Quality Measurement in Early Childhood Settings

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Measuring Quality of ECE Programs for Children with Disabilities

Donna Spiker, Kathleen M. Hebbeler, and Lauren R. Barton

This chapter addresses the measurement of quality of early care and education (ECE) programs for children with disabilities. The reasons for measuring quality for this population are the same reasons for which we would measure quality for any group of children: 1) to guide program improvement for individual practitioners or programs, 2) to examine changes in program quality over time, 3) to contribute to knowledge about program quality, and 4) to describe quality for parental choice (Zaslow, Tout, Halle, & Forry, 2009). The ultimate goal for undertaking measurement of quality for any of these purposes is the promotion of optimal child development. The fundamental assumption is that children will have more growth-promoting experiences and positive interactions in high-quality, compared with low-quality, environments (Wolery, 2004). The connection between what young children experience and their subsequent development is supported by a substantial body of research on both children who are typically developing and children with delays and disabilities (Guralnick, 2005a; National Research Council and Institute of Medicine, 2000; Shonkoff & Meisels, 2000). Although there are measurement challenges to documenting the precise nature and magnitude of the relationship between program quality and child outcomes, as discussed throughout this book,[1] the evidence linking early experience and child outcomes is overwhelming (NICHD Early Child Care Research Network, 2005). This well-documented relationship is the underlying rationale for measuring and promoting quality in ECE settings. The promotion of high quality is especially important for children with delays and disabilities because these children need specialized services and supports, in addition to the healthy environments considered necessary for all children, if they are to achieve their developmental potential.

To provide a framework for our discussion of the measurement of program quality for children with disabilities, we begin with a description of the ways in which children with disabilities can participate in ECE. There are currently two service systems

serving young children with disabilities and their families. Children may participate in either or both of them, and for children participating in both systems, the two systems may or may not be integrated. The first service system is the diverse array of family and center-based child care and prekindergarten programs available in communities across the country. We will refer to this system as *general early care and education* (GECE). The second system is made up of the programs that provide publicly funded, specialized services and supports for young children with disabilities under the auspices of the Individuals with Disabilities Education Improvement Act (IDEA) of 2004 (PL 108-446). For children under age 3, these services, known as *early intervention* (EI), are provided by public or private agencies under the supervision of a state lead agency (Spiker, Hebbeler, Wagner, Cameto, & McKenna, 2000). Children from age 3 to kindergarten age receive early childhood special education (ECSE) provided through the public schools, although the school system may contract with private providers. EI and ECSE encompass a variety of services and supports, such as educational, developmental, and therapeutic activities; along with facilitating families' use of their informal support network and the formal support networks of public services (Sandall, McLean, & Smith, 2000). These services are individualized to a child's and family's needs, so there is considerable variation across children and families as to what, where, and how much service they receive and with what kind of professionals they work. It is also important to note that there is considerable variation in the types and severity of disabilities that children have, and states vary with regard to eligibility requirements and the percentage of the population of young children served.

Figure 10.1 shows the GECE and the IDEA systems and their possible intersection. Children in segment A are children with disabilities who participate in GECE but are not receiving EI or ECSE services through IDEA. These children could be those whose delays or disabilities have not been identified, or children with disabilities whose families are not aware of, are not interested in pursuing, or who have declined IDEA services. Children in segment B are children who are receiving only EI or ECSE; they
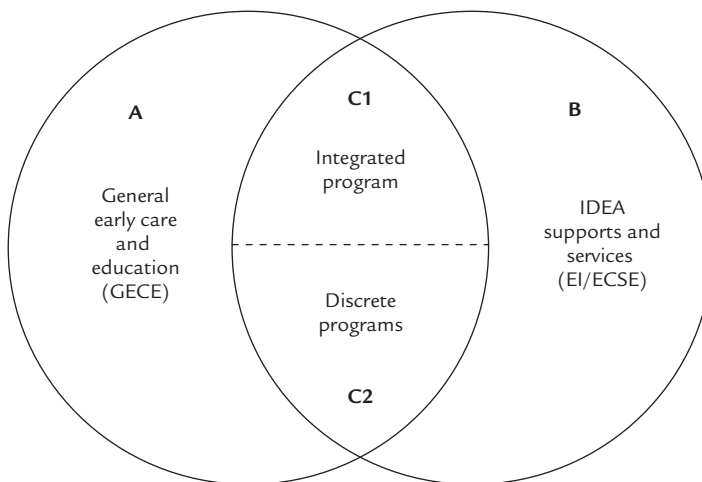

