and reading books of personal interest with a teacher and perhaps a small group of friends in the book area.

Following clean-up from their "Do" time in the activity centers, children washed their hands and joined each other for snack, which was served family style as well. A 25-minute "Transition Circle" occurred next, in which children transitioned into a teacher-led move and exercise to music activity when they were finished with snack. Once everyone joined, the class sat down for a class meeting in which the teachers and children talked about being kind and resolving problems. Amid this meeting time, Cass reviewed with the children the importance of "keeping our friends feeling safe" and explained to the children "it's ok not to like everyone," but it is important to use kinds words so as not to hurt feelings. Subsequently, the children were led in song singing, followed by a review of activities.

Children then broke into a 15-minute small group time, in which they created seed collages or participated in a counting activity that involved reading a counting book and then counting and gluing Cheerios with teacher support. Before heading outside for the next part of their day, the children were encouraged by staff to use the bathroom, and staff provided supportive supervision.

Once outside, children were free to enjoy the gross motor equipment the playground had to offer. The teachers also added other materials, such as hula hoops, to the mix. During this time, the observer cited that teachers used active supervision to extend children's play and help ensure children's safety. For example, the teachers supported and extended children's gross motor play by talking to children about their gross motor play, helping children with acquiring new skills, and helping children cooperate while using the equipment. While engaging with children, they also kept an eye on everything that was going on around them. As a result, the teachers were

immediately able to address rough play and name-calling before they escalated and to remind children who were apparently overly active to slow down.

After an hour outdoors, the children came in and washed their hands before heading to the table for lunch. Lunch offered another opportunity for socialization and practicing of self-help skills. From lunch, children transitioned into nap. To create an atmosphere conducive to resting, Cass and her crew dimmed the lights, played soft music, and rubbed children's backs. The observer did note children would benefit from having their cots placed farther apart (at least 3 feet) to create more sanitary conditions (e.g., the more breathing space, the less likely the passing of germs); numerous cots were placed less than 2 feet apart. For children who did not sleep or who woke up early, quiet activities were provided, such as books and soft toys. With the children quietly dozing off at naptime, the observation ended.

The flow of the day. It was evident that thought had gone into creating a schedule that intentionally supported the classroom curriculum and the children's needs. As noted, the observer indicated that Cass' classroom offered children a "balanced" day. For example, based on the observation and teacher report (via the postobservation interview), the daily schedule provided a balance of structure (e.g., the children know what to expect next) and flexibility (e.g., children participate in daily planning of activities and are given windows of time to transition from one activity to another at their own pace).

Amid a variety of activities offered, both teacher-directed (e.g., large group, class meeting, music, and small group) and child-initiated activities (e.g., free play, centers, outdoor play) occur each day, with a third of the day (i.e., a substantial portion of the day) used for play activities. Different groupings provided a change of pace throughout

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the day (e.g., small, large, and whole group and self-selected group), and whole group gatherings, such as Circle Time, were deemed suitable to the individual needs of children (i.e., the longest whole group time was 25 minutes in length and all children remained engaged throughout whole group gatherings). As noted earlier, the teachers also facilitated smooth transitions throughout the day, helping to ensure children did not have long periods of waiting which could result in problematic behavior.

Interactions. Across the interpersonal spectrum, excellent interactions were noted. This spectrum included teacher-parent interactions, teacher–child interactions, teacher-teacher interactions, teacher-specialist interactions, and child-child interactions. For example, as indicated earlier, parents were warmly welcomed into the classroom and the teachers used arrival time as a time to check in with each parent about his or her child and how the day was going so far. Throughout the observation, the observer noted the use of positive forms of discipline including positive reinforcement. For example, Cass praised a child for catching him "in an act of kindness." Encouragement was also regularly offered; for example, Cass said "I am proud of you" to a child and then encouraged the child to internalize the value of his positive behavior by following up with "Are you proud of yourself?"

Warmth was shown through appropriate physical contact, such as a pat on a child's back or a hug. In addition to showing respect to children (e.g., listening attentively and making eye contact), credit was given to the teachers for encouraging the development of mutual respect between children and adults (e.g., offering "wait-time," waiting until children finished asking questions before answering questions).

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True to the HighScope approach, based on documentation, the teachers and

children were active partners in the children's learning process. This approach to adult-

child interaction, referred to as "intentional teaching" or "active supervision" included

techniques for encouraging learning in specific content areas as well as strategies for

helping children resolve conflict. As the observer noted, throughout the observation, staff

facilitated "great language skills with children, good problem solving and conflict

negotiations." The observer further reflected:

> This was a high energy classroom with many interesting free play options
> as dynamic group activities. [The teachers] nurtured children, [sic]
> expressed care and concern for them while setting clear and consistent
> limits with logical consequences for behavior. They listened attentively to
> children, responded to their needs diligently, and masterfully facilitated
> social interactions, problem solving, and conflict resolution. These
> children are indeed lucky to have such skillful and caring staff in charge of
> their care.

In addition to "good staff rapport," the teachers worked closely with the

professionals who provided disability services in the classroom. The teachers were also

credited for modeling good social skills with each other and for modeling good social

skills with the children (e.g., demonstrated kindness, active listening, cooperation, etc.).

Indeed, the scaffolding of prosocial behavior was further embedded in the classroom

culture via practices resonating with the two classroom curricula implemented. Peer

interactions were encouraged throughout the day and the teachers provided opportunities

for children to cooperate on tasks (e.g., working together as helpers, creating a group art

project, collaborating on a group dance, etc.). When conflicts did arise (e.g., name

calling, hurt feelings, difficulty sharing), as they appeared to numerous time during the

observation, the teachers addressed conflict by helping children develop appropriate

social behavior with their peers (e.g., effective conflict resolution). As a result, the majority of peer interactions were credited as positive.

Inclusive practices. Cass reported that three children in the classroom had been identified with special needs. The observer noted that very good practices were in place to meet those children's needs. For example, children with identified needs were integrated into the group and participated in most activities, with needed modifications (e.g., adaptive chair). In addition to the parents and staff being involved in setting goals, the classroom staff also worked closely with specialists working with the children. Notably, most of the professional intervention was conducted outside of regular activities of the classroom. While this was most likely program protocol and not in Cass' control, children's "pull-out services" were not credited as best practice. The recommendation was made for specialists to come into the classroom so children could benefit from the integration of intervention services within everyday classroom activities, thereby avoiding possible stigma of a child being singled out for services; allowing other children to reap the benefit of services; and allowing teachers to watch, learn, and integrate support activities into their own practice.

Lead teacher qualifications. At the time of the observation, Cass was enrolled in an AA in Early Childhood Professions program at a local community college and had completed 25 ECE credits. Topics covered in her associate's program included an introduction the early childhood profession and lab (6 credits); child growth and development (4 credits); guidance strategies (3 credits); methods and techniques in curriculum development (3 credits); health, safety, and nutrition (3 credits); an early care

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and education administration course (3 credits); and an administrative course covering human relationships for early childhood professions (3 credits).

Ongoing professional development through attendance at conferences, in-service training, and community workshops was also evident, with at least 43 hours of recent training (within the past 3 years) completed. Trainings included in-service instruction on the following topics: ECE Cares with 15 hours of comprehensive training spread out over five days covering a range of topics and tools to support children's social-emotional development, literacy (1.5 hours), High Scope (2 hours), plan-do-review (2 hours), and teaching with love and logic (3.5 hours).

Attendance at a state-wide professional conference included workshops covering transitions (1 hour), tools for supporting children's creative thinking (1 hour), and tools of the mind (1 hour). A comprehensive training at the local community college, which she was attending, covered the basics for early childhood professions (9 hours). Cass' also attended four additional workshops, but where they were held is not clear. Topics included active learning (2 hours), an overview of the DECA (2 hours), creating effective documentation boards (no hours indicated), and program evaluation and goal setting (3 hours).

Lead teacher experience. At the time of data collection, Cass brought 4 years of experience to her practice and had been working in this program for 3 years.

Director qualifications. The director of Cass' program had a current level IV professional development credential awarded through the Colorado Early Childhood Professional Credential Office indicating she had completed a master's degree in an ECE

related field (i.e., ECE, child development, or early childhood special education). Transcripts were not included in the file.

Director experience. Cass' director brought 8 years of teaching and 24 years of administrative experience to her practice. She had been working at this program for 4 years at the time of data collection. Her role at the time of data collection was administrative.

Qualifications of other classroom staff. One of Cass' teaching assistants had apparently attended a home economics program at an out-of-state university, 37 years earlier. The transcripts provide limited information, with only one class recorded. This three-credit class related to individuals and families.

Professional development through training was also evident, with 27 hours of training completed in the past 3 years. This teacher attended in-service trainings covering ECE cares techniques, High Scope teacher-child interactions, and conflict resolution (three hours), ECE Cares specific training (3 hours), and plan-do-review (2 hours). Other training completed included viewing of a one-hour instructional video on interactions with children and then writing a reflective piece relating to how information gleaned from the video would be used in practice and two workshops, with information pertaining to where the workshops occurred lacking. Topics included DECA (2 hours) and active learning (2 hours). Attendance at a state-wide professional conference included workshops covering cultural and individual diversity (1 hour), High Scope (2 hours), Brain Gym (1 hour), and music (1 hour).

Evidence of a 9-hour in-service training completed while employed at another program is also included. Topics included using the Bible through the day, age

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appropriate behaviors, crafts, fine motor skills for all ages, science, cooking, music and movement, relaxation techniques, and state regulations.

The other co-teacher brought 5 hours of recent training to his practice. Topics included ECE Cares techniques, High Scope teacher-child interactions, and conflict resolution (3 hours, in-service), and active learning (2 hours, location unknown). He had almost 6 years of teaching experience and had been working for this program for 2 months. Documentation was not collected for the practicum student who was present on the day of the observation.

Chapter 3
Results

Findings and Interpretation

The 20 lead teachers making up the two cohorts analyzed in this study brought a
plethora of professional development experiences to their practice (Figure 1). Due to the
lack of requirements at the time of data collection, I was not surprised by this finding.
Teachers in both the poor quality and the good quality cohorts had completed
professional development in line with the core professional development categories this
study set out to examine. Figure 1 presents between-group differences related to the
education, training, and credentials of the sample of teachers in each cohort. These
elements were defined as follows:

1. *Education* is defined as professional development that occurs within the
   formal education system from high school through various levels of higher
   education.

   a) Overall education (i.e., regardless of content).

   b) Content-specific education (i.e., content-specific courses and degrees
      completed at an institution of higher education).

2. *Training* is defined as professional development, pertaining to the field that
   occurs outside the formal education system, such as in-service trainings, local,
   state or national conferences, online trainings, and other informal venues.

3. *Credentials* indicate completion of professional development that meets specific state and local requirements or requirements of formalized training programs, such as a Child Development Associate or Montessori certification, director qualified, early childhood education teacher certification, or vocational certification.
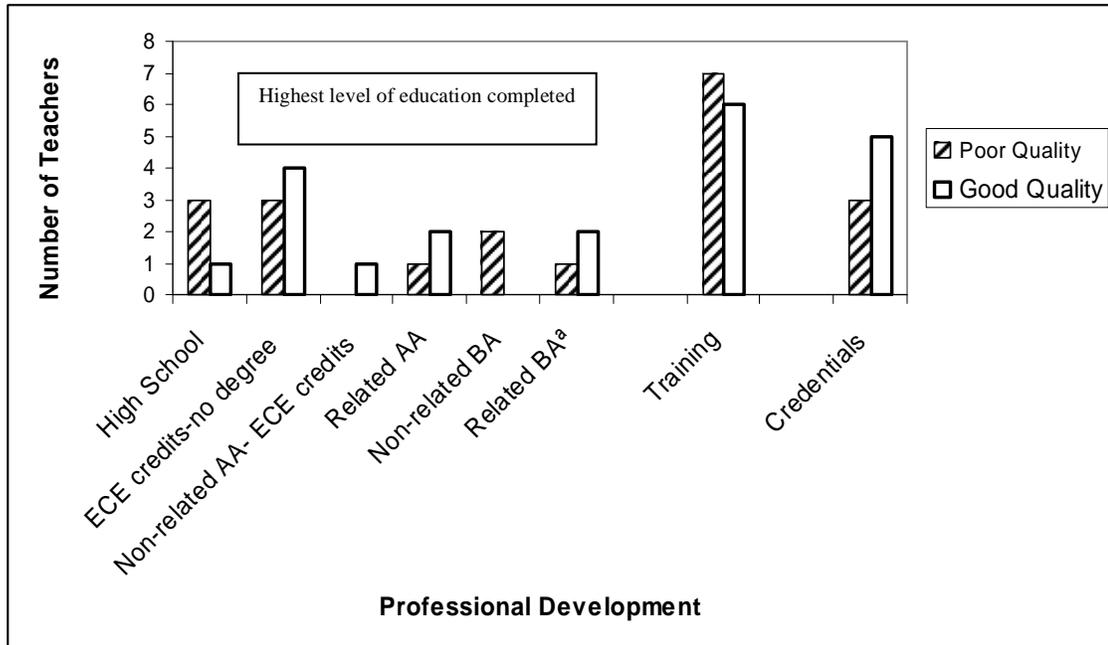

Figure 1. Between-group differences in education, training, and credentials.
[a]The two lead teachers in the good quality group with related BA degrees were in process of completing related MA degrees.

Notably, between-group differences regarding types of degrees completed were short of the 30% mark; however, more teachers in the good quality cohort brought content-specific education to their practice. This too was not surprising given the fact that, in the larger sample from which these data were pulled, Zellman and colleagues (2008) found a positive correlation between completion of content-specific education (i.e., ECE credits) and ECERS-R scores. Figure 2 shows the 40% between-group difference in teacher professional development, pertaining to completion of content-

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specific coursework, found in this study. Furthermore, more teachers in the good quality

cohort brought credentials to their practice while more in the poor quality cohort used

training for their practice, by marginal differences (i.e., less than 30%).
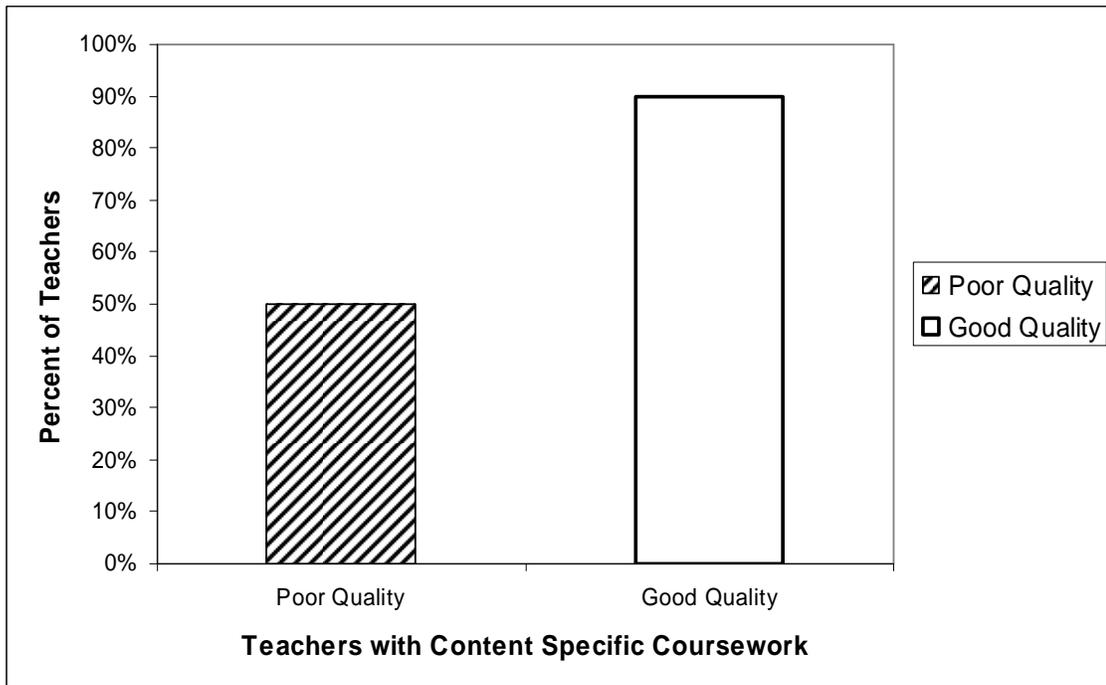
Figure 2. Between-group differences in lead teachers with content-specific college
education.

Contributing to the "more is better theory," the teachers in the good quality

cohort, in general, completed more content-specific credit hours. The number of content-

specific credits completed in the poor quality cohort ranged from 3 to 39, whereas the

teachers in the good quality cohort completed 9 to 102 ECE related credits. This finding

is examined further in the "Intensity and Duration" section.

It would have been easy to jump to the conclusion that the more content-specific

education, the better—a finding that would resonate with other studies' findings (Berk,

1985; Burchinal, Cryer et al., 2002; Burchinal, Howes et al., 2002; Cassidy et al., 1995;

Snider & Fu, 1990). However, the question "More of what specifically?" still persisted. Given that similar sounding types of professional development experiences were found in both cohorts, the question lingered: How do similar sounding professional development experiences differ?

Hence, this research embarked on providing necessary groundwork for answering these question by closely examining between-group differences regarding the actual content, intensity, and duration, and context of teachers' professional development experiences. This process continued with close examination of content-specific education.

Content-Specific Education

Completion of content-specific college credits emerged as an interesting (40%) between-group difference. In the poor quality cohort 50% (five) of the lead teachers had participated in content-specific education, whereas 90% (nine) of the lead teachers in the good quality cohort had completed content-specific education.

Given the finding that lead teachers in the poor quality group had content-specific education included in professional experiences, the next step of analysis involved looking at the content, quantity, and context of coursework completed. The following questions guided this next step of analysis:

Are there between-group differences in content-specific education involving the following?

1. Content: Examination of ECE related topics covered (i.e., literacy, behavior/guidance, literacy, DAP activities, special needs, etc.) and practical experience (i.e., student teaching, practicum, labs, supervised observation).

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2. Grades: Examination of grades to determine whether content-specific coursework was completed at or above the satisfactory level (Good = *A-B;* Satisfactory = *C* or *Pass;* Poor = *D;* and Failing = *F*).

3. Intensity and Duration: Examination of quantity of credits and of comprehensive education (i.e., ECE coursework completed at 1 or 2 institutes if other coursework transferred of higher education indicating the completion or a goal to complete a specific path of study; pattern of ECE course integration, such as a lecture with corresponding lab or different levels or sections of the same course taken over multiple semesters or quarters) versus piecemeal education (ECE coursework completed though multiple higher education programs; pattern of one- and 2-credit hour ECE classes).

4. Type: Examination of institutes of higher education in which coursework was completed in terms of accredited versus a non-accredited program; 2-year versus 4-year program; distance (i.e., correspondence, online), community, state, or private college.

5. Timeframe: Examination of when degree or coursework completed.

Content

Numerous between-group differences and possible patterns regarding course content began to emerge. Figure 3 presents between-group differences in the subject of content specific courses completed by the sample of teachers rated as poor quality and good quality on the ECERS-R.

First**,** there was a 40% between-group difference in the number of teachers who completed an introduction to early childhood education class or a course similar in

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subject matter. In the good quality cohort, 60% of the teachers completed this course versus 20% in the poor quality cohort (20%). Further, all 60% of the teachers in the good quality group completed an introduction to early childhood education course along with an introductory lab. Of the 20% of teachers in the poor quality group who completed an introduction to early childhood education course, none had participated in an accompanying lab.
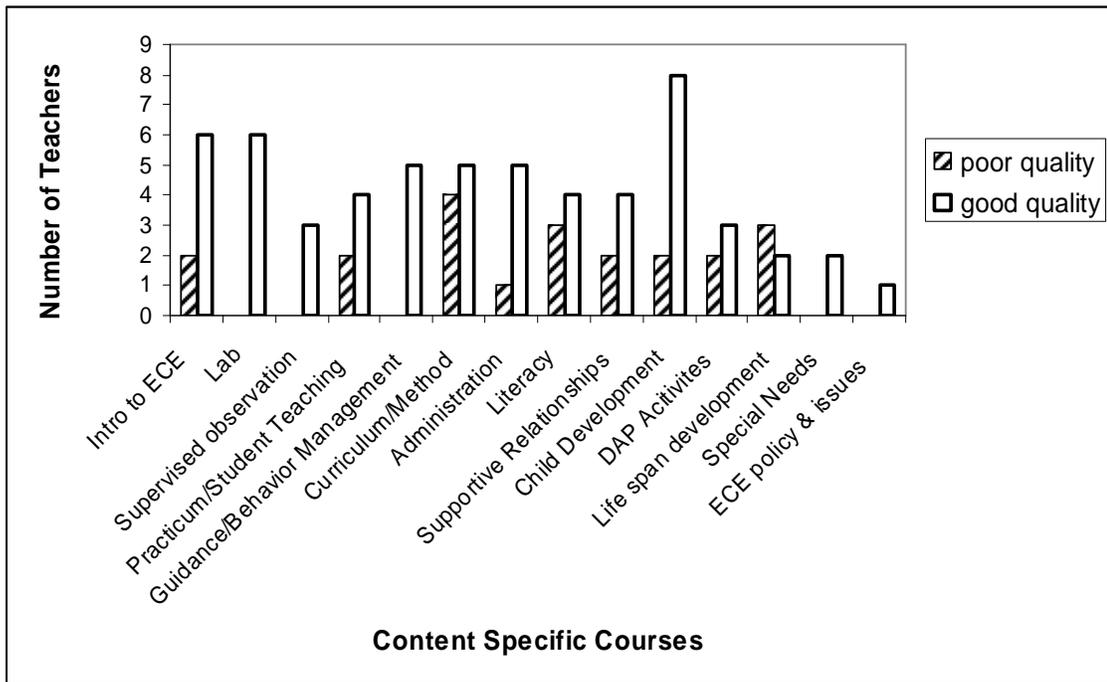
Figure 3. Between-group differences in subject matter of course content.

Introduction to early childhood education is typically a three-credit course that covers core topics including child growth and development, health, nutrition, safety, developmentally appropriate practices, guidance, family and community relationships, diversity, professionalism, as well as administration and supervision. The complimentary introductory lab, also typically three credits, includes a classroom component and supervised placement in a childcare setting. The supervised placement is intended to

provide the student with the opportunity to observe children, to practice appropriate

interactions, and to develop effective guidance and management techniques.

While it cannot be inferred that an introductory course and the accompanying lab

were the cause of certain practices, a starting point is needed in examining interesting

between-group differences pertaining to professional development and classroom

practice. To this point, in classrooms where lead teachers had completed both courses, the

following content related practices were observed through the criteria of the ECERS-R:

1. Teachers were actively involved with children.

2. Teachers spoke with children about ideas related to their play.

3. Teachers maintained a balance between the child's need to explore

independently and staff input into learning.

4. Teacher's demonstrated warmth through appropriate physical contact (e.g., a

pat on the back, a reassuring hand on shoulder, returning a hug, offering a lap to sit on).

5. Teachers encouraged and supported peer interaction.

6. Teachers actively involved children in solving their conflicts and problems.

7. Teachers demonstrated respect shown for children (e.g., treated children fairly,

listened attentively, made eye contact) and encouraged the development of mutual respect

between children and adults (e.g., waited until children finish answering questions before

answering, encouraged children in a polite way to listen when adults speak).

8. Teachers seemed to enjoy being with children.

9. Teachers were sympathetic and supportive and showed appreciation of

children's efforts and accomplishments.

10. Teachers used positive guidance strategies consistently (e.g., positive reinforcement, redirection, simple rules, reflection on rules, choices).

11. Classroom planning was evident, with numerous interest areas that offered the space and materials needed to support children in different types of play, exploration, and active learning.

The observers' notes and reflections offer specific examples of the types of interactions, guidance, and classroom management techniques of children in the classrooms of teachers who completed both courses experienced:

> Cass' classroom "was a high energy classroom with many interesting free play options as well as dynamic group activities. [The teachers] nurtured children, expressed care and concern for them while setting clear and consistent limits with logical consequences for behavior. They listened attentively to children, responded to their needs diligently, and masterfully facilitated social interactions, problem solving, and conflict resolution. These children are indeed lucky to have such a skillful and caring staff in charge of their care."

> Bev "is awesome at mediation, the problem solving skills that she gives children to handle situations are awesome." For example, a child involved in a conflict was asked "What can you do or say?" The observer reflected: "The children are so involved with the situation and problem solving at hand." Positive reinforcement of mediation skills was also evident; for example, Bev told a child "I like it when you use your words to express yourself."

> "Kia is amazingly sympathetic and patient. The children love her and she radiates love. Throughout the day Kia uses her melodic voice to facilitate transitions or change the energy of the room. Activities such as the Peace Circle and Dino School are used to help children understand social skills and some opportunities are provided for children to work together to complete a task . . . it is quite evident staff enjoy being with children!"

> Sasha used fun activities to help support the flow of the day: "Rhymes, labeling, etc. . . . It is truly an awesome way to run the routines—give direction to each child." For example, "each child has to respond in sign language to select an [activity] area when they change areas."

Bella offered children encouragement and positively reinforced their efforts, regularly telling children "You're doing a great job!" and "I like the way you . . ." Bella's supportive interactions were evident in her use of active outdoor supervision as well. For example, Bella used her time playing ball with the children as an opportunity to show children how to kick the ball and to help children take turns.