Figure 10.1. Four types of participation in the Early Care and Education System for young children with disabilities

are not participating in a community preschool or in center-based or family child care. Children in segment C are children with disabilities participating in both service systems. Here we find two options. For the children in C1, the two programs have coordinated to provide an integrated program for the children. Examples of this kind of program would be one with an early interventionist who works with the family child care provider on strategies to facilitate the child's feeding skills, or one with a speech therapist who observes the child in a regular preschool and works with the classroom teacher to plan a program to enhance the child's acquisition of communication skills. The children in the C2 segment of the diagram also participate in both systems, but for these children, the systems operate independently.

The possibility of participation in two systems has significant implications for what constitutes quality and how to measure it. If a child with a disability participates in only a general early childhood program, the "single-system" quality question is this: Is this program a high-quality program for all children, including children with disabilities? This is an important question, but it does not address quality of programs for children who are participating in an IDEA program as an exclusive or supplemental intervention. From the perspective of the IDEA programs, the single-system quality question is this: Is this program high-quality EI or ECSE? This is a meaningful quality question as well, but only for children who are participating solely in IDEA programs and not in GECE. For children who are "dually enrolled" in both systems, the measurement of quality needs to look at the intersection of the two systems in order to understand, monitor, and promote the quality of their experience. For these children, the quality question is: How are these two systems working together to produce a high-quality experience for the child and family? As will be discussed later in the chapter, even if both programs are of high quality as stand-alone programs, the overall experience for the child is likely to be of lower quality if the programs do not intentionally coordinate their service delivery.[2] Any measurement of quality for children with disabilities needs to address the quality of the components of the ECE in which they are participating and, if they are participating in both the GECE and the EI/ECSE, the extent to which these two systems are integrated. In sum, the three critical quality questions for children with disabilities are as follows:

• Does this GECE program provide a high-quality experience for children with disabilities?

• Does this EI/ECSE program provide high-quality services?

• Are the GECE program and the EI/ECSE program coordinating to provide a high-quality experience for children with disabilities?

Population Estimates of Children with Disabilities

The data are incomplete with regard to how many children are in each of the segments shown in Figure 10.1. The most comprehensive data are available for children receiving services through IDEA. These are children in segments B, C1, and C2 in the figure. In 2007, over 1 million children between birth and age 5 in the United States were receiving EI or ECSE (U.S. Department of Education Office of Special Education Programs, 2007). Most of these children—more than 700,000—were between 3 and 5 years of age. This represents 5.7% of the population of children in this age group, or slightly more than 1 out of every 20 preschool-age children. In 2007, 86% of the 322,000 infants and toddlers participating in EI received services in their homes, with 5% receiving services in community-based

settings. The percentage of children and families receiving EI services in the home has increased substantially in recent years, from 68% in 1998. EI services in community-based settings also increased, but only from 4% to 5% from 1998 to 2007. Since these data do not tell us about any other settings in which the children who received services in the home might have spent portions of their days, all we can say with certainty from these data is that at least 5% of the 0- to 3-year-old population with disabilities was also participating in the GECE system (C1 or C2). A national study of children receiving EI services suggests that a higher percentage of children in EI also participates in GECE, although the proportion may be somewhat lower than the number using GECE in the general population (Hebbeler, Scarborough, Snyder, Robinson, & Nelson, 2009). At entry to EI services, when children ranged in age from newborn to 31 months, 24% were in child care at least 10 hours a week. This percentage compares with 43% of children less than 3 years of age in child care in the general population. When EI participants were approximately 36 months old, the proportion in child care increased to 41%, which was still less than the general population, with 54% of children 3 years of age in child care (Hebbeler et al., 2009).

In 2007, 65% of the 3-through-5-year-olds who received ECSE spent part of their day in a regular classroom (U.S. Department of Education Office of Special Education Programs, 2007). The fact that at least two-thirds of the 3- through 5-years-olds receiving ECSE were in either category C1 or C2 further emphasizes the importance of examining the extent to which the two systems are working together to produce a high-quality experience for the children.

National data on the percentage of young children with disabilities currently participating in the GECE system (segments A, C1, and C2) are sketchy at best, but it has been estimated that at least 60% of young children with disabilities (5 years old and younger) participate in some kind of ECE program outside of their home (Booth-LaForce & Kelly, 2004). At least 10% of children enrolled in Head Start are required to be children with disabilities. In 2005–06, over 111,000 children with disabilities under 5 years of age were served through Head Start (Administration for Children and Families, 2008). When the same question is examined from the program perspective, it appears that there are many GECE programs that are not serving children with disabilities. Recent research found that only one-third of providers surveyed have children with disabilities in their GECE settings (Thornburg et al., 2004).

Challenges in Serving Children with Disabilities

Participation in the GECE system has been found to present some challenges for families with young children with disabilities (Booth & Kelly, 1998; Brandon, 2000; Warfield & Hauser-Cram, 1996). Issues raised by parents as obstacles include the cost of care, the location of and transportation to access desired care, and locating care that will integrate a child's special service needs into programming (Booth & Kelly, 1998). Access is especially problematic if the child has special health care needs (Kelly & Booth, 1999) or the disability is severe rather than mild in nature (Knoche, Peterson, Pope Edwards, & Jeon, 2006; Warfield & Hauser-Cram, 1996). Finally, there is almost no information available on how many children in the GECE system may have disabilities that are not identified or whose parents have declined services (segment A in Figure 1). A study of children in Early Head Start, a program for children under age 3, found that 87% of the children in the sample had indicators of disabilities but only 5% were receiving IDEA services (Peterson et al., 2004). These data would suggest that there may be a fairly large number of children in segment A who are eligible for IDEA services but who have not

been identified, a finding that further supports the importance of measuring and improving coordination across the two systems.

Measuring Program Quality

Much work needs to be done, both in conceptualizing the key elements of quality and the development of tools, to capture these elements. Some tools in current use for measuring quality of GESE programs look at one or more aspects of quality for children with disabilities. A few tools also look at one or more aspects of program quality specifically for children with disabilities. However, in 2010, there is no unified theory that has provided a foundation for instrument development or guidance on what items to include in general program quality measures for children with disabilities. We summarize the related work, acknowledging that this activity is only a small step toward the goal of having valid measures of program quality that can be used in research, in program self-assessment, and in quality rating systems to assess the quality of programs for children with disabilities.

We offer a program model from Carta (2002, as cited in Wolery, 2004) as an organizing structure for thinking about the program elements that need to be considered in measuring program quality for children with disabilities. Carta's model has four levels of quality: 1) *interactions* between the child and teachers and peers, the most proximal aspect of process quality; 2) *classroom features* in which these interactions are embedded—curriculum, instructional practices, scheduling, nature of activities, and materials; 3) *staff characteristics and the classroom structure*, to include staff education, training, experience, beliefs, and goals, as well as child-to-staff ratios, group size, arrangement of physical space, equipment and furnishings, and hours of operation; and 4) *administrative characteristics*—referring to program governance and including philosophy (e.g., program goals; beliefs about children, families, and early education), structures (e.g., policies, compensation), context (e.g., funding adequacy, accreditations, connections to other agencies), and supports (e.g., professional development activities, availability and quality of specialists, supervision of staff).