In Penny's room, teachers were "genuinely happy to be in the classroom working with the children . . . there was a lot of positive energy and enthusiasm." Throughout the observation, the observer noted the use of positive forms of discipline, including positive reinforcement, citing that children were thanked by teachers for "using their words" and "much praise and attention for positive behavior and good work." Redirection was also used. For example, to help address an elevation in the children's indoor energy level, Penny used music to help the children "get the wiggles out."

In the poor quality classrooms in which an introduction to early childhood education class was taken sans an accompanying lab, interactions, as well as guidance and management techniques, looked quite different. The following practices were observed, based on observer report and interpretation of observed practice through the criteria of the ECERS-R:

1. Teachers' expectations were mainly inappropriate for the age and developmental level for the children.

2. Teachers facilitated lengthy whole-group, teacher-directed times.

3. Teachers provided limited opportunity for creative expression and exploration.

4. Teachers used worksheets as a teaching tool.

5. Teachers talked with children basically to control behavior and to manage routines.

6. Teacher's interactions varied in the level of sympathy and respect offered to children.

7. Teacher classroom planning was lacking (e.g., lack of well-equipped interest areas and/or lack of materials accessible to support children's play, exploration, and learning).

Observer notes offered the following insight into specific teacher practices:

> Mira was cited for having expectations that were largely inappropriate for the age and developmental level for the children she was working with in her classroom. For example, children were expected to sit throughout many circle times, in which children were told to stop distracting behaviors and reprimanded with "I'm not going to tell you again." The observer noted that whole group time lasted 74 minutes out of a 150-minute day, leaving children less than 37 minutes to explore activity areas based on their interests. Before being allowed to choose center activities, children were required to participate in "project time," which involved coloring and cutting a worksheet, further limiting their time for self-directed exploration, socialization, and learning. In general, children were kept together as a whole group through a series of teacher-selected and directed activities, including a whole group trip to the restroom. As a result of lengthy teacher-directed time, the observer noted that the encouragement of peer interaction was lacking. Instead, children's quietness was honored and reinforced with stickers.

> Amy's classroom offered no schedule and the observer noted that "children have long transitions." Discipline methods were used inconsistently and were ineffective. For example, a child fiddling in his chair was told to get out of his chair and made to stand. Another child, described as "doing the same behavior" was ignored. Children were repeatedly ordered what to do (e.g., "sit down . . . ssh . . . get in line . . . everybody in a straight line . . . everybody just be quiet . . .") or told what not to do (e.g., "don't . . . stop . . . ") and empty threats were made (e.g., "Should I get your guys' mom?"; "If you don't behave their will be problems"). Rather than encouraging mutual respect and helping children work through conflict, children were told, "I need you to cooperate" and "Don't be mean." Attempts to thwart children's thumb sucking appeared to have fallen on deaf ears, as the little rhyme "Thumb diddly dumb put it in your pocket and lock it" was repeated throughout the observation and a child was sarcastically warned, "You can't eat your thumb . . . there's blood in it . . . you'll be a four-fingered man."

This robust between-group difference in teacher's professional development content and their teaching practices resonated with Whitebook's (2003) and Howes's (1997) hypotheses that professional development integrated with supervised teaching or mentoring (i.e., ECE degree programs, CDA, some Montessori certification programs, etc.) may contribute to more effective and lasting instructional practices. Whitebrook suggested this hypothesis needs to be tested more directly by examining the actual content of teachers' training and education experiences. Hence, the next step of analysis was to look at professional development pathways of the four teachers in the good quality cohort who were lacking this course and lab combination and to examine whether other types of supervised teaching or mentoring experiences were present.

Interestingly, three of these four teachers had indeed participated in a supervised teaching or mentoring experience. For example,

> Rochelle, the only teacher in the good quality cohort who had not completed content specific coursework, had participated in two Montessori certification programs. In her first certification, geared toward working with children birth to 3 years of age, Rochelle completed 250 hours of observation of children in this age range, at home and in group settings (i.e., classrooms in a local, Montessori-based, childcare program). Supervision, support, and evaluation of this observation time were provided by an instructor. In her second, primary teaching certification program geared toward working with children ages 3 to 6 years, Rochelle completed 90 observations in primary classes directed by Montessori-credentialed teachers and was required to submit her observation notes and summaries for evaluation. She was also required to complete at least 80 hours of practice teaching in primary classes of children directed by Montessori-credentialed teachers. In addition to the credentialed teachers' support and mentoring, support and supervision were provided by the faculty of the Montessori institute that she attended.

> Ron, a Montessori teacher, gleaned his supervised practical experience through content-specific coursework (a 3 credit lab in Montessori method), his CDA process (mentoring), and possibly his Montessori-certification process; unfortunately, documentation of his certification was verified on-site and therefore was not available for further analysis.

Mary had the highest level of content-specific education in this study with 102 credits, accrued through an AA and a BA in ECE as well as a related MA that was in process at the time of the study. Eighteen of her credits (or 15%) involved supervised practical experience. For example, Mary completed five credit hours of observation and participation in early childhood environments (e.g., family childcare homes and centers). She also participated in two, five-credit practica. Rounding out her practical experiences, she completed a two-credit internship and a one-credit reflective fieldwork course.

Practices similar to the practices of those observed in other good quality classrooms were observed in these teachers' classrooms as well. The following are glimpses into interactions, guidance, and management strategies children experienced in these classrooms.

> In Rochelle's classroom, consistent guidance strategies were used and all teachers were "very respectful . . . all staff calm . . . great eye contact." Many conversations took place between the teachers and the children during free play and routines. During these conversations, the teachers asked questions and added information to expand on children's ideas. Whole-group gatherings were limited to short periods suited to the age and individual needs of children. As children lost interest in whole-group times, they were allowed to do other work (i.e., child-selected activities). While children participated in their self- selected activities, the teachers were on hand to support children's active learning.

> Ron's classroom "had a great flow. Each teacher had opportunities to take care of duties as well as spend individual time with the children . . . consistency in use of Montessori Method. [The teachers] were great with the children, they provided much 1:1 time with each child . . . giving them a lesson with the Montessori equipment. . . . During the lesson the teachers spent much time encouraging language and reasoning skills . . . and the children seemed very happy and productive in class." While working with children, staff continued to supervise the other children with frequent room scans. Children spent much time in self-selected groups and were provided with opportunities to work together to complete a task (e.g., helping put chairs around the table for lunch, creating a group mural). During whole-group time, the children heard a story, sang songs, and had a time of show and share. Children remained engaged throughout. Positive reinforcement was regularly used, and a child who fell off a swing was comforted.

In Mary's classroom "excellent interactions" were observed. The observer reflected: "Staff have gentle manners and seem to enjoy children in their care." The children's day included a balance of "planned activities to promote learning" along with "lots of child choice," including "great sensory activities." A volunteer also positively contributed to the children's experiences. For example, on the day of the observation, a volunteer in a wheel chair read 1:1 with a child who sat in her lap. In general, Mary's classroom was rich with conversation, with many individual conversations between the teachers and the children, and the children with each other. Peer interactions were noted as positive, and when problems did arise, the teachers actively involved the children in resolving their conflict. Throughout the day, whole-group gatherings were limited to short periods suited to the age and individual needs of children.

Overall, in the good quality cohort, 90% of the teachers had participated in supervised practical experiences in ECE settings versus 20% in the poor quality cohort, resulting in a 70% between-group difference. Teachers in both cohorts participated in courses titled Practicum or Student Teaching (i.e., supervised practical experiences typically requiring greater hands-on involvement and responsibility than a lab or observation field placement), yet there were numerous supervised practical experiences that were not shared across groups. For example, 90% of the teachers in the good quality cohort participated in a content related lab (i.e., seminar accompanied by classroom lab) and/or supervised observation experience versus the 0% who participated in either of these professional development experiences in the poor quality cohort. Furthermore, 50% of the teachers in the good quality cohort had completed multiple supervised practical experiences (i.e., more than one hands-on experience, including child observations and reflections, student teaching, and being mentored in a classroom) via education and/or comprehensive training resulting in a credential as opposed to 0% in the poor quality group. Therefore, the category of multiple practical experiences was flagged

for additional investigation and discussed further in the "Intensity and Duration" section. Figure 4 depicts an overview of the between-group differences found in teachers' completion of different types of supervised practical experience.
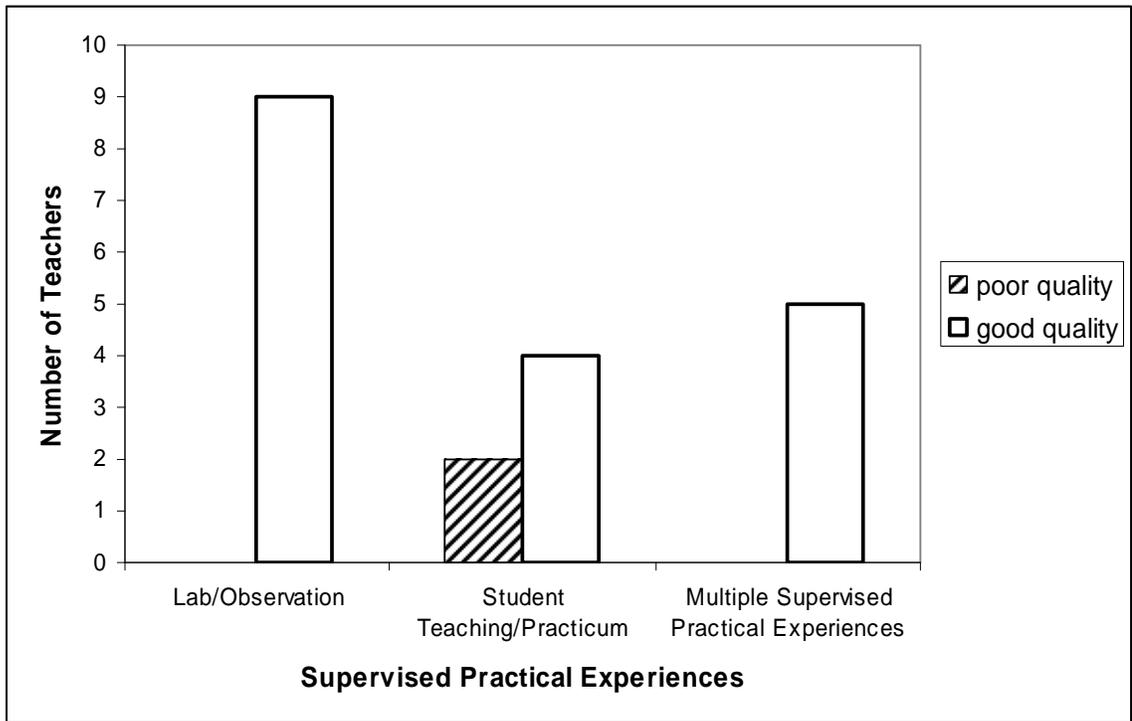
Figure 4. Between-group differences in supervised practical experiences.

Because multiple teachers in both cohorts specifically brought practicum experiences to their practice, this research examined how these experiences may have obviously differed—within the parameters the data would allow. Findings pertaining to differences in grades are discussed in the "Grades" section.

Naturally, the question comes to mind: What did the professional development of the one lead teacher in the good quality cohort who lacked formal practical experience in an early childhood program look like? The answer is that he was one of the two teachers in this study who was in the process of completing a related MA. While certainly no

conclusions can begin to be drawn, it is noteworthy that he had the highest level of education in the study.

In continuing to examine course content that may have contributed to between-group differences in practice, another large between-group difference of 60% involved completion of coursework in child development. In the good quality cohort, 80% of the teachers participated in a child development course, whereas this experience applied to only 20% in the poor quality cohort.

Notably, 60% of the teachers in the good quality cohort had completed at least one child development course through an early childhood education department, whereas in the poor quality cohort, the courses were taken through related, but different departments (i.e., home economics and child development). This finding begs the questions: Is it more meaningful for individuals who are going to work in an early childhood classroom to study child development in the context of early childhood education, rather than expecting individuals to bridge a connection? Are instructors in other departments less likely to be concerned with and, therefore, informed about child development within the context of ECE? While these questions cannot be answered within the limitations of this exploratory study, they warrant further investigation in other studies.

Furthermore, 40% of the teachers in the good quality group versus 10% in the poor quality participated in multiple child development classes. This difference is discussed further in the "Intensity and Duration" section. Between-group differences regarding teachers' completion of a child development class, departments through which

child development courses were completed, and completion of multiple child

development courses are depicted in Figure 5.
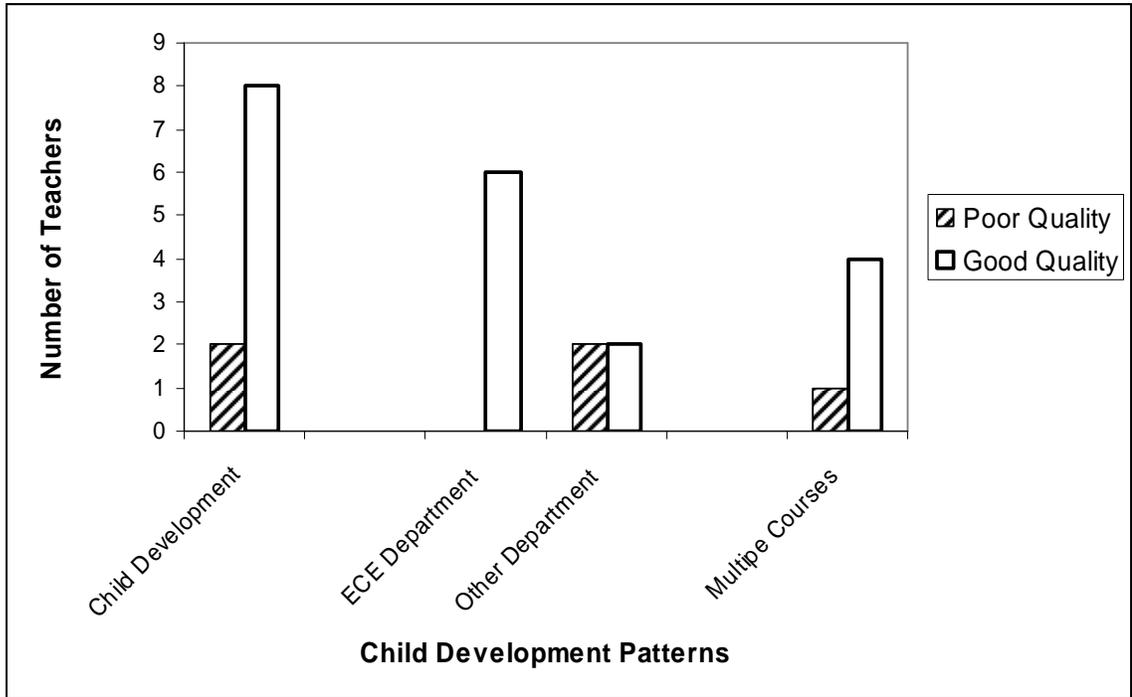
Figure 5. Between-group differences in completion of a child development course, department through which course was completed, and completion of multiple child development courses.

Another interesting between-group difference surfaced regarding completion of at least one course specific to guidance strategies (i.e., positive behavior management). Half (50%) of the teachers in the good quality cohort had completed a relevant course versus 0% in the poor quality cohort (See Figure 3).

Further, a between-group difference of 40% emerged regarding the completion of an administrative course pertaining to understanding minimal licensing requirements, as well as optimal standards for operating early care and education programs (Figure 3). In the good quality cohort, 50% of the teachers had this educational experience, compared to 10% in the poor quality group, indicating that at least half the teachers in the good

quality group were more likely to bring an understanding of what minimal standards in practice look like in relation to best practices at a program level (i.e., the bigger picture).

Last, the only courses participated in by more teachers in the poor quality group (30%) versus the good quality group (20%) pertained to lifespan development, in which child development was a component, versus an emphasis. While not a 30% difference group, this was the only area of educational study in which the poor quality cohort exceeded the good quality group (Figure 3). This finding is discussed further in the "Intensity and Duration" section.

Given the between-group differences I found regarding course content, the next step was to examine whether—similar to an Introduction to ECE course and its accompanying lab—patterns emerged regarding teacher participation in "clusters" of classes in the good quality cohort. During this course of analysis, a *cluster* or *clustering* was defined as prevalent combinations of class content found in the good quality cohort. Based on the findings regarding between-group differences of 30% or more, the following content categories were examined for clustering:

1. Introduction to ECE,

2. Practical experience: (a) Lab/child observation, (b) Student teaching/practicum,

3. Child development,

4. Guidance strategies,

5. Administration.

Table 6 shows the content completed by each teacher in the good quality cohort whose education experiences met these clustering criteria.

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Table 6

Good Quality Content Cluster

Courses	Cluster Categories by Teacher							
	Ron	Kia	Bev	Bella	Penny	Mary	Cass	Sasha
Intro ECE		X	X	X	X		X	X[a]
Practical Experience	X	X	X	X[a]	X[a]	X	X	X[a]
Child Development	X[a]		X	X[a]	X[a]	X[a]	X	X
Guidance strategies					X	X	X	X
Administration			X	X		X	X	X
Cluster Size	**2**	**2**	**4**	**4**	**4**	**4**	**5**	**5**

[a] Multiple courses completed in content category

An apparent pattern did emerge, with 80% of the lead teachers in the good quality cohort bringing clusters of content to their practice. Clusters ranged from including two to all five content areas, with 60% of the teachers having completed content clusters of four-to-five. Notably, most of the teachers had multiple exposure to content areas (i.e., completed multiple courses in a content category). This finding is discussed further in the "Intensity and Duration" section.

More research regarding clustering of these five specific content areas, as well as other content areas, is recommended. For example, this research found that only one of the four teachers in the poor quality cohort, compared to five of the five teachers in the good quality cohort, who completed a curriculum and methods course had also completed at least one course specific to child development. This finding begs the question: Does a sound understanding of early childhood development help provide the underpinnings necessary to embed philosophy into practice? This finding is reflected upon further in the "Discussion" chapter.

Grades

Teachers' grades were examined in terms of the following:

1. *A* or *B* = Good
2. *C* = Satisfactory
3. *P* = Pass
4. *D* = Poor
5. *F* = Failing

Of note, letter grades were not available for all teachers or courses due to teachers' transcripts and number of credit hours being verified on site, courses being taken as pass/fail, and transferred courses showing up on transcripts without grades. A grade of at least a *C* or satisfactory was assumed in any of these instances because most colleges will not transfer courses in with a grade lower than a *C*, and data collectors, per protocol, were trained not to count any credit hours in which a grade below a *C* was received. In regard to pass/fail, a passing grade indicates that a course was satisfactorily passed, and there were no instances in which a teacher failed.

For this study, only courses in which teachers received a satisfactory grade of *C* or higher were counted toward the total number of content-specific credits completed per teacher (i.e., quantity). This decision was made in accordance with Qualistar's rating and research protocol and Colorado's new licensing requirements for Group Leader Qualifications. The basis for including courses that did not meet this criterion in this analysis of course content was to explore the role grades might play in differentiating quality.

Interestingly, a between-group difference in grades did emerge. In the poor quality cohort, of the two teachers who completed an Introduction to Early Childhood Education course and a student teaching/practicum course (i.e., supervised teaching or

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mentoring experience), one failed her practicum and received a *D* in her Introduction to ECE course, as well as other content-specific coursework. The other had had difficulty in acceptably passing other content specific courses. Based on these findings, 40% of the lead teachers in the poor quality cohort who participated in content-specific coursework received poor to failing grades (*D-F*) versus 0% of teachers in the good quality cohort. One must be cautious in interpretation, given the small sample, yet the following vignettes clearly illustrate the difficulty two out of five poor quality cohort teachers had in completing their ECE related coursework:

> Amy, who was working toward her AA in ECE, was on academic probation, having received poor or failing grades in 9 of the 12 ECE credits she attempted. Amy received *D*s in three courses, including Introduction to Early Care and Education and an *F* in her practicum (i.e., supervised teaching or mentoring experience). Infant and Toddler Curriculum and Children's Literature were the two other courses in which *D*s were received. Out of her 12 attempted credits, the only course Amy sufficiently passed was Human Growth and Development. She achieved a *C* for her efforts in this 3-credits course. Amy's transcripts indicated she was continuing on with her professional development and was enrolled in a 1-credit course covering behavior management at the time of the study.

> Mira, who completed her AA in ECE with 39 content-specific credits, had attempted 55 credits. She achieved poor to failing grades (*D-F*) for approximately 1/3 of her attempted ECE related courses. For example, it took Mira three attempts to raise her grade in Human Growth & Development to her program's required *C* level. It also took her four attempts to successfully raise her grade in General Sociology to the minimal *C* standard. Both of these courses were required for her degree completion and to become director qualified. Documentation indicated she eventually achieved both.

These examples reflect how apparently similar professional development experiences can actually be quite different. Also reflected is a likely limitation of other studies in which teachers are merely asked to report their professional development experiences. For example, if courses in which a *D* or lower had been left out of the

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examination of content completed in this study, the between-group difference pertaining to participation in supervised practical experience would have increased to 80%. Implications of grades are reflected upon further in the "Discussion" section.

Intensity and Duration

   Intensity and duration refers to the amount of time a teacher was exposed to early childhood specific content. For the purpose of this study, intensity and duration of exposure was examined in terms of quantity of credits as well as comprehensive and piecemeal education experiences. Comprehensive education refers to higher education experiences that reflect the completion of or a goal to complete a specific path of study. Specific examples of comprehensive education include the following:

1. ECE coursework completed at one or two institutes (if other coursework transferred) of higher education.

2. Patterns of ECE course integration in which foundations of understanding are laid and built upon (i.e., a lecture with corresponding lab or different levels or sections of the same course taken over multiple semesters or quarters).

3. Pattern of three or more credit hour ECE classes.

Piecemeal education refers to higher education experiences that lack cohesiveness due to a lack of integration of the teacher's experiences. Specific examples of piecemeal education include the following:

1. ECE coursework completed though multiple higher education programs.

2. Pattern of one and two credit hour ECE classes.

3. No evidence of courses that build on previous or current exposure to specific content (i.e., lecture and lab combinations and courses taken over multiple semesters or quarters lacking).

In examining quantity in general, the teachers in the good quality cohort completed more content-specific credit hours—contributing to the "more is better theory." The number of content specific credits completed by teachers in the poor quality cohort ranged from 3 to 39, whereas the teachers in the good quality cohort completed 9 to 102 ECE related credits (Figure 6).

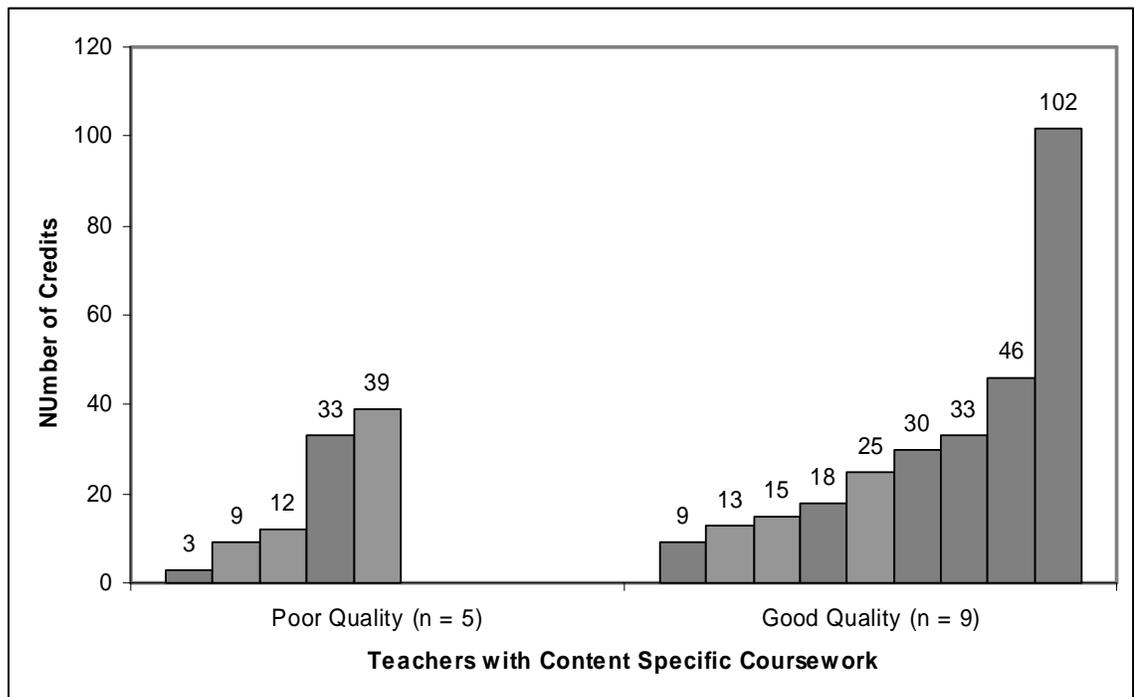*Figure 6.* Number of content-specific credits per lead teacher with content-specific education.

This finding resonated with information from the data set used to derive these data (Zellman et al., 2008), demonstrating that teachers' completion of content-specific credits was associated with higher ECERS-R scores. Notably, higher ECERS-R scores were associated with lower punitiveness, less detachment, and a more positive

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relationship (with target child) as measured by the Caregiver Interaction Scale (Arnett, 1989).

In regard to piecemeal versus comprehensive experiences, teachers in both cohorts bounced around from college to college—completing content-specific coursework through multiple institutes of higher education; however, in regard to exposure to content (i.e., number of credit hours) and course integration, teachers in the good quality cohort brought more comprehensive experiences to their practice. For example, a between-group difference emerged regarding the amount of time teachers were exposed to specific content. The one teacher who satisfactorily passed the Introduction to ECE course in the poor quality cohort took it as a two-credit class, whereas teachers in the good quality cohort typically took this seminar as a three credit hour class (with a range of 2-8 seminar credit hours) combined with a three-credit lab (with a range from 2-6 lab credit hours).

In looking at intensity and duration with regard to supervised practical experience outside of a lab, the teacher who satisfactorily passed her practicum in the poor quality cohort completed five credit hours over a single semester. In the good quality cohort, the intensity and duration of participation in supervised practical experiences outside of a lab (i.e., identified in transcripts as practicum, student teaching, internship, and work experience) was greater. Participation by all four teachers covered multiple semesters and 6-12 credits completed by each.

As noted earlier, multiple exposure to similar content through different courses also emerged as a between-group difference, including multiple exposures to supervised practical experience. In examining the data, multiple supervised practical experiences

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allowed teachers in the good quality cohort to have a variety of exposures to supervised hands-on learning, including opportunities for supervised contemplative reflection before stepping into the student-teaching role, as well as opportunities to observe, participate, and be mentored in multiple settings.

Furthermore, participation in multiple child development courses potentially allowed teachers in the good quality cohort to build on a foundation of understanding from one semester to the next (i.e., two-semester sequential course), to take the course within the context of early childhood education and a particular methodology (i.e., Montessori), or within a broader context, such as psychology (i.e. big picture of development across childhood). Notably, 60% of the teachers in the poor quality cohort who completed content specific education took Human Growth and Development versus Child Development or Child Growth and Development as their child development prerequisite. Since Human Growth and Development covers development across the lifespan, child development was a component, but not the emphasis of the course. As a result, the teachers' exposure was limited.

More apparent patterns regarding teachers' comprehensive experiences emerged when examining clustering of content (i.e., prevalent combinations of class content found in the good quality cohort) in terms of quantity, intensity, and duration. Table 7 shows the actual number of credits completed by each teacher for each content cluster area.

Table 7

Intensity and Duration of Clustering via Credit Hours

Category	Number of Credits Per Teacher							
	Ron	Kia	Bev	Bella	Penny	Mary	Cass	Sasha
Intro ECE		6	3	2	3		3	8
Practical Experience	4	6	6	8	12	18	3	9
Child Development	5		3	6	4	13	4	3
Guidance strategies					3	8	3	3
Administration			3	2		10	3	2
Total Cluster Credits	9	12	15	18	22	49	16	25

At this point, the beginning of an answer to the question "More of what specifically?" starts to emerge. Looking at group ranges and averages it appears that, at least in this sample, the more exposure to these content areas, the better. Table 8 depicts the range of and average credits taken in each content area, as well as the actual contact hours (i.e., time exposed to content).

Overall, the group range in credits completed in various clusterings of these five content areas ranged from 9-49 credits, with an average of 21 credits. The range for Introduction to Early Childhood Education was 2-8 credits, with an average of four credits. For practical experience, the range went from 3-18 credit hours, with an average of eight. Exposure to Child Development ranged from 3-13 credit hours, with an average of five credits. Guidance Strategies was typically taken for three credits, but the range went from 3-8 resulting in an average of four credit hours. Last, teachers who took a basic program administration course typically took a 2-3 hour course, but the range went from 2-10, with an average of 5 hours.

Table 8

Content Cluster Credits and Contact Hours

Category	Group Range Credit Hours	Group Average Credit Hours	Group Range Contact Hours	Group Average Contact Hours
Intro ECE	2-8	4	30 -120	60
Practical Experience	3-16	8	45 -240	120
Child Development	3-13	5	45 -195	75
Guidance strategies	3-8	4	45 -120	60
Administration	2-10	4	30 -150	60
Overall	9-49	21	135- 735	311

In regard to examining actual contact hours the following formula was used:

credit hours x 15 (weeks). On average, college semesters run for 15 weeks. For the

purpose of consistent measurement in analysis, all teacher credits were examined in terms

of semester hours, with quarter system credit hours converted to semester hours (quarter

hrs X 0.67 = semester hrs). Contact hours do not reflect reading and assignments

completed outside of class time; hence, the assumption is that contact hours reflect the

minimum amount of time, on average, teachers were directly exposed to content. In

thinking about credits in terms of contact hours with specific content, differences in

intensity of exposure in terms of number of credits becomes more apparent.

Type of Education Program

In examining other ways in which seemingly similar educational experiences

could differ, there was a lack of comparability across groups to find a difference. For

example, in this particular sample, no apparent differences emerged regarding attending

an accredited versus a nonaccredited college (i.e., limited examples of nonaccredited

experiences in either cohort). Additionally, when examining lead teachers professional

development experiences, no apparent difference emerged regarding distance versus on-

site learning (i.e., limited examples of distance learning experiences in either cohort). What did emerge is that 60%, or three out of five, of the poor quality cohort teachers who had completed content-specific coursework completed coursework at the same state college's 2-year Early Childhood Education program. None of the teachers in the good quality cohort attended this program located in an urban area. Another interesting difference is that four of nine teachers in the good quality cohort who had completed content-specific coursework attended in-state, 2-year community college programs.

Obvious questions essential to answering the "so what?" of this finding include the following: What were the programs' criteria for admission at the time of admission? What qualifications were instructors required to have? Did content of courses or the methods in which classes were taught differ vary greatly? Did students have greater exposure to topic content within the context of credit hours? Unfortunately, the only question this study can begin to address, given the data at hand, is differences in the intensity and duration of content exposure.

Time Frame

No apparent between-group difference regarding the time frame in which content specific coursework was completed emerged. In the good quality cohort, the time frame in which content specific courses were completed by lead teachers in relation to the time of data collection ranged from two teachers currently enrolled to a teacher who had completed her coursework 24 years prior to data collection. In the poor quality cohort, the range included a teacher whose coursework was in process to a teacher who had completed coursework 16 years prior. There was one teacher in the poor quality cohort whose documentation did not include this information.

Unfortunately, from the perspective of accuracy for this study's purpose, based on experience, there are likely teachers in this sample who had completed recent training (in the previous 3 years) but did not turn in the requested documentation. For example, on occasion, if a program knew a teacher's minimal training was insufficient to earn points toward the program's rating and documentation of training was not readily available (i.e., on site and on file), the program would just submit the teacher's professional development form and indicate less than 45 hours of training had been achieved in the past 3 years. Further, programs in which teachers were going to receive credit for content-specific education may not have submitted training documentation if it was not readily available because points were awarded for the highest level of professional development completed by a teacher (i.e., education). Based on these limitations and the fact that training received 3 years prior to data collection was not counted, these results need to be interpreted cautiously. Keeping these limitations in mind, as noted earlier, more teachers in the poor quality cohort brought documented training to their practice, by a marginal difference; however, when examining this finding further, interesting between-group differences emerged regarding the types of teacher training and the intensity and duration of teacher training. In examining training in terms of type, content, intensity, and duration, the following between-group differences were found.

Type of Training

Thirty percent of the teachers in the poor quality cohort had training experiences that lacked face-to-face instruction (e.g., online and correspondence) versus 0% in the

good quality cohort. This difference is discussed further within the context of intensity and duration.

Quantity

Both cohorts revealed a wide range of training hours completed by teachers. In the poor quality cohort, documented training hours ranged from 1-172 hours. In the good quality cohort, documented training hours ranged from 13.75 to over 300 hours. In general, the teachers in the good quality who submitted training tended to have completed more training hours than the teachers in the poor quality cohort who submitted documentation. This appears to be a reflection of the duration and intensity of the trainings completed.

Intensity and Duration

Training was examined in terms of piecemeal and comprehensive training. Piecemeal training was defined as ½-hour to 2-hour trainings on a myriad of topics with limited exposure to content, whereas comprehensive training was defined as training that occurred over multiple hours (at least 3 hours), and possibly over multiple days or weeks, that covered specific, interrelated content with intentional integration of topics over time. Figure 7 shows between-group differences in the intensity and duration of teacher training.

Interestingly, in the poor quality cohort, 40% of the teachers had piecemeal training as the predominant type compared to 10% in the good quality cohort. Types of trainings found to be more prevalent in the poor quality cohort included piecemeal, on-site in-service trainings (i.e., 45 minutes to 1.5 hours), attendance at state or local conferences, and packaged trainings that lacked face-to-face time with a trainer or

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instructor (i.e., online). While in-service and state conference attendance were also found in the good quality cohort, those teachers also participated in more comprehensive training, education, and/or credential experiences.

Indeed, a more apparent mode of training in the good quality cohort was comprehensive training, with participation by 50% of these lead teachers versus 30% in the poor quality cohort. Types of comprehensive trainings in the good quality cohort included instruction through community colleges, research foundations, and accredited Montessori training institutes. In the poor quality cohort, examples of comprehensive training involved the completion of packaged correspondence courses (18-77.5 hours) or vocational training (172 hours).
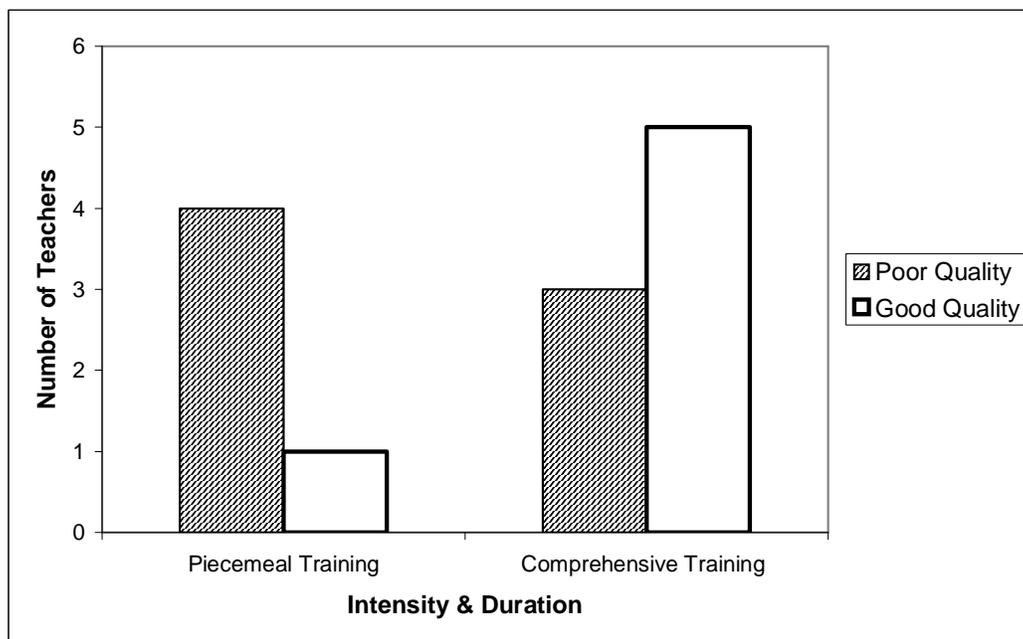
Figure 7. Between-group differences in intensity and duration of teacher training.

Comprehensive in-service trainings through the ECE program or agency in which the program was affiliated did show up in the lead teachers' training experiences in both cohorts (one in the poor quality group and three in the good quality group). While not

meeting the 30% difference criteria, this is noteworthy in that it resonates with other studies in which teacher practices improved through comprehensive training offered through specific agencies, such as Head Start programs (Epstein, 1993)**.**

Content

Overall, there seemed to be a greater between-group difference in the intensity and duration of teachers' exposure to content in face-to-face trainings than in the actual subjects of content completed. Evidence that teachers in the poor quality cohort completed more trainings pertaining to health and safety did emerge, as did evidence that teachers in the good quality cohort completed more comprehensive training specific to the curricula implemented in their classrooms.

The general lack of between-group differences regarding training content could possibly be attributed to the huge variance in training options, the accuracy and quality of the content, intent of training, and expertise of trainers. An overgeneralization of content categories used in this study may also contribute to this lack of difference in content or quite simply—there were no interesting between-group differences.

Training as the Only Mode of Teacher Professional Development

Though a relation cannot be determined, this research found that teacher practices (based on ECERS-R criterion and interpretation of observer reports and notes) in 50% of the poor quality cohort classrooms—in which the only mode of content specific professional development was training—tended to include the following:

1. Authoritarian approaches to classroom management in which language was
   primarily used to tell children what to do or not to do.

2. Unpleasant interactions between teachers and children (e.g., harsh tones, unsympathetic response to children's needs).

3. Teacher-directed activities predominated, with children as passive participants.

4. Daily schedules that were too rigid (i.e., no time for individual interests) or chaotic (i.e., lacking a dependable sequence of daily events).

5. Children kept together as a whole group most of the day.

6. Drawn out transitions in which negative interactions (peer interactions and adult-child interactions) escalated.

7. Little or no staff guidance for positive peer interaction (notably in each of these classrooms positive peer interactions were lacking).

8. A lack of supervision to ensure children's safety and/or support children's active learning.

9. A lack of language and reasoning stimulation.

10. A lack of coordination among teachers when more than one teacher was present.

11. A lack of room arrangement that supported children's exploration and learning and different types of play (e.g., active and quiet; individual, small, and large group play).

12. A lack of planning around children's existing interest center use (i.e., lack of materials, incomplete materials, lack of a connection between accessible materials and other classroom activities).

Notably, these practices were observed in classrooms in which the lead teacher either submitted documentation pertaining only to training or provided no documented professional development, indicating that the teacher most likely brought training that could be counted toward the minimal amount of in-service training allowed by licensing at the time of data collection (9 hours), for which no credit for the Qualistar Rating would have been awarded. For the 20% of this group whose training was comprehensive in nature, some variances in practice were noted. For example, in the highest scoring classroom in the poor quality cohort, in which the lead teacher completed an extensive comprehensive correspondence training specific to her classroom curriculum and an on-site training covering the same, adult-to-child interactions, active supervision, and staff cooperation were rated as good (e.g., warm and responsive interactions, balanced sharing of responsibility among staff), though most other practices were rated as poor or mediocre. In the classroom in which the teacher completed an extensive face-to-face vocational training program, while most practices were rated as poor, planning was evident in her classroom arrangement (e.g., set up to support many different types of play, exploration, and learning).

Based on between-group differences, in this particular sample, piecemeal training alone does not appear to be an effective means of professional development. Based on the finding that the three teachers in the poor quality cohort who completed comprehensive training as their predominant form of professional development participated in training modes not evident in the good quality cohort (i.e., though a correspondence or a vocational program), more in-depth research into types, content, and quality of training is recommended. This finding is discussed further in the "Discussion" chapter.

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Credentials

Next, this research examined between-group differences regarding credentials. Thirty percent of the lead teachers (3) in the poor quality cohort and 50% of the lead teachers in the good quality cohort (5) completed credentials—a marginal between-group difference. Of note, two additional teachers in the good quality cohort submitted expired CDA credential certificates. A CDA is valid for 5 years, and one had expired 7 months prior to data collection and the other 10 years prior, so they were not counted in analysis. It could not be known whether any providers from the poor quality cohort also had once held a credential that expired prior to data collection or if more teachers in the good quality cohort did because only current credentials were requested for data purposes. While this expired CDA finding could lead to all sorts of speculation on the lasting benefits of a CDA, there is not enough isolated evidence to support such a claim within this study. However, it does bring to light the importance of reviewing actual documentation and begs the following question: In studies in which measurement of professional development was based on self-report, were teachers' expired credentials counted and included in analysis?

Delving further into teacher credential documentation, a noteworthy between-group difference did emerge. Fifty percent of the lead teachers in the good quality cohort had actually completed multiple credentials versus 0% in the poor quality cohort. This between-group difference resonated with other findings in this study pertaining to more comprehensive professional development experiences being found in the professional development pathways of teachers in the good quality cohort (see Intensity and Duration Section). Credentials, by definition, indicate the completion of content-specific,

comprehensive training and/or education. Notably, Rochelle—the only teacher in the good quality cohort without content-specific education—brought two credentials to her practice (as described in the "Content" section). Figure 8 depicts an overview of between-group differences in credentials achieved.
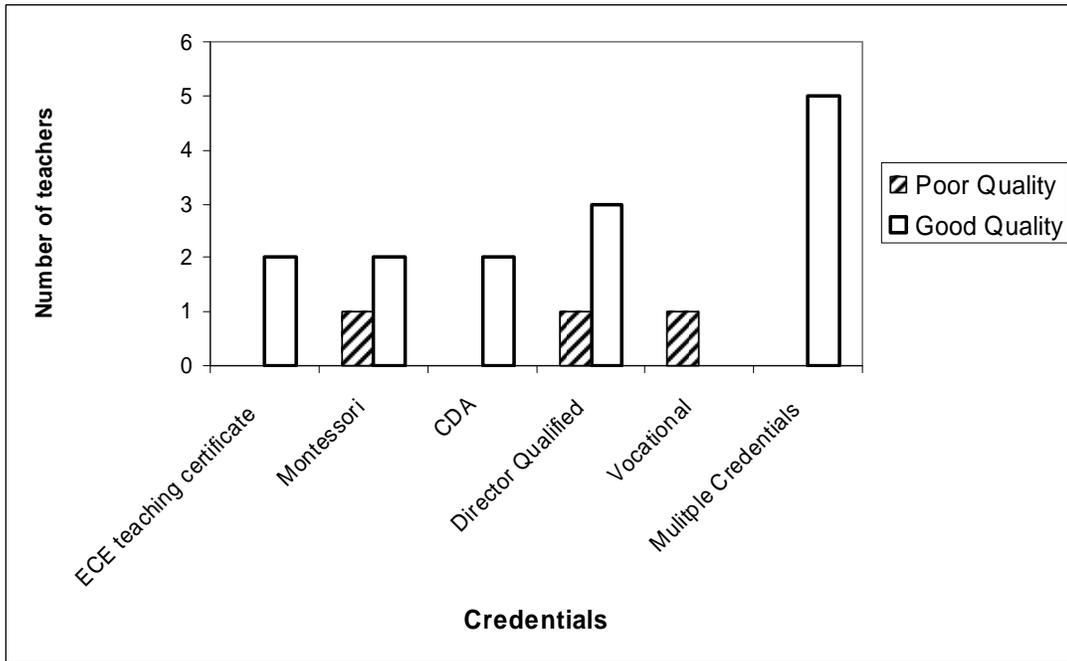
Figure 8. Between-group differences regarding teacher credentials.

The type of credential may be of importance. While there was less than a 30% group difference on any of the credentials, further study is suggested based on credentials found in one group and not the other. For example, of the three lead teachers in the poor quality group who completed a credential, one completed a vocational training certificate. Vocational training certification was not evident in the good quality cohort. Further, current CDA credentials were held by 20% of teachers in the good quality cohort and 0% in the poor quality cohort. As with other studies, it is impossible to isolate the impact of credentials because 90% of the teachers in the good quality cohort who brought multiple credentials to their practice also completed content-specific education. Interestingly, the

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Montessori certification process of the two teachers in the good quality cohort included

supervised practical experience, whereas supervised practical experience did not appear

to be anywhere within the professional development experiences of the teacher in the

poor quality cohort who held a Montessori certificate.

Program and Classroom Characteristics

The next step of analysis involved examining program and classroom

characteristics to ensure that the two cohorts were as similar as possible regarding facets

of structural quality other than professional development (Goodwin & Goodwin, 1996).

Table 9 presents differences in the lead teachers' years of experience, classroom group

size and adult-to-child ratios, program profit-status, and hours of operation. Any

between-group differences of 30% or greater were marked (*) for further examination

and interpretation. This table merely provides a visual depiction of findings and is not

intended to convey statistical significance.

This step of analysis was guided by the following sub-questions:

1. Do any interesting between-group differences emerge regarding other factors

that might influence observed classroom quality (i.e., program, classroom, and support

staff characteristics—assistant teachers, directors—and support staff professional

development)?

2. If so, what are those differences?

Two between-group differences meeting this criterion emerged: profit status (70%

difference) and adult-to-child ratios (50% difference). In the good quality cohort, 90% of

the teachers taught in non-profit programs, whereas in the poor quality cohort, 20% of the

teachers taught in non-profit programs, resulting in a between-group difference of 70%.

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Table 9

Between-Group Differences Structural Quality

	Good Quality	Poor Quality	Difference
Years of Experience	100%	80%	20%
Range	4-26	0-21	
Mean	9	10	
Ratios	100%	50%	50%*
Range	4-8	4-10	
Mean	6	8	
Group Size	90%	70%	20%
Range	11-19	5-21	
Mean	11	10	
Hours of Operation	100%	90%	10%
Range	8-12	2.5-12	
Mean	11	10	
Profit Status	90%	20%	70%*

Note. Years Experience = % meeting at least 3 years experience; Ratios = % meeting quality threshold; Group Size= % meeting quality threshold; Profit status = % non-profit; Hours of Operation= % full day; *= Earmarked for further analysis

Linked to program quality (Whitebook et al., 2000; Vu et al., 2009), there is speculation in the field that non-profit programs may be able to attract higher skilled teachers because, unlike for-profit programs, these programs do not typically rely solely on parent tuition to cover teacher salaries and benefits (i.e., subsidized). As a result of other funding sources (e.g., grants, government funding, capitol campaigns) teacher compensation is often greater. Compensation has been found to be a significant predictor of quality (Whitebook et al., 2000). Unfortunately, compensation data were not available for this study.

When taking analysis a step further, 30% of the teachers in the good quality cohort taught in early childhood education programs affiliated with a college versus 0% in the poor quality cohort. Notably, the teachers in these programs tended to have more content-specific professional development experiences, as well as comprehensive training

offered through the colleges in which their programs were affiliated. It is plausible that teachers in these programs received tuition breaks and comprehensive training opportunities that contributed to richer professional development experiences, as added compensation.

Yet another between-group difference emerged with 40% of the non-profit programs in the good quality cohort also holding the distinction of being Head Start programs. This is noteworthy because Head Start programs tend to be standards-based; hence, classroom practices may, at least in part, reflect expectations set by program standards. Head Start programs tend to also hold high standards for the trainings prepared specifically for and offered to staff (Epstein, 1993). This is discussed further in later sections. Notably, none of the programs in this study were identified as School District or state preschools, which are also thought to fall under the influence of other quality auspices (Vu et. al., 2008). This information was not specifically collected.

In regard to ratios, between-group differences exceeded 30%, with 100% of classrooms in the good quality group meeting quality adult-to-child ratios standards (i.e., one adult to every eight children or less) and 50% in the poor quality group meeting quality ratios. In the poor quality group, three classrooms offered a 1:10 adult-to child ratio ratio, and one classroom offered a 1:9 ratio. This finding was not surprising given other researcher's findings of significant relations between quality and ratios (Helburn, 1995; Howes, 1997; Howes et al., 1996; Kontos & Feine, 1987), including the researchers of the larger study from which this data originated (Zellman, Perlman, Le, & Setodji, 2008). Due to a lack of at least a 30% group difference on the other variables relating to structural quality this study had set out to examine (See Table 9), those

variables were excluded from further analysis unless other findings indicated a possible interrelation of characteristics (e.g., teacher turnover). Notably, Zellman and colleagues (2008) did find teacher experience significantly correlated with classroom quality in Qualistar's evaluative study, whereas an interesting between-group difference was not found within this limited subsample based on my categorizations.

Next, I mined through other program and classroom characteristic data to see whether previously uncharted differences emerged that might influence classroom quality. Notably, other between-group differences began to emerge. For example, three classes in the poor quality group had only one teacher assigned to the class—trying to meet all of the children's needs while providing early learning opportunities. Two of these classrooms did not meet quality standards for adult-to-child ratios (1:10). On the surface, the third classroom's adult-to-child ratio of 1:5 met quality standards, but two of the children had identified special needs that required 1:1 attention. Interestingly, none of the classrooms in the good quality cohort had "solo-teachers" (i.e., one teacher working by himself or herself with a group of children). This 30% difference meets the criterion of being interesting, and it is recommended the practice of solo-teaching in classrooms serving children under the age of 5 years old be examined further, particularly when the teachers are greatly lacking in professional development (i.e., 0-3 credits of content-specific coursework completed satisfactorily, no credentials or comprehensive training experiences), as two of these three teachers were. Solo teaching is discussed further in the following section.

Characteristics Across Staff

Because teachers do not typically teach alone in ECE programs and data pertaining to characteristics across classroom staff were readily available, the decision was made to mine through the data with the possibility of mapping out between-group differences regarding how support staff characteristics, including professional development, might interrelate with classroom quality. However, once the mining process began, it became apparent that data for teaching assistants and some supervisory staff were less than complete, with more instances of incomplete data in the poor quality cohort. These limitations are noted as they pertain to the following findings.

In examining professional development across classroom and supervisory staff, interesting between-group differences in classroom staffing patterns emerged:

1. Thirty percent of the teachers in the poor quality cohort taught alone versus 0% in the poor quality cohort.

2. Forty percent of the teachers in the good quality cohort taught with more than one assistant teacher versus 10% in the poor quality cohort. This resonated with the finding that good quality classrooms tended to have better adult-to-child ratios.