We propose two modifications to this model to make it more applicable to all programs serving young children with disabilities. First, the language of the model assumes a center- or classroom-based program, which is not the service setting for all young children with disabilities. Substituting the word *program* for *classroom* will allow the model to be applied to a broader range of program and service arrangements. Second, as will be discussed later, the concept of parent partnerships is so critical to quality services for young children with disabilities that we believe that it merits its own category within the framework. The major areas of the framework provide an organizing structure for how to think about the measurement of program quality for children with disabilities; however, it is important to understand that the framework areas are not independent but interrelated. For example, the kinds of interactions a teacher can have with a child with special needs will depend on the staff ratios. Similarly, the types of practices a teacher can implement will be related to both the support within the program for professional development and coordination with other programs that can provide access to specialists.

Organization of the Chapter

The discussion of quality measurement in this chapter is organized around the two systems through which children with disabilities are currently served. The first section discusses the inclusion of children with disabilities in GECE programs and the approaches

for measuring quality for children with disabilities in such programs. These are the children in segments A and C in Figure 10.1. The next section discusses the measurement of quality for EI and ECSE, programs providing specialized services. Children in these programs are in segments B and C. Finally, we conclude with a discussion of suggested future directions for the development of measures that will capture quality in programs for children with disabilities and reflect the reality of multiple service systems.

Defining and Measuring the Quality of General Early Childhood Programs for Children with Disabilities

The word *inclusion* is used to describe children with disabilities attending ECE programs together with children who have more typical developmental patterns. As more research has accumulated on this phenomenon, the multiple ways in which different authors use the word *inclusion* have become apparent. Although numerous studies have used the word to refer simply to the physical presence of children in the classroom (see discussion in Bricker, 2000), more recent work recognizes the multiple and critical dimensions of inclusion (see Buysse, Skinner, & Grant, 2001; Guralnick, 2001b; Odom, 2000). Inclusion has legal status in legislation mandating educational services for all children with disabilities from birth on. Inclusion involves "efforts to maximize the participation of children and families in typical home and community activities" (Guralnick, 2005b, p. 59), including "full involvement of the child in family routines and in social activities with relatives and friends, as well as taking advantage of the entire array of educational and recreational opportunities that communities have to offer" (p. 59). For an experience to promote growth in a child with a disability, the experience itself must be inclusive, resulting in the child's full participation in the routines and activities of the setting.

In early 2009, the Division for Early Childhood (DEC) and the National Association for the Education of Young Children (NAEYC) adopted a joint position statement that defines early childhood inclusion:

> Early childhood inclusion embodies the values, policies, and practices that support the right of every infant and young child and his or her family, regardless of ability, to participate in a broad range of activities and contexts as full members of families, communities and society. (DEC/NAEYC, 2009, p. 1)

The position statement asserts that the defining features of inclusion that identify high-quality early childhood programs are 1) *access* (i.e., providing a wide range of activities and environments and offering multiple ways to promote learning and development), 2) *participation* (i.e., using a range of instructional approaches to promote engagement in play and learning activities and a sense of belonging), and 3) *supports* (i.e., infrastructure to support staff, such as appropriate professional development opportunities and opportunities for collaboration and communication). DEC and NAEYC recognized the need for a common definition for influencing policies and practices and improving services for children with disabilities. Viewing inclusion as multidimensional provides a lens through which to examine research on inclusion and to define the key dimensions of quality associated with it.

Bailey, McWilliam, Buysse, and Wesley (1998) argued that there is a strong empirical basis for including children with disabilities in programs serving typically

developing children. They cited a review of 22 studies which have found that preschool-age children with disabilities have better outcomes on standard measures of development, social competence, play behavior, and engagement when the children are served in inclusive versus segregated settings (Buysse & Bailey, 1993), findings that are supported by more recent data as well (Guralnick, 2001b). These authors argue that several values that have driven the history of EI and special education programming for young children with disabilities need to be considered when defining the quality of inclusive programs. They proposed that, in implementing inclusive programs for young children with disabilities, the programs need to be "of high quality, consistent with family preferences, and capable of supporting each child's unique learning needs" (Buysse & Bailey, 1993, p. 28).