Further, while not meeting the 30% difference criterion, more classrooms in the poor quality cohort were found to have occurrences of "atypical" staffing:

> Thirty percent of the classrooms in the poor quality classroom had "atypical" staffing due to teacher turnover or "teacher shuffling" versus 10% in the good quality cohort.

As a result of this last finding, I examined data pertaining to years of experience (i.e., overall experience and date of hire with the program) to get a better understanding

of staff turnover in each group. It became apparent, however, that data pertaining to years of experiences were not available for numerous support staff. I also did not know whether classroom staff were employed in the same classroom throughout the duration of time they were employed in a particular program.

To address these limitations, I decided to categorize each staff member for whom either years of experience or date of hire equaled less than a year as "new hire." This information was missing for at least one pertinent staff member in three classrooms in the poor quality cohort and one classroom in the good quality cohort; however, out of curiosity, analysis continued with each instance of new hire counted as a case of staff turnover in the program in the past year. What emerged is that at least 50% of the classrooms in both cohorts contended with "new hires" that brought less than a year of experience to classroom or supervisory roles. Notably, this last finding is presented with the understanding that due to data limitations, it can only be interpreted as the minimum amount of staff turnover with which either group had to contend.

Next, this research compared differences in classroom staffing patterns to the professional development across support staff (classroom and supervisory staff). As noted, in 30% of the classrooms of the poor quality cohort, the lead teacher taught alone, versus 0% in the good quality cohort. A potential consequence of solo-teaching is that a teacher has little besides his or her own understanding of best practice (or lack thereof) to direct daily practice, whereas in the good quality cohort, in each classroom the lead teachers worked with at least one assistant teacher. Interestingly, in 60% of the good quality classrooms, the teachers and their assistants shared similar and largely

comprehensive professional development experiences. Examples of shared professional

development experiences include the following:

> In Ron's classroom, both he and his assistant teacher brought over 12 hours of the same comprehensive training, which pertained to putting theory and philosophy into developmentally appropriate practice within the context of the Montessori Method, which guided their practice. This multi-part training included reviews of previous content—allowing for multiple exposures to content.
>
> In Mary's classroom, on top of the 102 ECE credits Mary had completed, her two assistant teachers were currently working on their AA degrees in ECE through the same college. Her assistants were actually taking a course together at the time of data collection. Course topics completed by both included early childhood education, including a lab; methods and techniques in curriculum development; and guidance strategies. One teacher was further along in her degree, having also completed child growth and development, ECE topics, and human relations in ECE. These courses also corresponded with Mary's completed coursework. Ongoing professional development through mostly comprehensive training was also evident for this assistant teacher, including multiple comprehensive trainings through the same community college in which she was enrolled. Topics covered included guidance strategies, family relationships, individual diversity, developmentally appropriate practice, and child growth and development, creating a healthy and safe environment, and professionalism—allowing for multiple exposures to similar content.
>
> In Sasha's classroom, Sasha worked with a co-teacher who had completed an AA in early childhood professions, with 54 early childhood credits, from one of the many 2-year colleges Sasha attended. While both teachers brought similar course content to their practice, Sasha's co-teacher actually completed a more extensive and comprehensive education experience than Sasha and many of the lead teachers in the study for that matter. Practical experience included a semester of work experience, a semester-long exceptional child practicum, an administrative practicum, a semester-long infant and toddler practicum, and a semester-long early childhood internship. Course content included introduction to ECE, guidance strategies, nurturing creativity, DAP activities, curriculum/method, child development, special needs, and administration—allowing for multiple exposures to content. Additionally, both had completed the same 3-day comprehensive national conference as well as some piecemeal, onsite trainings and "peer-to-peer" workshops.

In Rochelle's classroom, Rochelle and two of her three teaching assistants had completed Montessori credentials, which included content such as preparing the environment, self-esteem, sense of community, use of materials and exploration through the senses, and language activities, along with supervised practical experience, all within the context of the Montessori philosophy and method that guided their practice.

In Cass' room, she and her two teaching assistants attended many of the same trainings. These were approximately 2-3 hours in length and covered such topics as High Scope and ECE Cares, active learning, conflict resolution, and social-emotional assessment of children. These trainings were directly related to the curriculum and practice implemented in their classroom.

In Bev's classroom, Bev worked with a co-teacher who had completed a related BA. It appears she completed 40 early childhood related course credits. Her course content related to Bev's and actually extended beyond Bev's in regard to content exposure. Content included individual and family development, family relationships, child welfare, children's music and literature, childhood socialization, ECE curriculum, play behavior, language and speech development, and child development. Practical experience came in the form of a child development practicum and an internship.

In the poor quality cohort, 10% of the classrooms had teachers with shared comprehensive professional development experiences. Notably, this was the classroom in which a teacher appears to have been shuffled in to cushion the observation, as well as the highest rated classroom in the poor quality cohort:

In Shea's classroom, both Shea and her assistant for the day had completed 9 hours of comprehensive HighScope training over a period of 3 days. The 9 hours of comprehensive training pertained directly to the curriculum implemented in the classroom.

Interactions was the highest rated subscale and greatly contributed to the overall average score. Interpersonal skills included supportive between-staff interactions (e.g., warm interactions, balance of responsibilities); positive peer interactions; adults interacting with children in a warm, respectful way; and active supervision of children

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indoors. These findings seem to suggest that shared comprehensive professional development experiences may help embed positive classroom practices in staff.

Next, general levels of education and training were compared across classroom staff. In looking at overall professional development across classroom staff, a 30% group difference emerged. In the poor quality cohort, assistant teachers in 50% of the classrooms brought no professional development to their practice versus 20% in the good quality cohort. In comparison, in 30% of the classrooms in the good quality, at least one assistant teacher was equally as qualified, if not more qualified than the lead teacher, creating a co-teaching paradigm versus a trickle down of knowledge from the lead teacher to the assistant teacher paradigm.

Regarding the presence of an "atypical" classroom, as previously noted, 30% of the classrooms in the poor quality cohort had atypical teachers present versus 10% in the good quality cohort. This result led to just bit of a between-group difference regarding the presence of atypical staff due to teacher turnover or shuffling. *Turnover* refers to teachers leaving a program or the field all together, and *shuffling* refers to teacher movement in which a teacher is moved to a classroom he or she is not typically in to temporarily meet licensing requirement for adult-to-child ratios or to "cushion" classroom practices for an outside observer (e.g., a potential new client, a licensing specialist, or a quality rater).

The decision was made, as previously indicated, to keep these "atypically" staffed classrooms in the study because teacher turnover occurs regularly in ECE programs and, as a result, children are adversely effected (Helburn, 1995; Howes & Hamilton, 1993; Howes et al., 1992; Phillips et al., 2000; Whitebook, Phillips, & Howes, 1998). The national, yearly teacher turnover rate is thought to be around 31% (Whitebook et al.,

1998). Further, teacher shuffling or movement appears to be normal practice (Zellman et al., 2008). Additionally, in each of the scenarios in which a substitute was present, the staffing arrangements observed were what children were typically experiencing during that window of time due to prolonged absence of a teacher who was not (or probably not) returning.

It is impossible to determine whether teacher turnover or having atypical staff in a classroom contributed to the poor practices observed on the day of the observation in the poor quality classrooms. Undoubtedly, atypical staffing could influence practice. For example, the typical staff roles and responsibilities may have been compounded, including the training of the substitute and/or new teacher; usual practice and routine may have been neglected due to the stress of needing to just make it through the day; and a substitute or new teacher may not have been as familiar with schedule, routines, organization of day and/or may have brought a differing philosophy, practices, or habits to the classroom (Sciarra & Dorsey, 2003). However, research also has shown that teacher turnover can be caused by poor quality programming (De Vita, Twombly, & Montilla, 2002) and cushioning is done with the intent to make quality look better, so which came first, . . . the chicken or the egg?

Looking at years of experience data across staff, it appears programs in both cohorts were prone to teacher turnover, provoking speculation that the professional development experiences of the staff in the good quality cohort may have played a role in the maintenance of sound classroom practices in light of turnover. Given that teacher turnover and practices such as teacher shuffling, which result in changes in staffing patterns, regularly occur in early childhood programs, the question needs to be asked:

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Would it make sense for all individuals who work in early childhood classrooms (i.e., lead teacher and assistant teachers) to come into the classroom prepared to lead a classroom? With the next logical question thus being: What does prepared look like?

Certainly, I cannot conclude that the lead teacher in the good quality classroom who worked with an atypical teacher during the classroom observation was able to maintain quality practices specifically because her professional development experiences prepared her. However, she had prolonged exposure to the Introduction to ECE and lab cluster (i.e., six credits hours of seminar and six credit hours of accompanying practical experience), whereas in two of the classrooms in the poor quality cohort, one brought a vocational child care training certificate (172 hours of training) and the other brought almost 77.5 hours of training without any content specific education. Further, in the third poor quality classroom in which atypical staff were present during the window of the observation (i.e., program director who fills in when needed was filling in as a lead teacher due to turnover), 25 ECE credits had been completed with a content cluster of three, sans introduction to early childhood education and any form of supervised practical experience. This is yet another indication that the clustering of specific content and prolonged intensity and duration of exposure need to be further examined.

Though directors in both cohorts tended to bring more content-specific education to their supervisory roles than their teachers did to their classrooms, between-group differences in the qualifications of supervisors emerged as well. Notably, examination of director qualifications could be a research topic in itself; hence, given the focus and the exploratory nature of this study, findings will just be briefly interpreted and discussed

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here within the context of across-staff professional development, with recommendations for future research.

In addition to program oversight, directors of ECE programs often have the role as "head trainer" (Bergen, 2009). However, in examining the director's qualifications in the poor quality cohort, for almost half the programs, it became apparent that not even minimal director requirements were met. For example, 40% of the program directors were not qualified to be directors of a large center (i.e., 16 children or more). It is apparent one director had been granted 6-months of leeway in which to become director qualified through licensing. Another, a director of a small center (serving 15 children or less), was granted permission to act as a director of a small center, which requires fewer qualifications (see Glossary). One director's qualifications had not been verified yet, and another had apparently fallen under licensing's radar. By comparison, in the good quality cohort, one (10%) teacher with a related BA had submitted documentation that she was 11 credits shy of being director qualified.

In regard to degrees completed by program directors, between-group differences actually did emerge. Figure 9 shows the different types of degrees completed or that were in progress at the time of the study. Directors in the good quality cohort were more likely to have completed a related bachelor's or master's degree in the field, whereas directors in the poor quality cohort were more likely to bring piecemeal content-specific education or associate degrees in the field. For example, in the good quality group, 80% of the directors had degrees within the field, with 60% bringing related bachelor's degrees and 20% bringing master's degrees in ECE. Of the remaining 20%, one brought an unrelated

BA with the 24 credits required to be director qualified, and the other was in the process of completing her AA with 28 ECE credits completed and multiple credentials.

In the poor quality cohort, directors brought a greater variety of professional development experiences with less content-specific exposure. For example, 30% had participated in piecemeal education (20-25 content-specific credits through multiple colleges, some not accredited, with the apparent intention of attaining director qualifications versus an AA) and 30% had completed associate degrees in the field. One held a BA in elementary education (i.e., related field) while another's transcripts and certification of completion indicated she had complete a 2-year "course" in elementary education 42 years prior through a private, out-of-state, college that was accredited the year the director graduated. However, her accompanying teaching certificate had expired over 30 years prior to data collection; hence, this information categorized this director under piecemeal education because she had more recently taken ECE content-specific courses to attain her director qualifications through multiple colleges. An additional 30% of the directors in the poor quality cohort had completed unrelated bachelors' degrees (with one in the process of completing an unrelated MA as well). In both cohorts, directors had a time frame of 42 years between degree completion and data collection. With a variety of time frames in both cohorts, there were no discernable between-group differences in relation to time of experience.

In light of this between-group difference regarding the level of content-specific education the director's brought to their supervisory roles, an interesting difference became apparent regarding what shall be referred to as a *hierarchical structuring of staff*. Going back to professional development across staff, *hierarchical structuring of staff*

refs to staffing and professional development patterns that appear to indicate an

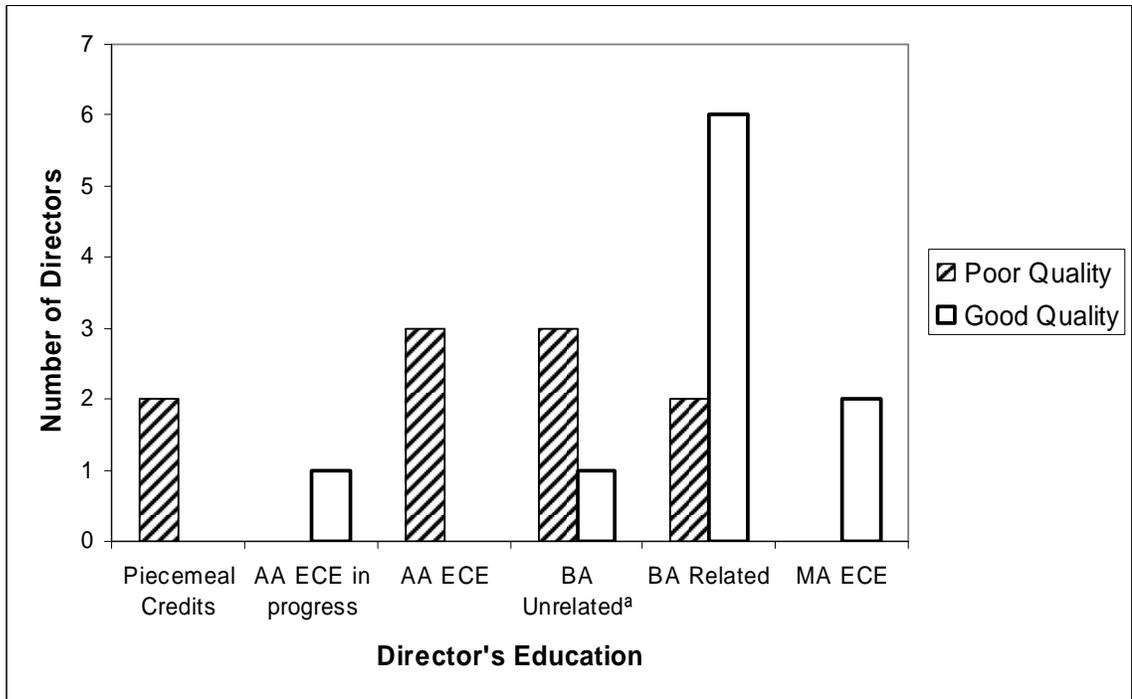intended transferring of knowledge through staffing structure.

Figure 9. Between-group differences in director education.
ª One director in the poor quality cohort who had completed an unrelated BA was in the
process of completing an unrelated MA.

In the poor quality cohort, the hierarchical structuring of supervisory staff and

teachers appears to be more vertical in nature. In this paradigm, directors held the highest

level of content-specific formal education and/or more credentials than any other staff

member. For example, in each classroom in the poor quality cohort in which the director

brought an AA in the field, a teacher whose highest level of education was high school

was leading a classroom or assisting the director in the classroom.

In the good quality cohort, hierarchical structuring appeared to be more horizontal

in nature (i.e., lateral structuring). This was certainly a difference in that staff at multiple

levels held similar qualifications. While some directors had greater exposure to content-

specific education, other teachers had equivalent or even greater exposure, based on content-specific credit hours. Numerous examples arose in which directors who had a related BA or MA supervised classrooms with a lead teacher as well as teaching assistant(s) with related associate and/or bachelors' degrees. Hence, in the good quality cohort, there appears to have been more opportunity for collaboration of knowledge versus a trickling down of knowledge (or lack there of), along with the possibility of a more expansive knowledge base from which to work (i.e., in addition to their own content knowledge, teachers had colleagues who brought more comprehensive content specific professional development experiences to their practice). This notion of a shared knowledge base resonates with conclusions of other researchers (Cassidy, et al., 1995; Vu, 2008) that in order for teachers' content-specific educations to translate into effective classroom practice their efforts must be supported by co-workers and administrators.

In looking at across-staff comparisons, notably, two directors in the poor quality cohort also served as lead teachers. There were no such examples of dual roles in the good quality cohort for comparison. In addition to a recommendation for further exploration of hierarchical structuring of staff, further research regarding the implications of dual roles and qualifications is recommended.

Summary

The intent of this study was to begin to address noted limitations in understanding the impact training and education play in effective teacher preparation (Currenton, 2006; Maxwell et al., 2006; Zeigler & Lang, 1991) by employing well-defined categorizations of training and education, actual documentation of staff qualifications (i.e., copies of transcripts, training certificates, and credentials) and a reliable and valid measure of

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classroom quality (ECERS-R, 1998). The following interesting between-group differences in the completion of education, training, and credentials were found in exploring the overarching question: How do the professional development experiences of lead teachers in 10 high quality early care and education classrooms (serving children ages 2½ to 5 years old) differ from the professional development experiences of lead teachers in 10 classrooms rated as poor quality?

1. Lead teachers in the good quality cohort were more likely to have participated in content specific education (90% with a range of 9 to 102 ECE related credits versus 50% with a range of 3-39) as their predominant mode of professional development and to have passed their courses with at least satisfactory grades.

2. Lead teachers in the poor quality cohort were more likely to have participated in training as their predominant mode of professional development (50% versus 10%).

3. Lead teachers in the good quality cohort were more likely to have achieved multiple credentials (50% versus 0%).

In further examination of between-group differences pertaining to these categories, new categories and definitions relating to professional development emerged. These emergent categories, definitions, and relevant findings included the following:

Piecemeal education refers to higher education experiences that lack cohesiveness due to a lack of integration of the teacher's experiences (i.e., ECE coursework completed though multiple higher education programs; prevalence of one and two credit hour ECE classes; evidence of courses that build on previous or current exposure to specific content, such as lecture and lab combinations; and courses taken over multiple semesters or quarters are lacking). This type of education was prevalent in the poor quality cohort.

Comprehensive education refers to higher education experiences that reflect the completion of or a goal of completing a specific path of study (i.e., ECE coursework completed at one or two institutes of higher education; prevalence of three or more credit hour ECE courses; evidence of integration of course content in which foundations of understanding are laid and built upon, such as a lecture with corresponding lab and different levels or sections of the same course taken over multiple semesters or quarters). While teachers in both cohorts attended multiple programs, the educational experiences of teachers in the good quality cohort involved greater duration and intensity in exposure to content through higher credit courses, lecture and lab combinations, sequential courses, and multiple courses in the same content area.

Supervised practical experience refers to college courses or comprehensive training experiences involving opportunities for students to observe in classrooms and to reflect on practice (i.e., supervised observation and labs) or opportunities to work with children in a classroom with supervision (i.e., practicum, student teaching and internship experiences). There was a 70% between-group difference in the number of teachers who participated in supervised practical experience, with an 80% group difference once grades were factored in. Teachers in the good quality cohort typically completed more comprehensive practical experiences with multiple supervised hands-on experiences, including opportunities to observe in other classrooms, reflect on observations, and student teach. On average, teachers in the good quality cohort brought 120 contact hours of supervised practical experience to their practice, with a minimum of 45 and a maximum of 240 contact hours.

Content clustering refers to prevalent combinations of class content found in the good quality cohort. A majority of the lead teachers in the good quality cohort brought clusters of four-to-five of the following content areas to their practice, including Introduction to ECE and/or Child Development in conjunction with supervised practical experience:

1. Introduction to ECE,

2. Supervised ractical experience: (a) Lab/child observation, (b) Student teaching/practicum,

3. Child development,

4. Guidance strategies,

5. Administration.

Piecemeal training refers to short trainings (i.e., ½ to 2 hours) on a myriad of topics with limited exposure to content. This type of training was more prevalent in the poor quality cohort (50% versus 10%).

Comprehensive training refers to training that occurred over multiple hours (i.e., at least 3 hours), and possibly over multiple days or weeks and covered specific, interrelated content with intentional integration of topics over time. Face-to-face comprehensive training was the prevalent mode of training completed in the good quality cohort (50% versus 10%).

In examining other factors that might contribute to or detract from observed classroom quality, the following concepts, based on between-group differences of at least 30% emerged:

Solo teaching refers to program practice in which a teacher works alone in a classroom and is entrusted with trying to meet all of the children's basic needs (e.g., eating, sleeping, toileting, responsive care) while providing early learning opportunities. This practice occurred more in the poor quality cohort (30% versus 0%).

Hierarchical structuring of staff refers to staffing and professional development patterns that appear to imply an intended transferring of knowledge through staffing structure. Two different structures emerged in the different cohorts.

1. *Vertical structuring* implies a trickling down of knowledge from director to teachers. Directors hold the highest level of content-specific formal education. This structuring was prevalent in the poor quality cohort, where directors with the most content-specific education had completed AA degrees in ECE. Teachers tended to bring minimal or no content-specific education to their practice. In classrooms where more than one teacher taught, the lead teacher tended to have participated in more professional development than the assistant teacher—typically in the form of training.

2. *Lateral structuring* implies collaboration of knowledge through similar or shared professional development experiences. This structuring was prevalent in the good quality cohort, where directors were more likely to have completed a related bachelor's or master's degree in the field. While some directors had greater exposure to content-specific education, many teachers had equivalent or even greater exposure than their directors, based on content-specific credit hours. Across classroom staff, lead teachers and their assistants (or co-teachers) typically had at least some, if not extensive, similar and/or shared comprehensive professional development experiences.

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There is a general consensus in the field that more teacher preparation is needed in the field of ECE to help ensure children's early childhood experience support, rather than deter their development (Berk, 1985; Burchinal, Cryer et al., 2002; Cassidy et al., 1995; Early, 2003, 2007; National Research Council, 2001; Whitebook, 2003; Wishard et al., 2003). In the spirit of the mapmaker, this research used post hoc data to map out the content of professional development pathways of teachers and their classroom practices to bring insight into the content of those paths. Using the descriptive-comparative approach, this work made comparisons of the likenesses and differences among phenomena to determine whether certain factors or circumstances (i.e., professional development) tend to accompany certain events, conditions, or processes, in this case, classroom quality (Goodwin & Goodwin, 1996). This process of comparison and interpretation is intended to help guide further understanding regarding the types of professional development that may best support ECE teachers in their endeavors to support children and their families. The implications of these exploratory findings and recommendations for future research are reflected upon further in the following chapter.

Chapter 4
Discussion

Implications and Recommendations

As found in this study and others (Roupp et al., 1979; Helburn, 1995; Whitebrook et al., 1990), experience alone may not make a difference, though it might be all that is required. Because of the current lack of qualification requirements, individuals are entering the field of ECE ill prepared (NRC, 2001). In turn, their first experiences and impressions within the field may be impacted by directors and other teachers with good intentions, but minimal qualifications themselves. Attempts to fix (or at least contain) mediocre, poor, and potentially harmful practices through piecemeal, preservice or in-service, professional development contributes to "inconsistent, fragmented, and often chaotic" approaches to professional development (NRC, 2001).

Such attempts are the equivalent of putting band-aids on gaping holes of understanding. Unfortunately, there are not enough surfaces (i.e., comprehensive foundations of understanding) for the band-aids to adhere effectively. Hence, more band-aids are applied, and teachers wind up with a hodge-podge of superficial content coverage. Simply making the band-aids bigger will not suffice unless more attention is paid to the substance of which the band-aids are made.

Certainly, this is an oversimplification of the problem, but it illustrates issues with popular modes of teacher preparation and overall professional development that need to be addressed. Indeed, in this day and age in which prevention is the current modus operatus and at-risk children are being placed in ECE programs with the intent of helping

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children succeed (NRCIM, 2000, NCLB, 2001), at least given what is known, it makes sense for adequate teacher preparation to occur prior to entering the field, as a preventative measure against children being exposed to practices that could potentially hamper their development (CQCO, 1996; NICHD, 1993), teachers being exposed to poor quality practices that are then embedded in their own practice (Karweit, 1993; NRC, 2001), and teacher burn-out and frequent teacher turnover (NRC, 2001; Whitebook et al., 2000).

The next step for the field of ECE includes focusing on what adequate preparation looks like. Discussion of implications regarding the between-group differences in teacher preparation examined and described in this study, along with recommendations for guiding future research and decision making follow.

Recommendation 1: Education

The largest between-group differences in this study pertained to the quantity of content-specific coursework completed, the intensity and duration of exposure to content through the courses, and clusters (i.e., combinations) of content that were prevalent in the good quality cohort. The educational experiences of teachers in the good quality cohort tended to involve greater duration and intensity in exposure to content through higher credit courses, lecture and lab combinations, sequential courses, and multiple courses in the same content area.