Parents and professionals sometimes face a dilemma in trying to include children with disabilities in GECE programs when the available program options are not of sufficiently high quality. Achieving the optimal balance between the promotion of developmental outcomes and the principle of normalization can be challenging.

Measuring the Quality of GECE Programs Serving Children with Disabilities

To date, only a few studies have examined the quality of ECE programs that young children with disabilities attend, based on standard global measures of quality. Of these, some studies compare inclusive versus segregated settings for children with disabilities and some compare programs available to typically developing children that include children with disabilities with those who do not. A little over a decade ago, using the Early Childhood Environmental Rating Scale (ECERS), La Paro, Sexton, and Snyder (1998) found similar levels of quality in segregated preschool special education classrooms and early childhood settings serving children with disabilities (e.g., Head Start, child care, prekindergarten programs). A study of 180 community-based child care centers across diverse regions of North Carolina found that 62 (34%) of the programs served at least one child with a disability (birth to age 5) and that the inclusive child care programs had higher ratings on the ECERS than did the noninclusive programs (overall mean of 4.44 versus 4.15; Buysse, Wesley, Bryant, & Gardner, 1999). Additional analyses of predictors of quality across both types of programs revealed that teachers with higher education levels, more experience in early childhood, and higher self-report ratings of knowledge of typical child development had higher ECERS scores. Similarly, a study by Hestenes, Cassidy, Hegde, and Lower (2007) compared quality ratings on the Infant/Toddler Environment Rating Scale–Revised (ITERS-R; Harms, Cryer, & Clifford, 2003) for infant and toddler classrooms in North Carolina that included children with disabilities ($n = 64$) with a group that did not ($n = 400$). The number of children with disabilities in the inclusive classroom ranged from one to seven, with an average of two. Children's disabilities included developmental delays, physical disabilities, Down syndrome, and other diagnosed conditions that put children at risk. The results showed that the inclusive classrooms had higher ITERS-R ratings (5.24 versus 4.89). Higher teacher education levels were predictive of higher global quality in both types of programs, whereas higher teacher–child ratios predicted better quality in inclusive classrooms, but not in noninclusive classrooms.

The Association Between Quality and Outcomes

Findings from the research literature provide insights into defining and measuring quality in GECE programs for young children with disabilities. If we start with the assumption that high-quality GECE programs promote development and learning, then it is critical to look to the empirical research to identify the indicators, environmental characteristics, and practices associated with the best child outcomes. For instance, in summarizing how preschool instructional practices can lead to the successful and meaningful inclusion of young children with disabilities, Hemmeter (2000) described how teacher–child instructional interactions need to 1) target functional and developmentally appropriate goals and objectives; 2) use approaches that are implemented in the context of ongoing classroom activities and routines; and 3) focus on acquiring, generalizing, and maintaining skills. Examples of specific types of research-based instructional approaches or strategies that could be captured in quality measures include the use of naturalistic teaching, response-prompting and embedded instruction.[3]

The wide range of types and severity of disability and functioning among children with disabilities presents a challenge for defining and measuring the quality of inclusive practices. The successful inclusion of a child with a mild disability would likely be qualitatively different from the successful inclusion of a child with multiple and significant disabilities. It is important to note, however, that the empirical research documenting strong relationships among specific features of inclusive programs and positive child outcomes for young children with disabilities is relatively sparse and weak. Most of the research about preschool inclusion to date has focused on demonstrating that it is possible to offer inclusive programs and that children with disabilities can make progress when participating in them (Bricker, 2000; Guralnick, 2001a). Recent work in states on defining quality program standards and measuring and improving the quality of GECE programs provides an important foundation, but more research is needed to identify the specific features of inclusive programs that lead to positive child outcomes, the true indication of high-quality programming.