The value of comprehensive content-specific education resonates with research findings in teacher preparation for older children. For example, Griffin (1999) suggested:

> teacher education is best accomplished when it is context-sensitive (rather than exclusively or mainly abstract and unconnected to real-life teaching and learning situations), ongoing (rather than sporadic and disconnected in

its components), cumulative in its intentions (rather than having a set of features that do not lead to and build upon one another, reflective (rather than prescriptive and promoted as set truths), and knowledge based (rather than rooted solely in conventional wisdom and untested proposals). (p. 16)

Interestingly, the content clusters found in the good quality cohort align partially with Colorado's latest Director Qualifications, which came into effect post data collection (May 2005). These new qualifications require at least three semester credit hours in the following courses, for a total of 24 credit hours:

Introduction to Early Childhood Education and accompanying lab
Guidance Strategies
Health, Nutrition, and Safety
Administration of ECE Programs
Human Relations
Methods and Techniques of Teaching the Preschool-Age Child
Early Childhood Growth and Development

While the clusters did not capture all of these categories, nor capture other content areas currently recommended as foundations, such as cultural diversity, learning theory, methods and curriculum, inclusion, and policy (NRC, 2001; Karwait, 1993; NAEYC, 2009), it is a starting point of understanding based on actual documentation. Given the limitations of this study, including its exploratory nature, sample selection, and small sample size, these other content areas could very well emerge as prevalent foundations in larger scale studies.

Of note, a gap across both cohorts in teacher preparation emerged. Only two teachers out of the 20 in the sample, or 20%, overall, had participated in a course specific to best inclusive practices in ECE, and they were both in the good quality cohort. Those two teachers comprised half of the teachers in the good quality cohort who reported having children with identified special needs enrolled in their program. Furthermore,

while 20% of the teachers in the poor quality cohort reported caring for children with identified special needs in their classroom, no teachers in this grouping had completed content-specific coursework in this domain.

If no children with identified special needs were enrolled in a classroom at the time of the observation, per protocol, the item was marked NA (not applicable). It would be interesting to know how many more classrooms included children with special needs going unaddressed due to a lack of teacher understanding of how to identify or address concerns. For example, an observer commented on the score sheet for a classroom in the poor quality cohort that, although she was not scoring these criteria because no enrolled children at the time of the observation were identified with special needs: "3 children . . . could greatly highly benefit from professional intervention." Additionally, how many programs were turning away or expelling children with special needs because their needs could not be met?

Unfortunately, these questions cannot be addressed in this study, but this gap highlights current recommendations (NRC, 2001; NAEYC, 2009) that, within the framework of an early childhood education degree, all early childhood educators should complete a content-specific course focused on creating inclusive classrooms for children with special needs. Notably, Colorado is currently in process of revising director qualifications and soliciting stakeholder input. The new criteria include at least three credits related to creating inclusive classrooms. Given this study's findings regarding clustering as well as staff structuring and the evolution of director qualifications since the data for this study were collected, research is recommended to examine potential benefits

of requiring teachers to bring these revised director qualifications to their practice as well, within the context of cost and quality.

No between-group differences emerged regarding lead teacher degrees. Notably, most teachers in both cohorts who brought seemingly related bachelors' degrees to their practice (i.e., elementary education or child psychology) had completed few if any courses that met this study's criteria for being content specific. Most content-specific education completed by teachers in this study was completed through 2-year community or state college programs (whether the teacher had completed a degree or not). This was not surprising due to the limited sample size and the fact that 2-year associate programs are the most accessible and affordable modes of education for ECE teachers in the state of Colorado. Other researchers have also found a limited number of teachers holding BA degrees in their sample populations. For example, Vu and colleagues (2008) found that less than one quarter of the participating lead teachers in their California study held content-specific BAs. Indeed, the majority of institutions of higher education in the U.S. that offer early care and education degree programs offer associate degrees (Early & Winton, 2001; Hyson, Tomlinson, & Morris, 2009).

Both research (Burchinal, Cryer et al., 2002; Early et al., 2007) and scholarly debate have suggested that bachelors' programs are of greater benefit. For example, Hirsch (1983) advocated that, in addition to a content-specific major, students receive a more general education intended to acculturate students and to ground them in scholarly disciplines. Isenberg (1999) recommended that each state develop its own free-standing early childhood teacher license that includes a minimum of a BA degree with content-specific courses.

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More research focusing on content-specific coursework completed versus degrees earned is recommended. Vu et al. (2008) concurred, suggesting that review of transcripts for content-specific education and additional coursework is a more accurate way of gauging teacher education because coursework that did not result in a degree (i.e., AA or BA) is taken into account. More specifically, this work recommends research where content and clustering are examined on a larger scale (larger sample size) and in the context of different types of programs (i.e., 2-year versus 4-year), as well as the departments in which content is taught (i.e., ECE emphasis versus being a component). While Isenberg's (1999) notion of licensure is a promising direction, until there is greater accessibility to institutions that offer bachelor's degree programs with comprehensive content specifically geared toward ECE in conjunction with general education, it is difficult to recommend a bachelor's degree as a requirement.

Additionally, research indicates a possible "threshold" of education that needs to be further explored. For example, Clarke-Stewart et al. (1994) found that teachers who take extensive early childhood coursework tend to focus more on "academic activities," such as reading and counting, and to focus less on activities that support children's social-emotional development. Children in these classrooms tended to be advanced academically, but lacked competence in interacting with an unknown peer, whereas children with teachers who had moderate training tended to do equally well both academically and socially.

Recommendation 2: Early Childhood Teacher Education Program Candidacy

Occurrences of similar educational experiences across groups looked quite different between groups once grades were taken into consideration. This finding lends

credence for greater consideration of valid criteria for selection of early childhood teacher education program candidates (Karweit, 1993). Possible recommendations for criteria to be considered include the following:

1. There should be more stringent GPA requirements.

2. Teacher programs should devise their own assessment to capture that *Je ne sais quoi*—that special joy of sharing in and nurturing children's wonder and the ability to get into the mind's eye of a child to help bring the child's interests and passions into reach (i.e., a cardboard box test, which would require a candidate to come up with 10 different ways to bring a cardboard box to life in an allotted time period; a hands-on interview in the classroom of an individual certified as a mentor teacher, in which desired virtues [Almy, 1975; Turner, 1975; Karweit, 1993] would be assessed, including enthusiasm, respectful interactions with children, patience, warmth, and flexibility).

Recommendation 3: Training

Training is often unequal in quality and isolated from the context of classroom or program goals, and, unless well-designed and expertly implemented, this mode of professional development lacks the effectiveness to impact behavior (Bergan, 2009; Maxwell et al., 2006). While piecemeal trainings (i.e., short duration covering a single or a variety of topics) may have value as arenas for peer and professional interaction and provide new ideas for teachers, piecemeal training alone, even in large quantity, does not appear to be an effective means of professional development without more comprehensive understanding. Based on this study's findings, and others' (Burchinal, Cryer et al., 2002), this type of training may be more meaningful when more formal and

comprehensive foundations are already in place. Burchinal, Cryer and colleagues (2002) interpreted foundations as a bachelor's degree with ECE content.

Based on the exploratory findings here, at a minimum, comprehensive foundations may include clusters of content-specific education with supervised practical experience or supervised practical experience within multiple training or education-based credentialing processes. In line with NAEYC's current teacher preparation standards (2009), practical experiences that integrated content, context, and reflective practices over time were prevalent in the good quality cohort (i.e., could be of greater benefit in promoting desired teacher practices).

In addition to the pattern that emerged in this study, other research is starting to point in the direction of implementing comprehensive training as a more viable tool for practice related to desired outcomes (Epstein, 1993). For example, in Epstein's examination of differences in teacher qualifications, in-service training, program quality, and children's development in Head Start, public school, and private nonprofit classrooms, she found that in Head Start programs, in-service training was significantly related to program quality and this was explained partially by the fact that Head Start teachers received more well-designed, intensive, and theoretically coherent in-service training than teacher in the other settings. While conclusions about quality of design and implementation cannot be drawn from trainings examined in this study, Epstein's finding resonates with 30% of the teachers in the good quality cohort who completed comprehensive trainings via the Head Start agency with which the program was affiliated or through a college in which the ECE program was located.

Further research regarding the benefits of comprehensive versus piecemeal training is recommended, particularly in the context of how training content is delivered (i.e., face-to-face trainings versus online or correspondence), validity of content (i.e., qualifications, or expertise of trainer), trainer's proven ability to communicate information effectively (i.e., trainer completed a trainer approval or registry process), goals of the training, and cost for teachers and programs (i.e., time and money).

Recommendation 4: Supervised Practical Experience

The finding that supervised practical experience in conjunction with specific ECE content played heavily in the professional development experiences of teachers in the good quality cohort (in training and/or education) is supported by other research findings (Fromberg, 1997, Snider & Fu, 1990). Examining these experiences qualitatively allowed insight into the intensity and duration of these experiences, as well as some insight into the different types of hands-on experiences (e.g., observation, self-study, student teaching) in which teachers participated over time. The fact that teachers tended to participate in multiple experiences suggests that these teachers had the opportunity to make comparisons across different environments and practices. Notably, in the poor quality cohort, putting other issues such as poor or failing grades aside as well as less intensity and duration to exposure, the two teachers who completed some type of practical experience participated solely in a student teaching or practicum experience, suggesting that they may have missed opportunities to move into intentional practice with observation and reflection (i.e., responsibilities in the classroom increased over time).

Practical experiences that allow for observation and critical self-study, like those found in the good quality cohort, are thought to be important (Fromberg, 1997; Karweit,

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1993). For example, classroom observation allows students to see other teachers in action and to translate observed practice into theory while making inferences regarding how one might read cues, respond, and plan given the same situation (Karweit, 1993). Interestingly, in examining the teachers who held Montessori certifications and whose practices reflected good quality, their comprehensive training experiences met all of these criteria (e.g., placement consistent to conceptual framework of training institute; only allowing placement in classrooms of teachers accredited through the same institute as a mode of quality control; beginning with observation, reflection, then moving into more direct practice with more supervised self-reflection).

Additional research regarding whether comprehensive and sequential practical experiences—in which hands-on observation and reflection would be required prior to student teaching and possibly after—is recommended. However, if research is going to point professional development requirements in this direction, it is important that care is taken to ensure high-quality practical experience placements to avoid "miseducation" in educating our early childhood educators. As Karweit (1993) elucidated:

> field experiences can improve teacher candidates' performance as they learn the importance of teacher-pupil relationships and observe children in a variety of circumstances. Field experiences, unfortunately may also negatively affect attitudes and behaviors of teacher candidates who may become more authoritarian, rigid, controlling, restrictive, impersonal, and custodial; and less student centered, accepting, and humanistic if this is what they experience. (p. 421)

Seeing the challenge of finding quality sites for student placements, NAEYC takes a more positive stance on supervised practical experience suggesting, "The strongest indicator of quality is the quality of the student's opportunities to learn and practice, not the quality of the site itself" (2009, p. 6). The key to effective practical

experiences, NAEYC elaborated, is that such experiences are well planned and sequenced, well coordinated and supported by supervisors who help students make meaning of their experiences and to evaluate those experiences against standards of quality, expose children to diverse settings, and provide students with other models or experiences when settings do not provide standards of quality.

Admittedly, I disagree with the perspective and see this as another band-aid approach to make due with professional development experiences that are readily available. While observations in environments offering different levels of quality could be beneficial given the proper supervision and reflective support is in place, student teaching in a poor quality placement could potentially be negative for the student teacher as well as teachers in the classroom who may not have the tools or the program support to effectively mentor a student. In turn, children could be negatively impacted by resulting teacher stress and inconsistent interactions among adults. This situation is exemplified when a student teacher brings ideas that differ from the lead teacher regarding good practice and is put in the position of potentially undermining the lead teacher's authority or conforming to mediocre practices already in place.

Taking the Montessori certificate processes found in the good quality cohort as an example, in which student placements were limited to classes taught by teachers who themselves had gone through the accreditation process (i.e., quality control) and were teaching within the desired conceptual framework, I recommend a master teacher approach. In this approach, practical experience placements would be limited to classrooms where the lead teacher has been deemed a master teacher through a

certification process created by early childhood experts with insight from extensive field study of environments that serve as field placements.

Recommendation 5: Staff Structuring

Programs in which the lead teacher and other support staff, including directors, had or shared similar comprehensive professional development experiences were prevalent in the good quality cohort. Notably, as the National Research Council (2001) explained,

> classrooms are complex environments with many overlapping interactions going on between adults, children, materials, and conceptual tasks. Teachers respond to this complexity by referring to their own store of beliefs, experiences, and priorities, establishing a teaching stance that gets the job done.

Ensuring the job gets done with a strong knowledge base and opportunities to reflect on their beliefs, experiences, priorities and practice with others with shared and perhaps even broader understanding could be critical for ensuring the job gets done well. Cassidy and colleagues (1995) contended that co-worker and administrator support is crucial for teachers' implementation of quality practices. Recently, Vu and colleagues (2008) found that "simply increasing the qualifications of the program director and using assistant teachers who are credentialed at a relatively low level does not improve classroom quality" (p. 500). Furthermore, with the data from which this study's data is a subset, Zellman and colleagues (2008) found that director education is positively related to ECERS-R scores and to teacher ECE credits.

In further support of shared comprehensive professional development across staff, this study unintentionally brought to light the fluidity—the regular movement of staff— with which the field must contend (e.g., turnover and shuffling). Notably, since the

inception of this study, findings from the larger evaluative study from which these data were pulled (Zellman et al., 2008) indicated staff fluidity or "movement" greatly compromised the study's data. Movement was captured using the Organizational Change Survey (OCS) that the researchers used to gather information on provider operations (e.g., frequency of staff meetings and some detail on the changes providers decided to implement in response to their quality-feedback sessions). As the researchers reflected (Zellman, Perlman, Le, & Setodji, 2008):

> The OCS data reveal that 82 percent of responding teachers reported that they move staff among classrooms; 67 percent reported that, in a typical week, teachers change classrooms at least once. Since such movement is not generally considered to be good practice, there is reason to think that directors and staff would underreport rates of such movement. In these data, we also found that a number of centers employ a full-time floater teacher and some employ part-time floater teachers. Floater teachers can be assigned to any classroom; their presence during an observation did not necessarily mean that they spend substantial amounts of time in that classroom on a regular basis. The use of floater teachers indicates that some centers have created a structure that recognizes and addresses a nontrivial level of staff movement. Indeed, the floater position is designed to provide children with familiar substitute teachers. Clearly, movement of staff deserves more empirical attention. The limited data we analyzed suggest that movement of staff between classrooms is not uncommon. (p. 42)

The researchers recommended further examination of this phenomenon in the context of examining and understanding the intricate relation between quality and professional development. Though none of the classrooms in this study appear to have had an official "floater" on the day of the observation, this finding seems to validate my perception of the prevalence of movement in the field and my decision to include classrooms impacted by movement in this study.

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Regarding why examining movement is important, in terms of teacher turnover prevention, researchers (Whitebook et al., 2000) found less turnover in programs that retained a greater percentage of "well-trained" staff. Perhaps one approach to addressing teacher turnover is ensuring all staff bring at least some level of preparedness that allows for mutual understanding and support among staff (e.g., perhaps a cluster of at least two courses including Introduction to ECE and its accompanying lab or a credential in which at least 45 hours of practical experience is comprehensively integrated).

This approach could apply to addressing everyday fluidity, as well. With little specification regarding what is required to work with young children in an ECE program, there is little that grounds expectations and understanding in best practice in the classroom. As a result, the professional development experiences of individuals working within these programs makes for a mind-boggling kaleidoscope of understanding and practice. When a teacher is taken out of a classroom and/or another teacher added, the hues and textures of the kaleidoscope of practice change. Without purposeful staff planning, it is a matter of hit or miss whether the pieces of professional development and understanding each teacher brings will interrelate to create a brilliantly colorful and balanced spectacle of practice. Given the reality that on any given day a program may move teachers into or out of a classroom to meet the needs of the day (i.e., to meet legal ratios, to have extra comfort or hands for an activity, to substitute for an absent teacher), it seems clear that all individuals should come into the field with at least basic foundations of understanding.

What constitutes basic foundations for understanding is a bit less clear, although this study begins to shed light on specific foundations of content that appear to be more

prevalent in classrooms in which "good practices" were in place. The notions of vertical staff structuring (i.e., intending to pass knowledge down from the director to the classroom staff, the lead teacher to the assistant teacher) and lateral staff structuring (i.e., sharing knowledge across staff) deserve further exploration in the context of classroom quality, overall program quality, and maintaining quality amid staff movement.

Recommendation 6: Other Program and Classroom Characteristics

In examining other factors that could potentially influence classroom quality, between-group differences did emerge, suggesting that, as other researchers have surmised (Cassidy et al., 1995; Howes & Hamiltion, 1993; Roupp et al., 1979; Vu et al., 2005; Whitebook et al., 1990; Whitebook, 2003), factors besides professional development potentially influenced observed classroom quality. In this study, quality classrooms tended to be in non-profit programs, were more likely to be affiliated with a college or a Head Start program, and were more likely to have quality adult-to child ratios. In the poor quality cohort, classrooms tended to be in for-profit programs, teachers were more likely to work in classrooms with the maximum adult-to-child ratios allowed, and teachers were more likely to work alone in classrooms with maximum group sizes and, in turn, maximum adult-to-child ratios.

Unlike studies that are quantitative in nature, this research cannot determine to what degree these other factors of structural quality played in the level of classroom quality observed, nor could I determine the degree to which professional development played a role. Certainly, a limitation to this study is that factors other than professional development, relating to structural quality, cannot be isolated in drawing comparisons

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between professional development and classroom quality; however, in the actual field of early care and education, these factors cannot be isolated. Everything is interrelated.

A teacher does not work in isolation (Vu et al., 2008) even when teaching alone. There is mounting evidence that a teacher's practice is influenced by assistant teachers and/or supervisors (Vu et al., 2008), the number of children in a classroom (Roupp et. al., 1979), the number of adults in a classroom (Helburn, 1995; Howes, 1997; Howes et al., 1996; Kontos & Feine, 1987), the coming and going of other support staff (Berk, 1985; CQCO, 1996; Child Outcomes Study Team, 1995; Howes & Hamilton, 1993; NRCIM, 2000; Whitebook et al., 2000), program policies, standards, embedded philosophies or lack there of (Bowman, 2006; Vu et al., 2008), funding sources and streams (Helburn & Howes, 1996; Vu et al., 2008), and available in-service professional development opportunities (Bergan, 2009; Epstein, 1993; NRC, 2001; Vu et al., 2008).

I speculate that minimum requirements for staff qualifications and adult-to-child ratios allow for the compounding of poor quality observed in this study. For example, given the between-group differences in teacher qualifications, adult-to-child ratios, and the prevalence of solo teaching in the poor quality cohort, it is plausible that numerous programs in the poor quality cohort were trying to maximize revenue by pushing licensing standards to their boundaries (i.e., maximum adult-to-child ratios with maximum group sizes to maximize tuition base and minimize payroll and minimal staff qualifications likely resulting in lower salaries and smaller payroll) and sometimes beyond (i.e., mixing of different aged classrooms at different times in the day to maximize staff usage, resulting in classrooms being out of ratio, and having directors who were not director qualified). Given the finding that most programs in this cohort

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were for-profit, it is probable that at least some depended on parent tuition for facility and other operating expenses, leaving little for labor costs (Helburn & Howes, 1996; Vu et al., 2008).

This between-group difference in compounding of poor quality seems to support the importance of increased professional development requirements. Until there is a system overhaul that increases minimal licensing requirements pertaining to structural quality, perhaps increases in qualification requirements could serve as an impetus for change (i.e., better understanding of good practice at all levels of programming can lead to better practice at all levels of programming). Certainly, this change will come with a cost, but it certainly seems worth the investment (NRC, 2001). Knowing what types of professional development contribute to the greatest impact can help to ensure this investment is well spent. Large scale research that examines professional development specifics (e.g., content, intensity, and duration) in the context of how other components of structural and process quality interrelate is recommended.

Conclusion

Research regarding professional development, as well as the importance of responsive adult caregiving and early learning, has suggested the need for greater investments in professional development to support the multitude of roles of an early childhood educator (NRC, 2001). The demands of a teacher in an ECE program are high:

> teachers of young children are asked to promote high levels of achievement among all children, respond sensitively and appropriately to a wide array of diverse student needs, implement complex pedagogy, have a deep understanding of subject-matter disciplines, engage in serious reflection about their practices and work collaboratively with colleagues and families. (NRC, 2001, p. 262)

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Ensuring investment in professional development is worthwhile and crucial to supporting ECE teachers for meeting the growing needs of children and their families. The National Association for the Education of Young Children (NAEYC; 2009) recently updated its *Standards for Early Childhood Professional Programs* with the hope of this assurance. Of the 231 recently surveyed institutions of higher education that offer a degree in early childhood education, a majority indicated NAEYC standards were steering their quality improvement efforts (Hyson et al., 2009). Most institutions specified efforts were in place to develop and implement new student assessments, redesign coursework, and improve practical experiences.

Specifically, within the state of Colorado, professional development requirements are becoming more stringent. These changes are the result of stakeholder collaboration for systematic change as a basis for consistent licensing practices throughout the state and the promotion of quality through licensing. In addition to the new Group Leader Qualifications, feedback is being solicited for the new Director Qualifications. Though these qualifications are disparate, it is evident change takes time, and many logistical considerations need to be addressed in determining what modifications are feasible within the current framework of the field (Colorado Licensing Models Work Group Report, 2006).

Additionally, the Colorado Office of Professional Development (COPD; 2008), in conjunction with numerous stakeholders, created and recently updated the *Colorado Core Knowledge and Standards: A Guide for Early Childhood Professional Development*. This guide was produced with multiple purposes in mind, including offering foundations for professional development content in eight core areas, to be used inside and outside

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institutions of higher education. Intended users of the guide include but are not limited to

all training and workshop presenters, secondary and postsecondary early childhood

instructors, resource and referral personnel, early childhood program education

coordinators, and directors. There is evidence the guide is being used. For example,

> A committee of stakeholders has developed criteria to approve early childhood training to be used by the Colorado Department of Human Services, Division of Child Care, to meet licensing rules and regulations. This system will approve training based on the eight sections of core knowledge contained in The Guide: Child Growth and Development; Health Nutrition, and Safety; Developmentally Effective Approaches; Guidance; Family and Community Relationships; Cultural and Individual Diversity; Professionalism; and Administration and Supervision. (COPD, 2008, p. 4)

The field of ECE grew rapidly in response to a growing need. As a result,

necessary infrastructures, such as teacher preparation and qualifications, were not in

place. The field grew not only in terms of the number of children entering ECE programs,

but also in the amount of time children and teachers spend in these social arenas of

exploration, play, and learning in which individual needs are intended to be met. Growth

does not appear to be slowing down. The Bureau of Labor Statistics (2009) projects that

from 2008-2016, the field of ECE will see an increase of 248,000 new employees.

Professionalism is critical in addressing systematic change through policy. A

popular bumper sticker created by nationally recognized child care consultant Lisa

Murphy, aka the Ooey Gooey Lady, humorously asserts: "As a professional, I find it

most important to refrain from sitting on babies." However, childcare regulations that

allow for minimally qualified individuals to care for and guide children and the inability

of the public to distinguish between a babysitter and a trained early childhood educator

contribute to a lack of understanding and acceptance concerning the vital nature of the

profession (Freeman & Feeney, 2006). The field is still typically construed as a semi-profession, as opposed to a true profession, due to minimal qualification requirements, a less developed body of knowledge and skills, lower professional status, a lower level of social acceptance, and less autonomy (Saracho & Spodek, 1993). Increasing professional development requirements so that everyone entering the field brings a developed body of knowledge and skills is a critical step to changing public perception.

Recent increases in stakeholder investment and staff qualification requirements, along with Hyson and colleague's (2009) findings, are promising indications that, in time, the field of ECE may finally have the foundations necessary to peel back the band-aids. The categorizations, findings, and recommendations from this exploratory study are intended to lend direction to larger, systematic research that contributes to the "knowing" (Currenton, 2006; Maxwell et al., 2006; Zeigler & Lang, 1991) that is critical to these efforts.

Suggestions for Further Research

In general, the use and expansion of emerging concepts and definitions presented in this paper are encouraged for furthering dialogue concerning professional development requirements. Further exploratory research is recommended in examining professional development specifics (e.g., content, clustering, intensity, and duration*).* In designing such research, controls for researcher bias are recommended (e.g., second reviewer of documents to allow for comparison of interpretation if historical data are used).

Pertaining to education, further research focusing on content-specific coursework completed versus degrees earned is recommended. Research in which content and clustering are examined on a larger scale and in the context of different types of programs

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(i.e., 2-year versus 4-year), as well as the departments in which content is taught (i.e., ECE emphasis versus an ECE component) is critical. Further research to specifically examine the potential benefits of requiring Colorado's newly revised director qualifications for teachers, within the context of cost and quality, is also recommended. Additionally, the concept of a "threshold" of education deserves further exploration.

Concerning training, further research regarding the benefits of comprehensive versus piecemeal training is recommended. It is recommended that such studies be carried out in the context of how training content is delivered (i.e., face-to-face trainings versus online or correspondence), validity of content (i.e., qualifications and expertise of trainer), trainers' proven ability to communicate information effectively (i.e., through completion of a trainer approval or registry process), goals of the training, and cost for teachers and programs (i.e., time and money). Within the realms of both education and training, additional research concerning potential benefits of comprehensive and sequential practical experiences is recommended.

Regarding staff structuring, the notions of vertical staff structuring and lateral staff structuring deserve further exploration in the context of classroom quality, overall program quality, and maintaining quality amid staff movement. In addition, implications of dual roles (e.g. a director who also serves as a classroom lead teacher), solo teaching (i.e., a teacher works alone in a classroom), and qualifications deserve further attention.

Glossary

Adult-to-child ratios: The number of children per adult in a classroom.

Child development associate credential (CDA): A national credential specifically designed for teachers of young children from birth to 5 years of age, established over 25 years ago. It is a voluntary assessment process individuals in the field can choose to undergo in order to guide their professional development and for professional recognition. To help ensure individuals participate in ongoing professional development and evaluation, the credential needs to be renewed every 5 years. Requirements include being at least 18 years of age, holding a high school diploma or GED, having 480 hours of experience working with children within the past 5 years, and having 120 clock hours of documented professional development in the field within the past 5 years. Clock hours may be met through participation in the wide variety of professional development available in the field, including for credit and noncredit hours and in-service hours. Hours must be through an agency or organization with expertise in early childhood teacher preparation. The agency or organization must provide verification of the candidate's education in the form of a transcript, certificate, or letter. Content must include at least 10 hours in each of the following content areas:

1. Planning a safe, healthy environment to invite learning;
2. Steps to advance children's physical and intellectual development;
3. Positive ways to support children's social and emotional development;
4. Strategies to establish productive relationships with families;
5. Strategies to manage an effective program operation;
6. Maintaining a commitment to professionalism;
7. Observing and recording children's behavior; and
8. Principles of child development and learning.

Candidates must put together a professional resource file, collect parent opinion questionnaires, and then be observed by an approved advisor with the CDA Assessment Observation Instrument. This information is submitted to the CDA council beginning the CDA assessment process, and the Council assigns a representative to conduct the verification visit, which involves visiting the candidate to verify competence and knowledge using two methods: (a) the early childhood studies review and (b) the oral interview. A CDA is awarded to candidates who are able to demonstrate competence through this process.

Child-caregiver interactions: Actual experiences that occur in ECE settings, including such attributes as caregiver sensitivity and responsiveness, caregiver participation in children's play and learning activities, as well as language stimulation by caregivers.

Child-based outcomes (CBO): State-based expectations for what young children should know and be able to do prior to entering kindergarten. Within the field of ECE, they are also known as *learning standards*, *child outcomes*, *benchmarks*, and *performance indicators*.

Childcare center: Care and early education programming is typically provided for groups of children in a non-residential setting. Also referred to as *center-based care* and *community-based program*.

Credential: Also referred to as *certification* and *license*. While these items are not equivalent, Maxwell and colleagues (2006) ascertained that these establish that the holders have gone through a qualification process.

Director: The administrative head of an ECE program who facilitates the program's operation. In some cases, the director may also have classroom responsibilities.

Director qualified: At the time of data collection and the commencement of this study, to be deemed director qualified in the state of Colorado, transcripts and documentation of experience were reviewed by the Division of Child Care to determine whether an individual met requirements. A bachelor's or master's degree with a major in early childhood, early childhood special education, or child development was reviewed for core content to determine whether automatic qualification could be granted. Individuals who documented a bachelor's degree from a regionally accredited college or university with a major in elementary education were required to complete 12 additional semester hours (three semester hours each) in the following four courses: early childhood growth and development; methods and techniques of teaching the preschool-aged child; early childhood health, nutrition, and safety; and administration of early childhood care and education programs. Individuals with degrees in human development, child/family development, individual/family development, and so on, did not automatically qualify as large childcare center directors and needed to complete 24 semester hours of coursework in growth and development, methods and techniques, psychology, sociology, nutrition, and administration. While these core course requirements changed after data collection, they reflect the courses study participants who were deemed director qualified would have had to complete.

Director qualified-small center: Only one director, who was the director of a center with fewer than 16 children, had this distinction in qualification requirements in which one of the following must have been met:
1. Three years' satisfactory experience* in the group care of children and at least three semester hours or 45 hours of documented training in early childhood education; or
2. Two years' college education at an accredited college or university, with at least a three semester hour course in early childhood education and one year of satisfactory experience in the group care of children; or

3. Current certification as a child development associate (CDA) or certified child care professional (CCP) or other department-approved credential; or
4. A 2-year college degree in child development or early childhood education from an accredited college or university.

(*Satisfactory experience includes being a licensee of a family childcare home; a teacher's aide or teacher in a childcare center, preschool, or elementary school; or work with disabled children.)

Group size: The number of children assigned to a team of caregivers or enrolled at one time in a classroom or family childcare home.

In-service: Training and/or education that occurs while working the field of ECE. Also referred to as *ongoing training*.

No Child Left Behind Act/Good Start Grow Smart Initiative: Under the Bush administration, the passage of the No Child Left Behind Act (NCLB) of 2001 put "school readiness" in the spotlight of early care and education programming. In 2002, the Good Start, Grow Start Initiative was introduced to further push education reform, focusing on strengthening Head Start; partnering with states to improve early learning; and providing parents, teachers, and caregivers with information on early learning. Consequently, both state and federal dollars are increasingly allocated to help ensure all children are prepared to enter kindergarten, with particular attention paid to programming that serves children who are considered at-risk.

Practice: Strategies of programs and teachers intended to support their educational philosophies and purpose, which they believe will promote children's cognitive and social development. They include a program's curriculum, goals, and teacher behaviors.

Pre-service: Training and/or education that occurs prior to entering the field of ECE.

Program: An inclusive term that means all types of centers and schools.

Qualistar quality rating: In 2004, Educare Colorado and the Colorado Office of Resource and Referral Agencies (CORRA), merged and became Qualistar Early Learning. The Qualistar Rating System is a tool to measure quality in licensed center and family care homes and preschool programs for children from birth to kindergarten. It evaluates programs in five areas and assigns a rating of 1-4 stars:

1. Learning environment (as measured by the ECERS-R),
2. Family partnerships,
3. Staff training and education,
4. Adult-to-child ratios and group size,
5. Program accreditation.

House Bill 1297, the School Readiness Initiative, was unanimously passed, by the Colorado Legislature and signed into law in June 2002. The Colorado Child Care

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Commission adopted Educare's quality rating as the rating system to fill the school-readiness rating system through HB1297 in July of 2002. Data from this study are the property of Qualistar Early Learning.

Rural: All areas not classified by the Census Bureau as urban are defined as rural and generally include places of less than 2,500 persons. See *Urban*.

School readiness: Children's competencies when they enter school, such as their academic and cognitive skills, language and literacy abilities, and social-emotional functioning. The passage of the No Child Left behind Act (NCLB) of 2001 put school readiness in the spotlight of early care and education programming. Both state and federal dollars are increasingly being allocated to help ensure all children are prepared to enter kindergarten, with particular attention paid to programming that serves children who are considered at-risk (i.e., low-income, English language learners, developmentally disabled).

State-financed pre-K: Programs include Head Start and public pre-K programs. In Colorado, the Colorado Preschool Program was established by the Colorado General Assembly in 1988. As amended in 1992, the program was designed to serve "four- and five-year-old children who lack overall readiness due to significant family factors . . . and who would benefit from participation in the state preschool program." The program is funded through the state's basic school finance formula, and funding is currently capped at serving 9,050 children. Eight thousand and fifty of these slots support children's participation in pre-K programs. Children are currently served in sites in 154 school districts in the state. Approximately half of the participating school districts contract with Head Start or other local preschool programs

Teacher: A person who is primarily responsible for a group of children or a classroom in a childcare center or preschool program. In this study, it is used synonymously with *lead teacher, staff*, *early childhood educator*, and *caregiver.*

Urban: The Census Bureau classifies as *urban* all territory, population, and housing units located within an urbanized area (UA) or an urban cluster (UC). It delineates UA and UC boundaries to encompass densely settled territory, which consists of (a) core census block groups or blocks that have a population density of at least 1,000 people per square mile and (b) surrounding census blocks that have an overall density of at least 500 people per square mile.

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Laura's Classroom

Lead Teacher Qualifications

Laura's composite ECERS-R classroom score of 1.69 was the lowest in the study. Her highest level of education was the completion of high school. Professional development through training is evident, with documentation of 19 hours of piecemeal ECE training, completed in the past 3 years. Trainings included one-hour community workshops, covering such topics as behavior, developmental milestones, positive teaching, circle-time, and storytelling and a 2-hour workshop on food handling. Laura also took advantage of attending a locally held, one-day, 6-hour conference, 2 years in a row. Topics included kindergarten readiness, music and movement, working with a "problem child," and big books.

Lead Teacher Experience

At the time of data collection, Laura brought 18 years of experience to her practice and had been working in this program for 3 years.

Director Qualifications

The director of Laura's program brought 20 ECE credits to her leadership role. Fourteen of the credits were matriculated at a nonaccredited, private university in a metro area. The Department of Human Services indicated that she was six credits shy of being director qualified, with three semester hours needed in early childhood growth and development and three semester hours still needed in nutrition.

Experiential credits from the nonaccredited university included early childhood education (experiential credit), administration (3 credits through practical experience and exam), and methods and techniques in working with preschool children (2 credits through

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practical experience and exam). Credits through coursework included content in the following areas: curriculum and ECE strategies, psychology of teaching, and socialization (9 credits total). Nine years prior, six additional, one-credit courses were completed at an out-of-state accredited college. Five of those credits involved administrative coursework (program planning and evaluation, staffing and supervising staff, and parent communication). The remaining credit was matriculated through a course that covered children's development of self-discipline.

It is also evident that the director of Laura's program participated in ongoing training through workshops, with 9 hours of training completed since her time of hire. Trainings varied from 30 minutes to 90 minutes in length and covered such topics as hand washing and oral care, fire safety, food handling, nutrition, developmental milestones, gross-motor skills, fine motor skills, behavior, and setting up a stimulating ECE environment.

Director Experience

Laura's director brought 7 years of teaching and 3 years of administrative experience to her practice. She had been in her director role for 8 months at the time of data collection, and her role was strictly administrative.

Classroom Characteristics

Laura's classroom was one of six classrooms, in a large, for-profit childcare center located in an urban area. Her classroom was open for 12.25 hours a day and served children ages 4 to 5 years old. During the observation, Laura's classroom group size was typically 20 children, with an adult-to-child ratio of 1:10. Laura worked with a teaching assistant whose highest level of education was the completion of high school with no

evident early childhood training. She had 3 years of experience and had been with

Laura's program for 3 months. A volunteer "Grandma" was also present on the day of the

observation. She was not considered to be staff; therefore, professional development data

were not collected.

Joy's Classroom

Lead Teacher Qualifications

Joy's composite ECERS-R classroom was rated as low quality with a score of 2.00. Her highest level of education was the completion of high school. There is no record of any early childhood related training.

Lead Teacher Experience

At the time of data collection, Joy brought 3 years of experience to her practice and had been working in this program for 6 months.

Director Qualifications

The director of Joy's program had an AA in early childhood education and management from a local, accredited, community college. Her degree was conferred 21 years prior to data collection, with her coursework starting 3 years after the college became accredited. She had completed 58 college credit hours, including two semesters of supervised internship (14 credits) and one semester of supervised lab experience (8 credits). Course topics included child development (6), early childhood education (8 credits), child care business management and program administration (6 credits), nutrition (2 credits), classroom management (3 credits), independent study (3 credits), curriculum development (5 credits), and sociology (3).

Director Experience

While her transcripts were available for review, Joy's program director's Training and Education form was not available; hence, her years of reported experience are unknown.

Classroom Characteristics

Joy's classroom was one of five classrooms in a large, for-profit childcare center located in an urban area. Her classroom was open for 11.5 hours a day and served children ages 4 to 5 years old. During the observation, Joy's classroom group size reached 10 children, and Joy was alone with the children.

Tanya's Classroom

Lead Teacher Qualifications

Tanya's composite classroom was considered poor quality with an ECERS-R score of 2.08. Her highest level of education was a BA in psychology, with no early childhood content-specific courses taken (i.e., operationalized as a BA in a nonrelated field). There was no report or evidence of early childhood related training.

Teacher Experience

Tanya brought 2 years of experience to her practice.

Director Qualifications

The director of Tanya's program brought a BA in elementary education to her practice. She had completed the 24 credits necessary to receive verification from the Department of Human Services that she was director qualified. Her role was strictly administrative.

Director Experience

The director of Tanya's program had 11 years of administrative experience and 14 years of teaching experience.

Classroom Characteristics

Tanya's classroom was one of eight classrooms in a large, non-profit childcare center located in an urban community center. Her classroom was open for 11 hours a day and served children ages 2½ to 4 years old. During the observation, Tanya's group size reached 21 children, with an adult-to-child ratio of 1:7.

Tanya worked with one teaching assistant who had completed high school and had some unrelated college coursework and 15 hours of training (documentation viewed

and verified on site at time of data collection) and another teaching assistant whose

highest level of education was high school with no apparent coursework or training in the

field.

Amy's Classroom

Lead Teacher Qualifications

Amy's composite ECERS-R classroom score was a 2.32. At the time of her classroom observation, she was working toward her AA in ECE at a local, accredited state college. Notably, she was on academic probation, having received *D*'s in three courses (Infant and Toddler Curriculum, Introduction to Early Care and Education, and Children's Literature). She failed her practicum and received a *C* in Human Growth and Development (3 credits). Out of the 12 credits completed, only Amy's three credits for Human Growth and Development were counted in this study because they were the only credits she had satisfactorily completed. At the time of the observation, she was enrolled in a course covering behavior management. She had also participated in a one-hour on-site training on positive discipline tools.

Teacher Experience

Amy brought one year of classroom experience to her practice. She had started teaching at this program a year prior to the observation.

Director Qualifications

Amy's director had a BA in organizational management. He had three college credits in nutrition and three college credits in child growth and development. Further, he had completed 6 hours of training through community workshops. The workshops covered topics such as brain development (2 hours) and childhood resilience and early intervention (4 hours). He was working on his MA in community counseling at the time of the observation and had a letter from the Department of Human Services, Division of Child Care, verifying he was qualified to perform as a small center director.

Director Experience

Amy's director had 6 months of experience as a director.

Classroom Characteristics

Amy's classroom was the only classroom in a small, for-profit program (i.e., licensing capacity of 15 children) located in a rural community. It was intergenerational in nature (i.e., senior and childcare). Her classroom was open for 11 hours a day and served children 2½ to 12 years old. School-aged children attended before and after school and were not there for most of the observation. The classroom was identified as a preschool classroom. During the observation, Amy's group size reached five children at one time; but the make-up of children fluctuated throughout the day. Amy worked alone in her classroom, allowing for an adult-to-child ratio of 1:5. Notably, two children with autism were enrolled in Amy's class; however, neither her own nor her director's professional development experiences offered any foundations for working with children with special needs.

Keri's Classroom

Lead Teacher Qualifications

Keri's composite ECERS-R classroom score of 2.62 reflected poor quality. Her highest level of education was the completion of nine college credits in early childhood coursework related to methods and techniques in ECE (verified by the Colorado Department of Human Services Division of Child Care). There was no documentation of recent training.

Teacher Experience

Keri brought 5 years of experience to her practice. She had been with this program for almost 1.5 years.

Director Qualifications

The director of Keri's program brought a BA in health and human services from an out-of-state, accredited University. Her formal education did not include content-specific coursework (i.e., nonrelated field). She was not director qualified.

Director Experience

The director of Keri's program had 10 years of administrative experience and 5 years of teaching experience. She had been with this program for 9 months at the time of data collection.

Classroom Characteristics

Keri's classroom was one of six classrooms in a large, for-profit childcare center located in an urban community center. Her classroom was open for 12 hours a day and served children who were 2 to 3 years old, with the majority of children over 2½ years of age. During the observation, Keri's group size reached 12 children, with an adult-to-child

ratio of 1:6. Keri worked with one teaching assistant, who brought less than a month's

experience and no early childhood training or education to her practice. Her highest level

of completed education was high school.

Kat's Classroom

Lead Teacher Qualifications

Kat's composite ECERS-R classroom score was a 2.64 and considered poor quality. In addition to her high school education, Kat had participated in the 172 hours of "child development center-based preschool" training required to receive her vocational certificate from a nearby vocational technical center (rural) a year prior to the observation.

Kat had been enrolled for seven semesters in an undergraduate program a decade prior to the observation, but struggled with academic probation and suspension throughout her enrollment. No ECE content-specific courses were evident although three courses that could be considered ECE relevant were (general nutrition, general psychology, and marriage and the family). She received a *D* in her general psychology course.

Teacher Experience

Kat brought 8 years of experience to her practice. She had been working in this program for 5 years.

Director Qualifications

Kat's director had a BA in psychology. She had the 24 college credits necessary to be deemed director qualified by the Colorado Department of Human Services, Division of Child Care.

Director Experience

Kat's director had 7 years of experience as a director, all within this program, which she owned. She also had 5 years of classroom experience. Her role at the time of data collection was strictly administrative.

Classroom Characteristics

Kat's classroom was the only classroom in a large (by Colorado Department of Human Services standards, licensed for more than 15 children), for-profit program, located in an urban community. Her classroom was open for 10.75 hours. It served children who were 3 to 5 years old. During the observation, Kat's group size reached 19 children, with an adult-to-child ratio of 1:10.

Kat worked with one teaching assistant, who appeared to have been a substitute teacher. There was no record of her qualifications.

Mira's Classroom

Lead Teacher Qualifications

Mira's composite ECERS-R classroom score was a 2.70. Her highest level of education was an AA in ECE that was completed at a local, accredited state college. Her degree was conferred 2 years prior to data collection. Out of 54 early childhood-related credits completed, 39 credits were completed at least satisfactorily (grades *A-C*). She received poor to failing grades (*D-F*) for the remaining 15 credits. Mira's early childhood coursework included an introductory course (2 credits) intended to provide a common core of knowledge about what makes the field of early childhood a profession: the history of the field and early childhood models, teachers' style and roles, current issues and advocacy in early childhood, the importance of play and observation, and opportunities available in the field today.

A number of courses involved the provision of developmentally appropriate activities, such as early childhood art (2 credits), children's literature (3 credits), creative dramatic play (2 credits) and creative dancing (2 credits), and music and methods (2 credits). Courses in infant and toddler specific curriculum (2 credits) and more general ECE curriculum (3 credits) were also completed, as was coursework regarding child development (3 credits) and administrative and parenting issues (4 credits).

Child development was a component of a Human Growth and Development course (3 credits), which was repeated three times due to repeated grades of *D*. Sociology (3 credits) was another course that needed to be repeated a number of times (4) before it was passed satisfactorily. Sociology and psychology (3 credits) were each counted as conditional content-specific courses. A semester of student teaching (5 practical

experience credits) rounded out Mira's formal education. A letter from the Colorado Department of Human Services Child Care Division deems Mira director qualified.

Mira also participated in ongoing professional development by attending local conferences. Evidence of 12 hours of recent training through attendance at two separate, local conferences was submitted. Mira's training certificates for both these conferences were simply certificates of attendance. There is no documentation of actual content; however, based on documentation from another teacher who attended these conferences and my personal familiarity with the second conference, both fall within the realm of piecemeal training (6 hours, composed of three, 1.5 hour trainings on different topics).

Teacher Experience

Mira brought 4 years of classroom experience to her practice. She had been with this program for 2 years at the time of data collection.

Director Qualifications

Mira also served in the role of director. She was director qualified.

Director Experience

Mira had one year of experience as a director.

Classroom Characteristics

Mira's classroom was the only classroom in a large (more than 16 children), for-profit program located in an urban community. Her classroom was open for 2½ hours a day (i.e., half-day program). It served children who were 3½ to 5½ years old, with most of the children over 2½ years of age. During the observation, Mira's group size reached 17 children, with an adult-to-child ratio of 1:9. Mira worked with one teaching assistant, who brought 11 years of experience (2.5 with this program) and 12 hours of piecemeal

early childhood training through two separate, 6-hour conferences to her practice. These conferences were the same conferences Mira had attended. Her highest level of completed education was high school. She had completed a vocational training program to earn her medical assistant diploma.

Ona's Classroom

Lead Teacher Qualifications

Ona's composite ECERS-R classroom score was a 2.72. Her highest level of education was the completion of college credits in early childhood coursework, some of which were taken to fulfill the requirements of the Montessori Certification Program she completed. Her 30.5 credit hours of ECE related college coursework were completed through three different programs, thus being a piecemeal education. (Note: 12 quarter units of credit were recalculated to reflect eight semester credit hours by multiplying by 0.67.)

Courses taken at a local, accredited state college included administration in early education (3 credits), introduction to early care and education (3 credits), and infant/toddler curriculum development (2 credit). One course concerning nutrition for preschool children (3 credits) was completed at an in-state university. Six courses were completed at an out-of-state, accredited college. Content included communicating with children and families (3 credits), child development (5 credits), principles of working with young children (3 credits), and relevant ECE topics (0.5 credits). The remaining eight credits were matriculated through completion of Montessori-based courses offered through Ona's Montessori Certification program. Ona then took advantage of the program's option to receive college credit for the courses through an affiliated university extension program. Courses included Montessori approaches to teaching: sensorial and practical life (use of materials intended to help young children refine and develop sensory perception, language, movement, independence, and social development); pre-primary math and language (use of materials intended to help young children develop early

concrete number concepts and basic operations; approaches to beginning reading and grammar instruction, including letter formation, basic phonetic sounds and word building); and cultural subjects (approaches to teaching music, arts and handwork, geography, history, and biology).

Ongoing professional development through training was also evident. For example, 2 years earlier, she had attended a statewide conference and participated in three trainings (one hour each) on appropriate guidance and discipline techniques, developmentally appropriate practice, and cultural and individual diversity.

Notably, Ona was not the typical lead teacher in this classroom. She was filling in for the lead teacher who had left the program prior to the classroom observation. (See "Classroom Characteristics.")

Teacher Experience

Ona brought 10 years of teaching experience to her classroom practice. She had been with this program for 5 years.

Director Qualifications

Ona is also the director and owner of the program. She was deemed director qualified by the Colorado Department of Human Services Division of Child Care 7 months after the observation. At the time of the observation, she held a Competent Child Care Administrator certificate verified through the National Association of Child Care Professionals. An accompanying letter explains that certification is granted to "individuals who complete the 18 hour audio cassette program and the 300 hundred pages [sic] of written materials, following a written examination." The certificate indicates that Ona "has completed the Successful Directors Self Study Series, has passed

the written examination, has demonstrated an understanding of child care management practices, and is herby certified . . . ." Certification was granted 9 years prior to the observation date, and there is no apparent expiration date.

Director Experience

Ona had 7 years of experience as a director. She had been with this program for 5 years.

Classroom Characteristics

Ona's classroom was one of three in a large, for-profit program located in a church in an urban community. The program was affiliated with the church. Her classroom was open for 11.5 hours a day and served children who were 2½ to 4 years old. During the observation, Ona's group size reached eight children, with an adult-to-child ratio of 1:8. Ona worked with one teaching assistant, who brought a half-year of experience and no early childhood training or education to her practice. Her highest level of completed education was high school. Notably, documentation indicated that one of Ona's roles as the director was to fill in for teachers on an "as needed" basis. On the day of the observation, Ona was filling in for the lead teacher who had left her position prior to the observation window.

Camille's Classroom

Lead Teacher Qualifications

Camille's composite ECERS-R classroom score of 2.81 reflected poor quality practices. Her highest level of education was a BS in elementary education, which she had completed 16 years prior. Her first 2 years were completed at an accredited community college in another state. She then transferred to a state university (within the same state), and this was the program where her degree was conferred. While most coursework was geared toward elementary education, Camille did complete 12 credits in content-specific courses, including a three-credit course in child development, a three-credit class in children's literature, educational psychology (psychological theory related to educational practice with pre-Kindergarten coverage unclear), and a three-credit hour course in developmental psychology (covering principles of growth and development in the physical, cognitive, social, emotional, and personality spheres and early childhood included).

She had also completed 16.75 hours of recent piecemeal training. Five of those training hours were fulfilled through participation at a statewide conference. Topics included creating a positive classroom culture (2 hours), engaging children's minds (2 hours), and techniques for enhancing the self-esteem of young children (1 hour). A community training covered curriculum development (1.5 hours). Six additional hours were completed through an online "Training Institute." Topics included guidance and behavior management techniques (2 hours), professional development (1 hour), curriculum (1 hour), and child development (1 hour). Seven, 45-minute, on-site trainings covered health-related topics, including disease prevention, dealing with common

communicable diseases in childcare settings, nutrition for children, early childhood development, reporting child abuse, a review of proper diapering and related hand-washing procedures, and head lice awareness.

Lead Teacher Experience

At the time of data collection, Camille brought 15 years of experience to her practice. She had been with this program for a year.

Director Qualifications

The director of Camille's program graduated from a "2-year course" from a private, out-of-state college that was accredited the year she graduated, which was 42 years prior to data collection. She was awarded an elementary teaching certificate that had expired 37 years prior to data collection. Verification of the completion of the 24 credits necessary to be director qualified came from the State of Colorado, Department of Social Services. Over a 14-year span, a decade plus prior to data collection, she had completed 16 credits in ECE college coursework through an accredited community college and three credits through a nonaccredited private, in-state university (nutrition and young children).

Course topics covered at the accredited program ranged from child development (3 credits), music (3 credits), child care business operations (3 credits), and ECE ideas (6 credits). Ongoing professional development through training was also evident. For example, she completed 44 hours of health-related training to serve as a health liaison between the Health Department and her program, as well as 7 hours of community-based trainings. Community training topics included staff evaluation and enhancement (2.5 hours), effective staff supervision and leadership (2.5 hours), smooth transitions (1 hour),

and science activities (2 hours). There is also evidence of two on-site trainings

concerning head lice awareness and early childhood development. Each was 45 minutes

in length.

Director Experience

The director of Camille's program was also the owner of the program. She had 12

years of experience as a director (upon purchase of the program) and 25 years of teaching

experience. Her role was strictly administrative; she did not work hands-on in any of the

classrooms.

Classroom Characteristics

Camille's classroom was one of six classrooms in a large, for-profit childcare

center located in a rural community. Her classroom was open for 9 hours a day and

served children ages 3½ to 4 years old. During the observation, Camille's classroom

group size reached nine children, and Camille was alone with the children.

Shea's Classroom

Lead Teacher Qualifications

Shea's composite ECERS-R classroom score was a 2.91. Her highest level of education was completion of high school, and she had completed 77.5 hours of recent training. Recent trainings included a comprehensive High Scope training with 9 hours completed over 3 days through the program's affiliate agency. An additional 3.5 hours of piecemeal health-related training occurred through local and state health departments, including a 2-hour correspondence training on immunizations, a one-hour onsite training on sanitizing practices, and a half-an-hour on-site training on dental hygiene for children. Five hours of piecemeal training were completed at a state conference and included the following topics: Strategies for Stressed Teachers Dealing with Difficult Children, Helping Your Children Diffuse Anger, and Partnering with Parents.

Sixty hours of comprehensive training through continuing education correspondence courses was dedicated to understanding and implementing the High Scope curriculum. Thirty hours covered what a High Scope environment should entail for children, and 30 hours covered the fundamentals of the High Scope preschool approach. Both were taken through an out-of-state High Scope agency.

Teacher Experience

Shea brought 21 years of classroom experience to her practice with 13 years with this program.

Director Qualifications

Shea's director had completed an AA in early childhood professions from a local, accredited community college. Her degree was conferred 2 years prior to data collection

and included 44 ECE credits. Course included child development (4 credit), an introduction to the ECE profession (3 credits) with lab experience (3 credits), nutrition (3 hours), creative activities for young children (4 credits), kindergarten foundations (1 credit), guidance strategies (3 credits), ECE curriculum techniques and methods (3 credits), inclusion (3 hours), creating outdoor learning environments (1 credit), infant and toddler theory and practice (3 credits), and understanding the implications and handling child neglect and abuse (1 credit). She was deemed director qualified by the Colorado Department of Human Services Division of Child Care.

Administrative coursework included such topics as ECE administration (3 credits) and understanding human relationships in the early childhood profession (3 credits). Practical experience include two, semester-long, practicum in the field (total 6 credits). One was evidently a student-teaching position.

Ongoing professional development through training was also evident. For example, the director participated in the same immunization and sanitizing trainings as Shea. She also attended 6 hours of training at a state conference and completed 108 hours of High Scope training through continuing education correspondence courses dedicated to understanding and implementing the High Scope curriculum with infants and toddlers. These hours were taken through the same out-of-state High Scope agency as Shea's.

Director Experience

Shea's director had 3 years experience as a director and 9 years of teaching experience. She had 3 years of experience as a director with this program. Her role was strictly administrative.

Classroom Characteristics

Shea's classroom was one of four classrooms in a large, non-profit program located in a church in an urban community. Her classroom was open for 9 hours and 20 minutes a day. Of note, this classroom's doors opened at 5:45 a.m. It served children who were 4 years old. During the observation, Shea's group size reached nine children, with an adult-to-child ratio of 1:5.

Shea typically worked alone, but on the day of the observation, a teacher from another classroom joined her. During analysis, it became evident through documentation that this teacher typically taught in another classroom in the late afternoon and appeared to have been placed in Shea's classroom to support her the morning of the observation (i.e., "teacher shuffling"). The decision was made to keep Shea's classroom in the study because teacher shuffling is a practice affecting many programs.

This transplant teacher brought a BA in psychology from an accredited, out-of-state college, with three credits in child psychology and three credits in human development across the lifespan. She had also participated in the same dental and immunization trainings as Shea, as well as the 9 hours of High Scope on-site training. Further, 6 hours of training through a community training series, approved by licensing, covered guidance topics such as raising children's self-esteem and creating calm through smooth transitions.

Appendix B: Good Quality Cohort Abbreviated Narratives

Rochelle's Classroom

Lead Teacher Qualifications

Rochelle's composite ECERS-R classroom score was a 5.06, which is considered "good quality." At the time of data collection, Rochelle was a lead teacher in a full-day, non-profit, Montessori-based program in an urban area. She was the only lead teacher who did not bring content-specific education to her practice; instead, she brought extensive Montessori training, having completed two separate Montessori certification programs through an accredited Montessori Institute. One certification was geared toward working with children birth to 3 years of age, and the other was geared toward working with children 3 to 6 years of age. The birth to 3 years certification prepared students to work with parents perinatally, assist with the infant at birth, prepare beautiful and responsive environments, work in infant and toddler communities in schools and childcare settings, and in hospitals and other environments that assist children under age 3.

To achieve certification, Rochelle attended courses over two consecutive summers, with assignments in the intervening winter. Guided participation in relaxation techniques was encouraged throughout her course of study. During the summer sessions, Rochelle prepared her own reference manuals and timelines of child development. She was also required to create handmade Montessori materials and to complete required readings. The first summer's work began with an overview of Montessori theory and practice, following the child's natural development and focusing on the period from conception to age 3. During the intervening winter, Rochelle completed 250 hours of guided observation of children from birth to 3, at home and in group settings. During this

time, Rochelle was visited for support and evaluation by a course staff member. During her second summer, Rochelle's focus of study turned toward child neuropsychiatry and environments for children from 12 to 36 months in an infant community (e.g., out-of-home setting), including appropriate materials and activities.

Evaluation also played a role in Rochelle's course of study. For example, after the first summer, Rochelle's learning was evaluated through a written examination and conference. Written and oral examinations marked the end of the second summer, "offering an opportunity to consolidate and share" what was learned.

Rochelle's Primary Teacher Montessori certification program prepared students to work with children ages 3 to 6, as "wise and gentle aides to the child's own development." It took place over three summers and two winters. Rochelle's first summer of study encompassed the exploration of Montessori philosophy and theory: the principles that form the basis of practice (e.g., preparing environments that encourage the child's independence, responsibility, self-esteem, and sense of community through practical life activities; use of sensorial materials and exploration through the senses; language activities; observation). Additionally, during all three summer sessions, Rochelle was responsible for weekly assignments on which she received feedback. She also practiced with materials, prepared a curriculum manual, and clarified her notes.

During the first winter session, Rochelle participated in at least 90 hours of guided observation in classrooms of credentialed teachers as well as a seminar in which completed observations were discussed in light of her previous summer learning. Rochelle was also responsible for observation notes and summaries, which she submitted for evaluation. Additional assignments included topical essays and material making.

Language as a foundation for emerging literacy, mathematics, and music composition was the focus of the second summer. A minimum of 80 hours of practice teaching in primary classrooms marked the second winter. As with her observations, Rochelle's practice teaching was allowed only in sites led by teachers credentialed through the same credentialing institution. During this time, Rochelle kept an introspective journal of her practice-teaching experience and continued to work on material-making projects. She received 2 half-days of support and supervision from a program instructor. Her third summer and final session was a review in which everyday practical considerations and the relationship between Montessori theory and practice were pondered.

Throughout the training, Rochelle's work was assessed. For example, after the first summer, Rochelle participated in a joint evaluation with course staff. The second summer evaluation included written exams and a conference. An oral exam comprised her final evaluation.

Lead Teacher Experience

Rochelle had been in the field for 8 years and worked with this program the entire time.

Director Qualifications

The director of Rochelle's program was in the process of completing an AA in ECE, with 28 credits in early childhood coursework completed and an Infant/Toddler Group Leader certification already awarded. Coursework was completed at a local, accredited, community college. Administrative topics included developing and maintaining professional relationships in the field (3 credits) and early child care and

education programming (3 credits). Other early childhood specific coursework addressed theories and practice in working with infants and toddlers (3 credits), understanding children within the context of the family and community (3 credits), child growth and development (4 credits), guidance strategies for children (3 credits), methods and techniques in curriculum development (3 credits), nutrition for the young child (3 credits), and a lab involving caring for and nurturing infants (3 credits).

She had also completed extensive Montessori training, including a Montessori Certification program and subsequent refresher trainings. She was director qualified. An 8-hour ECE mentoring workshop, taken through a community college, was also documented.

Director Experience

Rochelle's director had almost 2 years of administrative experience and 11 years of teaching experience. She had been with this program for almost 2 years.

Classroom Characteristics

Rochelle's classroom was one of two preschool-aged classrooms in a large, non-profit, urban program. Rochelle's classroom was open for 10 hours a day and served children ages 3 to 6 years old. During the observation, Rochelle's classroom group size reached 17 children, with an adult-to-child ratio of 1:6. She worked with three assistant teachers, two of whom also brought Montessori-specific professional development backgrounds to their practice.

One brought her Montessori Certification for working with young children (from birth to 3 years old) and unrelated coursework completed through two different out-of-state colleges. Coursework from one college was geared toward an unrelated AA and an

unrelated BA from the other. Neither degree program was completed. She had also recently completed 12 credits in ECE at a local community college and was on the pathway to becoming director qualified. Topics included methods and techniques in curriculum development (3 credits), nutrition for the young child (3 credits), developing and maintaining professional relationships in the field (3 credits), and early child care and education programming (3 credits). She brought 8 years of experience. (Information regarding her number of years with the program was not provided.)

Another brought a BA from an out-of-state accredited college and 6 years of teaching experience, including one year with this program. Her major was described as "individually designed." No ECE coursework or training was evident. However, the third assistant attended a comprehensive Montessori-based paraprofessional training, which consisted of 57 hours of lectures on such topics as child development, child psychology, and curriculum design, as well as a 40-hour practicum. She brought 6 years of experience to her practice and had been with this program for 5 years.

Bella's Classroom

Lead Teacher Qualifications

Bella's composite ECERS-R classroom score was a 5.50, which is considered "good quality." Bella's professional development pathway included 18 credits in early childhood college coursework and extensive training; however, the CDA credential she submitted had expired 7 months prior to data collection (valid for 5 years) and a comprehensive, pre-licensing training for family home providers, taken through her local resource and referral, was completed over 4 years prior to data collection (thus, not falling within the definition of *recent* used by this study). There was no documentation of recent training beyond Universal Precautions.

It appears her 18 hours of ECE credits were taken prior to transferring into an Associate of Arts program at a local community college. There is no notation on the transcripts regarding where or when the seven early childhood related courses were taken, but the course credits were accepted as transfer credits. It appears she entered and withdrew from her associates program 14 years prior to data collection, indicating her ECE coursework was completed over 14 years prior to data collection.

Course content included early childhood program administration (2 credits), an introduction to early childhood education through lectures and accompanying lab (4 credits), an overview of childhood growth and development though lectures and a lab (6 credits), and practical experience was gained through two semester-long preschool practicum (6 credits).

Lead Teacher Experience

At the time of data collection, Bella brought 14 years of experience to her practice and had been a teacher at this program for just over 2 months.

Director Qualifications

The director of Bella's program brought an unrelated Bachelor's degree (social sciences) with 24 ECE credits. Her content-specific college coursework included human growth and development for educators (3 credits), methods and techniques (9 credits), psychology (3 credits), sociology (3 credits), nutrition (3 credits), and administration (3 credits), through which she was deemed director qualified through the Department of Human Services Division of Child Care. She also completed a distance learning certificate through a nationally accredited career institute (comprehensive, correspondence training).

It is clear from her certificate that this distance learning training covered such content as families and child care; the role of the child care professional; child development; understanding infants and toddlers and preschool children; early childhood program administration; creating developmentally appropriate classroom environments; health and safety; handling schedules and routines; nutrition; professional skills; guiding and observing children; teaching, learning, and art activities; social studies and music activities, language, and dramatic play activities; science, math, and active play activities; and caring for infants, toddlers, and preschoolers. A couple of on-site piecemeal trainings were also evident, regarding DAP activities (hours not available) and 2.5 hours on a variety of topics, including special needs children, child care response team, childcare bookkeeping and tracking, and the Colorado Child Care Assistance Program (CCAP).

Director Experience

Bella's director brought 6 years of teaching and one year of administrative experience to her practice. She had been working at this program for 3 years at the time of data collection. Her role at the time of data collection was strictly administrative.

Classroom Characteristics

Bella's classroom was the only classroom that served children under the age of 5 years old, in a large (over 17 children), urban, non-profit program. Her classroom was open for 12 hours a day and served children ages 3 to 6 years old. On the day of the observation, Bella's group size reached 12 children. Bella worked with a teaching assistant allowing for an adult-to-child ratio of 1:6. It is noted that Bella implemented Work Sampling in her classroom.

Bella's assistant teacher brought 3 years of experience to his practice and had been working at this program for almost 2 years. He had less than 45 hours of training, with no workshop or training certificates submitted.

Kia's Classroom

Lead Teacher Qualifications

Kia's composite ECERS-R classroom score was a 5.58, which is considered "good quality." Kia's professional development pathway included an associate's degree in an undeclared field. Her degree was matriculated 24 years prior. She brought to her practice 15 content-specific credits. These included an Introduction to Early Childhood Education Course (6 credits), a supervised lab experience (6 credits), and Developmental Psychology (3 credits)—comprehensive education. There was no documentation of recent training.

Lead Teacher Experience

At the time of data collection, Kia brought 26 years of experience to her practice and had been a teacher at this program for 20 years.

Director Qualifications

The director of Kia's program brought a bachelor's degree in child development and family relationships from an in-state university, with 61 credits in ECE related coursework. Course content included family-decision making (3), developmental psychology (4), field experience in child development (3), children's music and literature (3), principles of child guidance (3), child welfare (3), cultural differences and children (3), preschool practicum and advanced preschool practicum (14), experimental child psychology (3), psychology of the exceptional child (3), child development (3), family relationships (4), the preschool child (3), human development (3), family development (3), and language development (3). Her degree was conferred 19 years prior to data collection.

Director Experience

Kia's director brought 8 years of teaching and 27 years administrative experience to her practice. She had been working at this program for 26 years at the time of data collection. Her role at the time of data collection was strictly administrative.

Classroom Characteristics

Kia's classroom was one of five in a large, rural, for-profit program. Her classroom was open for 10 hours and 45 minutes a day and served children ages 2.5 to 6 years old. On the day of the observation, Kia's classroom group size reached 15 children with an adult-to child ratio of 1:8.

Kia worked with an assistant teacher who was absent the day of the observation due to surgery. The observer noted that her position was filled by a substitute teacher, who had begun working in the classroom for the first time earlier in the week. No documentation was collected from the substitute. It was noted that staff reported that this classroom had recently been impacted by extensive teaching assistant turnover.

Ben's Classroom

Lead Teacher Qualifications

Ben's composite ECERS-R classroom score was a 5.91, which is considered
"good quality." Ben completed a BA in elementary education, which he began at a 2-year
local community college. He then transferred, and his degree was conferred at a local,
private 4-year university. It is evident that he then went on to complete graduate level
coursework in education from another local private university, which allowed students to
custom tailor their program. In his professional development plan, included in his
documentation, he noted that his goal was to attain his master's degree in preschool
education. In all, he completed nine credits that were considered ECE related within the
perimeters of this study, including a three-credit community college child psychology
course. A human development and learning course (3 credits) and children's literature
course (3 credits) were completed in his master's degree program.

Based on his transcripts, it appears courses such as behavior modification and
fostering creativity were geared toward working with older children. Course topics at the
master's degree level that were also not counted as content-specific include multiple
classes in education theory, such as current and interdisciplinary perspectives in
education (3 credits), multicultural and ethical perspectives in education (3 credits),
philosophical foundations in education (3 credits), and inclusion (3 credits). These
courses were not credited as content-specific because there was no evidence that these
courses included an early childhood component. Introduction to psychology (3 credits)
and sociology (3 credits) were also completed. Similarly, psychology and sociology were
not included because Ben's other coursework did not support their conditional inclusion

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(more than 18 credits of content-specific credit needed for either of these courses to count). There is the possibility that some of these courses may have been ECE related, but there was so means to verify this, given each student's ability to tailor his or her courses to a specific interest or focus of study.

Lead Teacher Experience

At the time of data collection, Ben brought 6 years of experience to his practice. He had been with this program for 11 months.

Director Qualifications

The director of Ben's program brought a bachelor's degree in elementary education (majoring in lower elementary, K-4). Her degree was conferred 42 years prior to data collection and included eight credits of ECE-relevant coursework. (Note: transcript credits based on a quarter system were converted into semesters.) Four of those credits were in child development, two in children's art, and two in children's literature. Three additional courses were completed postgraduation through local state colleges, including nutrition within the context of early childhood programming (2 credits), administration of child care (4 credits), and infant and toddler development (3 credits). She was approved by The Colorado Department of Social Services as director qualified shortly after taking these classes.

Director Experience

Ben's director brought 11 years of teaching and 10 years of administrative experience to her practice. She had been working at this program for one year at the time of data collection. Her role at the time of data collection was strictly administrative.

Classroom Characteristics

Ben's classroom was one of five classrooms in a large, urban, Head Start program. His classroom was open for 8 hours a day and served children ages 4 to 5½ years old. During the observation, Ben's classroom group size reached 15 children with a 2:8 adult-to-child ratio. It is noted that Ben implemented a Montessori curriculum in his classroom.

Ben worked with a co-teacher, who brought 5 years to her practice and had been working for the program for 8 months. She had completed her Montessori Certification, as described:

> Training . . . spans over 3 summers. Following the first summer, a trainee is qualified to be a teacher of three and four year olds. S/he knows all materials that would be demonstrated to these ages of children. Following the second summer, a trainee is qualified to be a teacher of three to five year olds, again knowing all materials that would meet the developing need of these children. The final summer involves lessons on advanced materials more applicable to the third and fourth year child in a Primary classroom, i.e., five and six year olds, and the final exam.

She had also completed college coursework from a local state college and two local, private universities (piecemeal). No evident major was declared, and a degree had not been conferred at the time of data collection. The content of her coursework was not ECE related.

Ron's Classroom

Lead Teacher Qualifications

Ron's composite ECERS-R classroom score was a 5.91, which is considered "good quality." Ron's professional development pathway included the attainment of a CDA credential as well as Montessori certification (multiple credentials). Ron completed 13 ECE related credits in early childhood college coursework through a state university's continuing education program as a part of his Montessori certification process 5 years earlier. Course content included child development (3 credits); Montessori Methodology, covering curriculum and instruction within the context of child development (4 credits), and a corresponding lab (4 credits); as well as Theoretical Foundations of Montessori Education (2 credits).

Extensive ongoing training is also apparent. For example, Ron completed 32 hours of comprehensive training (through a local training and mentoring program) that covered content such as creating a literacy rich environment, developing oral language proficiency, phonological knowledge, documentation of language and literacy behaviors, interactive storybook reading strategies, understanding print, language and literacy learning at home, writing readiness, extending literacy into play, transitioning into kindergarten, and responsive language and adult-child interactions. Twelve hours of in-service training through the program's affiliate agency is also evident. The following topics, presented within a Montessori context, were covered: a Montessori overview and brain development (4 hours), practical life activities and control of movement and guidance strategies (4 hours), and practical life and physical development (4 hours).

Lead Teacher Experience

At the time of data collection, Ron brought 10 years of experience to his practice and had been a teacher at this program for 4 years.

Director Qualifications

The director of Ron's program brought a bachelor's degree in elementary education. Actual transcripts were not included in her hard file; however, the data collector verified this information on site. Included in her file were a current State of Colorado Professional Teacher's License (Elementary Education) and a letter from the State of Colorado Department of Human Services verifying she had completed the 24 credit hours required to be director qualified (Multiple credentials).

Director Experience

Ron's director brought 30 years of teaching and 8 years of administrative experience to her practice. She had been working at this program for 4 years at the time of data collection. Her role at the time of data collection was strictly administrative.

Classroom Characteristics

Ron's classroom was one of five classrooms in a large, urban, Head Start program. His classroom was open for 11 hours a day and served children ages 2½ to 5 years old. Ron implemented a Montessori curriculum in his classroom. On the day of the observation, his classroom group size reached 13, with an adult-to-child ratio of 1:7.

Ron worked with an assistant teacher, who brought 6 years experience to her practice and had been working for the program for 4 years. She had completed at least 34.5 hours of recent comprehensive in-service training. Training topics included 10.5 hours of comprehensive in-service training on developmentally appropriate practices over

a one-year period. Additionally, Ron's assistant participated in some of the same Montessori-related in-service trainings as Ron had, including a Montessori overview and brain development (4 hours) and practical life activities/control of movement/guidance strategies (4 hours). Other in-service trainings completed within the Montessori context included practical life and care of the environment (4 hours), practical life and abuse prevention (4 hours), practical life and guidance (4 hours), as well as a review of training and working with challenging children (4 hours).

Cass' Classroom

Lead Teacher Qualifications

Cass' composite ECERS-R classroom score was a 5.97, which is considered "good quality." At the time of the observation, she was enrolled in an AA in early childhood professions program at a local community college and had completed 25 ECE credits. Topics covered in her associate's program included an introduction to early childhood professions and accompanying lab (6 credits); child growth and development (4 credits); guidance strategies (3 credits); methods and techniques in curriculum development (3 credits); health, safety, and nutrition (3 credits); an ECE administration course (3 credits); and an administrative course covering human relationships for early childhood professions (3 credits).

Ongoing professional development through attendance at conferences, on-site, in-service training and community workshops was also evident, with at least 43 hours of recent training (within the past 3 years) completed. Trainings included on-site, in-service trainings on the following topics: ECE Cares (15 hours, comprehensive training spread over 5 days, covering a range of topics and tools to support children's social-emotional development); literacy (1.5 hours); High Scope (2 hours); plan-do-review (2 hours); and teaching with love and logic (3.5 hours).

Attendance at a state-wide professional conference included workshops covering transitions (1 hour), tools for supporting children's creative thinking (1 hour), and tools of the mind (1 hour). A comprehensive training at the local community college that she was attending covered the basics for early childhood professions (9 hours). Cass also attended four additional workshops, but where they were held is not clear. Topics

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included active learning (2 hours), an overview of the DECA (2 hours), creating effective documentation boards (no hours indicated), and program evaluation and goal setting (3 hours).

Lead Teacher Experience

At the time of data collection, Cass brought 4 years of experience to her practice and had been working in this program for 3 years.

Director Qualifications

The director of Cass' program had a current level IV professional development credential awarded through the Colorado Early Childhood Professional Credential Office, indicating she had completed a master's degree in an ECE related field (i.e., ECE, child development, or early childhood special education). Transcripts were not included in the file.

Director Experience

Cass' director brought 8 years of teaching and 24 years of administrative experience to her practice. She had been working at this program for 4 years at the time of data collection. Her role at the time of data collection was administrative.

Classroom Characteristics

Cass' classroom was one of six classrooms in a large, urban, non-profit program. Her preschool classroom was open for 12 hours a day and served children ages 3 to 5 years old. During the observation, Cass' classroom group size reached 16 children, with a 1:4 adult-to-child ratio. A High Scope curriculum was implemented.

On the day of the observation, two co-teachers and a practicum student were also present. One teacher had apparently attended a home economics program at an out-of-

state university, 37 years prior. The transcripts provide limited information, with only one class recorded. This three-credit class related to individuals and families.

Professional development through training was also evident, with 27 hours of training completed in the previous 3 years. This teacher attended on-site, in-service trainings covering ECE cares techniques, High Scope teacher-child interactions, and conflict resolution (3 hours); ECE Cares specific training (3 hours); and plan-do-review (2 hours). Other training completed included viewing of a one-hour instructional video on interactions with children and then writing a reflective piece relating to how information gleaned from the video will be used in practice and two workshops with information pertaining to where the workshops occurred lacking. Topics included DECA (2 hours) and active learning (2 hours). Attendance at a state-wide professional conference included workshops covering cultural and individual diversity (1 hour), High Scope (2 hours), Brain Gym (1 hour), and music (1 hour). Based on documentation, it appears she brought at least 5 years of experience to practice and had been with this program for less than a year.

Evidence of a 9-hour in-service training completed while employed at another program is also included. Topics included using the Bible through the day; age appropriate behaviors; crafts; fine motor skills for all ages; science; cooking, music, and movement; relaxation techniques; and state regulations.

The other co-teacher brought 5 hours of recent training to his practice. Topics included ECE cares techniques, High Scope teacher-child interactions, and conflict resolution (3 hours, on-site) and active learning (2 hours, location unknown). He had almost 6 years of teaching experience and had been working for this program for 2

months. Documentation was not collected for the practicum student who was present on the day of the observation.

Mary's Classroom

Lead Teacher Qualifications

Mary's composite ECERS-R classroom score was a 6.00, which is considered "good quality." At the time of the observation, she had completed an AA in early childhood education with an Early Childhood Education Certificate 8 years prior from an out-of-state, accredited college. She had gone on to complete her upper division classes in the field from another out-of-state, accredited college 2 years prior (BA ECE). She had apparently begun an online, MA program in human development through this same college.

In total, Mary had completed 102 ECE credits. Topics covered in her AA program included child development (3 credits); human growth and development (5 credits); child behavior and guidance (3 credits); working with children with special needs (3 credits); family styles and dynamics (3 credits); parent education and involvement (3 credits); creating environments for children (3 credits); cognitive curriculum (3 credits), creative curriculum (3 credits), and multicultural curriculum (1 credit); creative play for children ages 2 to 8 years old (1 credit); children's literature (3 credits); issues and trends in ECE (3 credits); family child care (4 credits); and nutrition and children's health (3 credits). Supervised practical experience was also evident with three courses involving observation and participation in ECE settings (5 credits), an internship (2 credits), and two practicum experiences (10 credits).

Her upper division coursework included: physical, language, cognitive, and creative development of young children (5 credits); social-emotional development and positive guidance for young children (5 credits); planning family day care environments

for young children (5 credits); family day care program management (5 credits); family relationships and parent involvement (5 credits); and professionalism in the field (5 credits).

Her online early childhood related coursework covered such topics as developmental education that involved ECE trends from a developmental cross-cultural perspective (3 credits), early childhood themes and the lifecycle (3 credits), and a reflective teaching course which required observation and fieldwork (1 credit). Mary was deemed director qualified by the Colorado Department of Human Service Division of Child Care (multiple credentials). Documentation also indicates that she earned her Child Development Associate credential; however, CDAs expire after 5 years and Mary had received hers 10 years prior to data collection.

Lead Teacher Experience

At the time of data collection, Mary brought 14 years of experience to her practice and had been working in this program for 2 years. She also had a year of administrative experience.

Director Qualifications

The director of Mary's program brought an MA in early childhood education to her practice. Her degree was conferred at an out-of-state university. The data collector indicated that she had 45 hours of ECE credit. Only a hard copy of her master's degree transcript was on file. Coursework pulled from her transcript includes early childhood care (1 credit), early childhood education (3 credits), child development with a focus on development of the young child (1 credit), early learning environments and classroom management (1 credit), a teaching internship (2 credits), director field experience (1

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credit), and numerous administrative courses (3 credits). Documentation verifies she was deemed director qualified by the Colorado Department of Human Service Division of Child Care.

Director Experience

Mary's director brought 4 years of teaching and 4 years of administrative experience to her practice. She had been working at this program for less than a year (9 months) at the time of data collection. Her role at the time of data collection was strictly administrative.

Classroom Characteristics

Mary's classroom was one of four classrooms in a large, urban, college-affiliated program. Her preschool classroom was opened for 10.5 hours a day and served children ages 3 to 5 years old. During the observation, Mary's classroom group size reached 19 children. Mary worked with two other co-teachers, allowing for a 1:7 adult-to-child ratio.

One co-teacher was enrolled as a student at the college in which this program was affiliated. She brought 20 credits in ECE coursework. Course topics included early childhood education, including a lab (6 credits); methods and techniques in curriculum development (3 credits); child growth and development (3 credits); child development associated topics (2 credits); human relations in ECE; and guidance strategies (3 credits). She was in the process of taking a course on nutrition, health, and safety at the time of the observation. She had been teaching for 3 years total and with this program for just over a year.

Ongoing professional development through mostly comprehensive training was also evident. For example, she had attended a 16-hour training on guidance strategies

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offered through the community college. A 6-hour training offered through the college addressed working with infants and toddlers with disabilities (aged birth to 3 years old) and covered such topics as family relationships, individual diversity, developmentally appropriate practice, and child growth and development. Another 9-hour training, offered through the college, covered the basics of creating a healthy and safe environment, guidance techniques, professionalism, and developmentally appropriate practice in working with children aged birth to 8 years old. A 2-hour training at the art museum focused on using light, color, texture, and design to accent the early childhood environment (i.e., aesthetics). Seven hours of continuing education through a professional early childhood association were documented, but there was no evidence of content.

The third classroom teacher was also attending the college with which this program was affiliated. She had completed 12 ECE credits at the time of the observation and was in the process of completing a course on nutrition, health, and safety and a course on child development. Completed coursework included methods and techniques in curriculum development (3 credits), guidance strategies for children (3 credits), an introduction to the early child profession (3 credits), and an early childhood lab (3 credits). She had been teaching 6 years total and almost 3 years with this program.

Bev's Classroom

Lead Teacher Qualifications

Bev's composite ECERS-R classroom score was a 6.26, which is considered "good quality." She had completed an AA in early childhood professions from an in-state, rural, accredited junior college about 4 years prior to data collection.

Bev's degree included 30 ECE credits. Topics covered in her associate's program included an introduction to the early childhood profession and lab (6 credits), child development (3 credits) and study (2 credits), infant and toddler development with a focus on theory and practice (3 credits), guidance strategies (3 credits), family and parent issues (1 credit), multicultural curriculum (3 credits), children's literature (3 credits), young children's nutrition (3 credits), and an early care and education administration course (3 credits).

Ongoing professional development through attendance at conferences, in-service training, and community workshops was also evident. For example, it appears Bev participated annually in a state-wide conference (piecemeal). Seven hours of conference workshops covered content relating to developmentally appropriate practice with toddlers, nutrition, understanding toddler behavior, positive guidance, understanding misbehavior, and science activities. She also completed a 4-hour training on classroom development offered through the community college with which this program was affiliated (comprehensive). On-site in-service training included 6 hours of exploring parent interactions, room arrangement, staff interactions, and curriculum. An additional hour was dedicated to licensing rules and regulations and 2 hours of on-site training were dedicated to literacy and language development. A 2-hour community workshop she

attended addressed identifying and assisting children who stutter. Overall, training equated to 22 hours of recent training (completed within the 3 years prior to data collection).

Lead Teacher Experience

At the time of data collection, Bev brought 4 years of experience to her practice and had been working in this program for 3 years. She also had a year of administrative experience.

Director Qualifications

The director of Bev's program brought a related BA, which included early childhood courses focused on working with young children at risk, and an MA in education to her practice. Bev's director's formal education pathway began at an out-of-state community college, where her focus was children development. She then transferred to a bachelor's program at an out-of-state, accredited state college. Her master's degree was conferred from an accredited university in yet another state.

In total, Bev's director brought 45 credits in ECE coursework to her practice. Four courses covered general early childhood topics, such as child growth and development (3 credits); the child and the school (3 credits); children's creative experience (3 credits); and relationships between a child's home, school, and community (3 credits). Three course covered content specific to the cultural context of working with at risk children (9 credits). Eight courses (24 credits) covered content specific to integrating creative arts into learning. Topics included drama and learning, music, poetry, story telling, the selection and use of art materials to support children's open expression, curriculum theory and the arts and integrating arts into the curriculum.

Ongoing professional development through training is also evident. For example, Bev's director participated in a 120-hour High Scope training with an out-of-state High Scope training foundation that provided comprehensive training locally. At the time of data collection, she had a current credential for career and technical education.

Director Experience

Bev's director brought 5 years of teaching and 19 years of administrative experience to her practice. She had been working at this program for 5 years at the time of data collection. Her roles at the time of data collection were administrative, and she was an instructor at the college with which this program was affiliated.

Classroom Characteristics

Bev's classroom was one of five classrooms in a large, urban, college-affiliated program. Her preschool classroom was open for 10.5 hours a day and served children ages 2½ to 5 years old. During the observation, Bev's classroom group size reached 13 children with an adult-to-child ratio of 1:7.

Bev worked with one other co-teacher, who brought a BA in child studies from an accredited state college. Her transcripts were difficult to read due to poor copy. It appears she completed 40 early childhood related course credits. Topics included individual and family development (3 credits), family relationships (3 credits), child welfare (3 credits), children's music and literature (3 credits), childhood socialization (3 credits), ECE curriculum (2 credits), play behavior (2 credits), language and speech development (3 credits), administration of a human development center (3 credits), an independent study in ECE (3 credits), and a child development seminar (3 credits). Practical experience

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came in the form of a child development practicum (2 credits) and an internship (10 credits).

She had 22 years of teaching experience and 3 years of administrative experience. She had been with this program for over 2 years at the time of the observation.

Sasha's Classroom

Lead Teacher Qualifications

Sasha's composite ECERS-R classroom score was a 6.34, which is considered "good quality." Her highest level of education was the completion of an associate degree in business administration from an out-of-state, accredited community college. Post-AA and entering the field, Sasha completed 37 ECE credits through a variety of institutions. She began with five ECE credits completed through coursework at a non-accredited, private university in a metro area. Course content included such topics as child care center regulations (1 credit), the psychology of teaching young children (3 credits), and nutrition (1 credit). She later enrolled in a local, accredited community college's Early Childhood Education program, to which she transferred 14 ECE credits and matriculated an additional 15 early childhood related credits, including a semester-long preschool practicum (3 credits), a semester of work experience (3 credits), and a semester-long internship (5 credits).

Course topics included administration (2 credits), foundations in early childhood education (6 credits), growth and development (3 credits), recreational activities for children (2 credit), guidance strategies (3 credits), and another nutrition course (2 credits). Three additional credits in math and science for children were later completed through distance learning from an accredited career college. Based on her transcripts, Sasha was deemed director qualified by The Department of Human Services. In addition, she completed her Child Development Associate credential (CDA); thus, she held multiple credentials.

Sasha's professional development pathway also included over 13.75 hours of recent training. Sasha pursued ongoing professional development by attending on-site, in-service trainings (2 hours of Brain Gym; 2 hours on family partnerships, play, and motivation), peer-to-peer workshops in the community (1.5 hours on pedestrian safety, 1 hour on helping children cope with grief, and one hour of sign language). She also attended a 3-day national conference in another state and a local, day-long seminar in discipline strategies that was sponsored by a national education and research foundation (comprehensive training). Documentation also indicates that Sasha played the role of trainer in a one-hour workshop on documentation and observation in the classroom.

Lead Teacher Experience

At the time of data collection, Sasha brought 10 years of experience to her practice and had been working in this program for 2 years and 3 months.

Director Qualifications

The director of Sasha's program had a BA, with a preschool education endorsement, from a state university. It is indicated that she graduated with at least 24 ECE credits. Her degree was conferred 28 years prior to data collection, and her teaching certificate had expired over 23 years prior. Unfortunately, while the data collector verified credits on-site, transcripts were not actually collected, and therefore a record of her transcripts was not available for analysis. However, documentation of professional development through ongoing training was collected.

Trainings included onsite (2 hours of Brain Gym; 2 hours of partnerships with families, play and motivation), community workshops (5 hours of leadership, 8 hours of teaching with love and logic, and 1 hour of the value of creativity and imagination), a

state conference, and three national conferences in other states. Documentation indicates that she presented at one of these conferences and completed a 3-day training to become a Love and Logic trainer.

Director Experience

She brought 3 years of teaching and 19 years of administrative experience to her practice. She had been working at this program for 13 years at the time of data collection. Her role at the time of data collection was strictly administrative.

Classroom Characteristics

Sasha's classroom was one of four classrooms in a large, urban, college-affiliated childcare center. Her classroom was open for 9.75 hours a day and served children ages 2.5 to 5 years old. During the observation, Sasha's classroom group size reached 11 children, with an adult-to-child ratio of 1:6.

Sasha worked with a co-teacher, who brought 6 years to her practice and had been working for the program for 2 years and 4 months. She brought an AA in early childhood professions, with 54 early childhood credits, from the same local community college Sasha had attended. Her degree was conferred 3 years prior to data collection. Practical experience credits included a semester of work experience (3 credits), a semester-long exceptional child practicum (3 credits), a semester-long administrative practicum (3 credits), a semester-long infant and toddler practicum (3 credits), and a semester-long early childhood internship (5 credits). Course content included foundations in early childhood education (6 credits), guidance strategies (3 credits), care and nurturing (3 credits), creativity (4 credits), recreational activities (2 credits), infant and toddler activities (2 credits), theory and practice (3 credits), growth and development (3 credits),

working with the exceptional child (3 credits), family health (2 credits), nutrition (3 credits), and administration (3 credits).

Sasha's co-teacher also pursued ongoing professional development by attending in-service trainings (2 hours of Brain Gym), peer-to-peer workshops in the community (1.5 hours on pedestrian safety, 1 hour on helping children cope with grief, and 1 hour of sign language), and by attending a 3-day national conference in another state. Documentation indicates that she co-led the one-hour workshop on observation and documentation with Sasha.

Penny's Classroom

Lead Teacher Qualifications

Penny's composite ECERS-R classroom score was a 6.65, which is considered "good quality." It was the highest in the study. Penny's highest level of education was the completion of an AAS in early childhood professions from a local, accredited community college, with 45 early childhood related credits. Her degree was conferred 2 years prior to data collection. She was certified through the college as a program director and early childhood education group leader (i.e., lead teacher).

Unfortunately, while the data collector collected a diploma, credential certificates, and training certificates, transcripts were reviewed on-site. As a result, records of Penny's personal transcripts were not available for analysis. Because her program's degree criteria were available and Penny's classroom was the highest scoring classroom with otherwise intact and rich documentation, the decision was made to leave Penny and her classroom in the study. Based on her program's degree criteria, Penny needed to complete a comprehensive program, including the following course topics: introduction to ECE, including lab (6 credits); guidance strategies (3 credits); young children's assessment instruments: process, observation, and use (2 credits); supervised practicum, including seminars (6 credits); nutrition, heath, and safety (3 credits); curriculum development, methods, and techniques (3 credits); child growth and development, including lab (4 credits); administration: programming and human relations (6 credits); working with parents, families, and community systems (3 credits); language and literacy (3 credits); creativity (3 credits); and special needs (3 credits).

Documentation of professional development through ongoing piecemeal training was also evident, with certificates verifying 16.5 hours of recent in-service ECE training (completed in the past 3 years) submitted. Training topics included participating in the food program (2 hours), family style meals (2 hours), gross-motor activities (1 hour), working with challenging behaviors (1.5 hours), developmental assets (2 hours), designing learning goals for children (1 hour), trauma (2 hours), sexualized behaviors in children (1 hour), abuse and neglect (2 hours), and stress management (2 hours).

Lead Teacher Experience

At the time of data collection, Penny brought 23 years of experience to her practice and had been working in this program for 8 months.

Director Qualifications

The director of Penny's program brought a bachelor's degree in human development and family studies with an early childhood specialization (31 ECE credits) to her leadership role. Her formal education was completed at a 4-year, out-of-state, public university, with her degree conferred almost 10 years prior to data collection. The Department of Human Services indicated that she was 11 credits shy of being director qualified, with three semester hours needed in early childhood guidance techniques, three semester hours in administration/human relations, and two semester hours in early childhood health and safety.

Experiential credits included ECE student teaching (3 credits). Credits through coursework included content in the following areas: theory and practice for young children (6 credits), ecology of parenting (3 credits), human development and family studies (6 credits), prenatal and infant development (3 credits), evaluation of education

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programs for young children (3 credits), addressing special needs (6 credits), and movement activities (1 credit).

It is also evident that the director of Penny's program participated in ongoing training through workshops, with 15.5 hours of training completed since her time of hire. Trainings varied from 1-2 hour in-service trainings (piecemeal) to 3-6 hour comprehensive workshops offered in the community (e.g., working with dual diagnosis and addiction; changes in licensing rules and regulations). Topics of in-service trainings included abuse and neglect, guidance procedure, and confidentiality.

Director Experience

Penny's director brought 2.5 years of teaching and 13 years of administrative experience to her practice. She had been working at this program for 3 years at the time of data collection. Her role at the time of data collection was strictly administrative.

Classroom Characteristics

Penny's classroom was one of seven classrooms in a large, urban, non-profit childcare center. Her classroom was open for 11 hours a day and served children ages 3 to 5 years old. During the observation, Penny's classroom group size reached 12 children, with an adult-to-child ratio of 1:4.

Penny worked with two teaching assistants, both whom had completed high school as their highest level of education. Additionally, both brought training to their practice, with one having completed 9.5 hours of recent, piecemeal, on-site training on such topics as working with challenging behaviors, identifying developmental assets, designing learning goals for children, developmental screening, and abuse and neglect. The other had completed 16.5 hours of recent on-site, piecemeal training on such topics

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as participating in the food program, nutrition and fun nutrition activities, family-style

meals, gross-motor activities, trauma, sexualized behaviors, domestic violence, and

reporting child abuse. Both had been in the field and this program for 3 years.

Appendix C: Staff, Classroom, and Program Characteristics Table

Table A1. *Staff, Program, and Classroom Characteristics*

Name	Focus Teacher	Director	Assistant(s)	Program	Name	Focus Teacher	Director	Assistant(s)	Program
Poor Quality					**Good Quality**				
Laura	•HS •19 hrs T •PT: lc, cw •18yrs/5yrs exp	•20 ECE (N-A) •Not DQ •PE •PT •3 yrs/6mos •NH	•HS •3yrs/3mos •NH	•6 class •urban •for-profit •12.25 hrs •GS/ 20 1:10 •No curric	Bella	•18 ECE/14yrs •PE •Cluster-4 •Exp CDA •14yrs/2mos •NH	•BA Unrelated •24 ECE •DQ •CT: VC-Corr •PT: 3+ hrs, on-site •1/1yr exp	•HS •3yrs/2yrs	•1 class ᵃ •urban •non-profit •12 hrs •GS12/1:6 •Work Sampling
Kat	•HS •172 hrs T •CT: VC •Unrelated ed •Grades •8yrs/5yrs	•Unrelated BA •24 ECE •DQ •7yrs/7yrs	SUB	•1 class •for-profit •10.75 hrs •GS 19/1:10 •curric?	Cass	•AA ECE (I-P) •25 ECE •CE •Cluster-5 •43 hrs T •CT: college •PT: sc, on-site, cw •4yrs/3yrs	•MA ECE •DQ •CE • 24yrs/4yrs	•BA Unrelated/37yrs •3 ECE •27 hrs T •CT: on-site PT:sc,cw,on-site,v&r •5yrs/2mos •NH 5 hrs T •CT:on-site •PT:on-site •6yrs/2 mos •NH	•6 class •urban •non-profit •12 hrs •GS16/1:4 •HighScope •ECE Cares
Amy	•AA ECE(I-P) •3 ECE •Grades •1 ht T •PT: on-site •1yr/1yr	•BA Unrelated •MA Unrelated (I-P) •6 ECE •DQ-SC •6 hr T •CT:cw •PT:cw •6mos/6mos •NH	N/A	•1 class/small •rural •for-profit •11 hrs •GS 5/ 1:5 •non-specific curric	Ron	•13 ECE/5yrs •CE •cluster-2 •MC:Mont,CDA •CT: Agency •10yrs/11mos • NH	•BA Elem Ed •24 ECE •CE •MC:DQ, TC •30yrs/4yrs	•34.5 T •CT: Agency • 6yrs/4yr	•5 class •urban •Non-profit (Head Start) •urban •11 hrs •GS 13/1:7 •Montessori
Mira	•AA ECE/2yrs •39 ECE •CE •Grades •12 hrs T •PT:lc •4yrs/2yrs	TEACHER- DIRECTOR 1yr /1yr	•HS •12 hr T •PT:lc •11yr/2.5yrs	•1class •urban •for-profit •2.5 hrs •GS 17/ 1:9 •curric?	Kia	•AA Unrelated •15 ECE/24yrs •CE •cluster-2 •26 yrs/20yrs	•BA Related •61 ECE •CE •DQ •27yrs/26yrs	SUB	•5 class •rural •for-profit •10.75 hrs •GS 15/ 1:8 •Incredible Years curric
Shea	•HS •77.5 hrs T •CT:Corr •PT:on-site, sc, corr •21yrs/13yrs	•AA ECE •44 ECE •CE •DQ •117 hrs T •CT:Corr •PT: on-site, sc •3yrs/3yrs	TS •BA unrelated •6 ECE Credits •PE •CT:on-site •PT:corr, cw •yrs exp?	•4 class •urban •non-profit •9hrs 20 min •GS 9 / 1:5 •HighScope	Ben	•AA Unrelated •BA Elem/3yrs MA Ed; ECE? •9 ECE •PE •6yrs/4yrs	•BA Elem Ed •29 ECE •DQ •10 yrs/1yr	•Unrelated ed •Mont • 5yrs/8mos	•5 class •urban •non-profit (Head Start) •8 hrs •GS 15/ 1:8 •Montessori

ᵃ The other classrooms in this program were school age classrooms and information was not collected. Note: PT = Piecemeal Training; CT = Comprehensive Training; corr = correspondence; o-l = online; cw = community workshops; research inst = training taken through research institute; lc = local conference; sc = state conference; nc=national conference; v&r = video and reflective writing; college = training taken though college; agency = training taken through agency affiliated with program; PE = Piecemeal Education; CE = Comprehensive Education; N-A = at least some course completed through non-accredited program; degree or number of ECE credits/yrs = timeframe since content specific education completed; (I-P) = In process, meaning teacher currently enrolled in classes or working toward a degree; MC = multiple credentials; Mont = Montessori certificate; DQ = Director Qualified; TC = Teaching Certificate; CDA = Child Development Associate; VC = vocational; mos = months; hrs = hours; yrs = years; GS/: = group size/adult-to-child ratio; yrs or mos /yrs or mos = total experience in field;/total experience in current program; SUB = substitute teacher present due to turnover; TS = teacher shuffling; Teacher-Director = dual role; NH = New Hire; ? = data unknown; curric = curriculum

Table A1. Staff, Program, and Classroom Characteristics (cont.)

	Poor Quality					Good Quality			
Name	Focus Teacher	Director	Assistant(s)	Program	Name	Focus Teacher	Director	Assistant(s)	Program
Camille	•BS Elem Ed/24yrs •12 credits ECE •CE •16.75 hrs T •PT:o-l,on-site,sc •15 yrs/1yr	•Elem Ed;2 yr course •24 ECE-(N-A) •PE •DQ •52.5 hrs T •PT:cw, on-site •12yrs/12yrs	N/A	•6 class •rural •for-profit •9 hrs •GS 9/1:9 •Other;not specified	Penny	•AA ECE/2 yrs •45 ECE •CE •cluster-4 •MC:DQ,TC •16 hrs T •PT:on-site •23yrs/8mos •NH	•BA related •31 ECE •CE •Not DQ •13yrs/ 3yrs	•HS •9.5 hrs T •CE •3yrs/3yrs •HS •16.5 hrs T •PT: on-site •3yrs/3yrs	•7 class •urban •Non-profit (Head Start) •11 hrs •GS 12/ 1:4 •Creative Curriculum
Tanya	•BA unrelated •no doc T •2yrs/?	•BA Elem Ed •24 credits •DQ •11 yrs/?	•Unrelated ed •15 hrs T •7yrs/4yrs •HS •8 hrs T •exp?	• 8 class •urban •non-profit •11 hrs •GS 21/1:7 •curric?	Mary	•AA ECE/8 yrs prior •BA ECE/2 yrs •MA Related(I-P);o-l •102 ECE •CE •cluster-5 •MC:TC, DQ •expired CDA •14yrs/2yrs	•MA ECE •45 ECE •DQ •4yrs/9mos •NH	•AA ECE (I-P) •20 ECE •CE •3yrs/1yr •AA ECE (I-P) •12 ECE •CE •6yrs/3yrs	•4 class •urban •college affil •10.5 hrs •GS 19/1:7 •HighScope •Reggio Emilo
Joy	•HS •no doc T •3 yrs/6 mos •NH	•AA ECE •55 ECE •CE •DQ •exp?	N/A	•5 class •urban •for-profit • 11.5 hrs •GS 10/1:10 •HighScope	Bev	•AA ECE/4yrs • 30 ECE •CE •cluster-5 •CT:College •PT:cw, on-site •4yrs/3yr	•BA ECE •MA Educ •45 ECE •CE •DQ •CT:college, wc, on-site •19yrs/5yrs	•BA Related •40 ECE •22yrs/2yrs	•5 class •urban •college affil •10.5 hrs •GS 13/1:7 •curric?
Ona	Director filling • 33 ECE (I-P) •PE •Mont •PT:sc •CT:corr self study •10yrs/9yrs	TEACHER- DIRECTOR 10yrs/7yrs	•HS •no doc T •6mos/6 mos •NH	•3 class •urban •for-profit •11.5 hrs • GS 8/1:4 •Montessori	Sasha	•AA unrelated •+ 37 ECE/ 5yrs (N-A) •PE •cluster-5 •MC:DQ,CDA •CT:nc;research inst •PT:cw, on-site 10yrs/2yrs	•BA/ECE endorse •CE •DQ •CT:nc,cw •PT:sc, on-site,cw •19yrs/13yrs	•AA ECE/3yrs •54 ECE •CE •CT:nc •PT: on-site,cw • 6yrs//2yrs	•4 class •urban •college affiliated •9.75 hrs •GS 11/1:6 •Emergent DAP
Kerri	•9 ECE/? •no doc T •5yrs/1.5yrs	•Unrelated BA •Not DQ •10yrs/9mos •NH	•HS •1 mos •NH	•6 class •urban •for profit •12 hrs •GS 12/1:6 •curric?	Rochelle	•MC: Mont, Mont •CT: Mont •8yrs/8yrs	•28 ECE(I-P) •CE •MC:Mont,TC, DQ •CT:Mont, college •2yrs/2yrs	•Unrelated BA •12 ECE(I-P) •CT:Mont • 8 yrs/? •Mont para •5yrs/5yrs •Unrelated BA •6yrs/1yr	•2 class •urban •non-profit (Head Start) •10 hrs •GS 17/ 1:6 •Montessori