Considerations Related to Measuring Program Quality for Children with Disabilities

Common Elements of Quality

A central question for measurement of quality in inclusive programs is: What are the elements of GECE program quality for children with disabilities? For many years, researchers have noted the similarities between accepted practices in GECE and ECSE (Buysse & Hollingsworth, 2009; Fox, Hanline, Vail, & Galant, 1994; McLean & Odom, 1993; Odom & Diamond, 1998). In the recently revised volume about developmentally appropriate practices (DAP) in GECE programs, it is quite clear that researchers and practitioners endorse the view that program features of quality for typically developing children constitute the foundation of quality for children with disabilities (Copple & Bredekamp, 2009). The description of DAP clearly asserts that GECE program practices—including instructional practices to promote learning and development, teacher–child interactions, assessment practices, and the use of materials and the physical environment—advocated for children who are developing typically apply as well to children with disabilities, with strong recommendations for individualization for *all* children. Any

discussions of the quality of inclusive programs for children with disabilities must acknowledge the commonality of the elements of quality across both groups.

Individualization: Adaptations and Accommodations

Implementing DAP also means tailoring programs and activities to the needs of the individual child. Appropriate adaptations in both the structural and process features of the environment can and should be made so that every child can be successful.[4] Throughout the recommendations about program quality with regard to children with disabilities, Copple and Bredekamp (2009) noted the importance of addressing the unique needs of children with disabilities.

Providing quality programs for children with disabilities, as well as measuring quality, requires a thorough understanding of the heterogeneity of the children who make up this population. The phrase *children with disabilities* encompasses children who are extremely different from one another across all areas of functioning. Some children with mild disabilities may need no accommodations. A child with mobility challenges may need physical accommodations. Another child with intellectual challenges, or attentional or behavioral difficulties, may need an adapted curriculum, specialized instructional techniques, or behavioral supports. A child with a communication problem may need specialized strategies for communication. For some children, structural dimensions of quality may be far more important, whereas for others, process dimensions are critical. Consequently, program quality may differ, depending on the nature of the child's special needs; for example, a program could be of high quality for a child in a wheelchair but of low quality for a child with a severe language delay or behavioral problems. Again, the DAP volume (Copple & Bredekamp, 2009) emphasizes these considerations throughout. For example, referring to teaching children with disabilities, the authors state, "However, teachers may use more systematic instruction to help a child acquire a skill or change an unacceptable behavior" (p. 38); "children with motor problems may need assistive technologies" (p. 119); and "space and equipment may need modifications for some children to fully participate" (p. 263).

The discussion of what constitutes DAP addresses several of the major areas of the adapted Carta framework (as cited in Wolery, 2004) for program quality described earlier. Instructional practices and program features such as equipment and physical space are widely acknowledged as part of program quality. Measuring the extent to which these features are present is insufficient; for children with disabilities, the measurement also must address appropriateness for the individual child, which complicates the process of measurement.

Program Quality versus Individualized Quality

Because of the need for individualization, an important question for children with disabilities is whether the overall quality of the GECE program, as measured in standard quality measures, is experienced by every child in attendance. Global quality measures in widespread use (e.g., ECERS-R) may capture the experiences of most, but not all, of the children in a classroom (Wolery, 2004). An overall quality score can provide a ceiling indicator of quality, but an individual child's experiences may be lower than the overall score, especially if the child has a disability.

A recent study of 60 children ages 4 and 5, 30 with and 30 without disabilities, examined global quality compared with individual children's experiences (Clawson &

Luze, 2008). The researchers used the ECERS-R global ratings to assess global quality, and items from the ECERS-R to record the experiences of individual children across 11 classrooms. An average of three children with diagnosed disabilities and five with suspected delays were in the classrooms. Children's special needs included language and cognitive delays, behavioral and physical disabilities, and vision problems. Global and individualized ECERS-R scores were moderately to highly correlated, regardless of disability status. The global ECERS-R scores across all children (5.10) were higher than the individualized scores (4.07), and the individualized scores were higher for the children with disabilities (4.13) than for those without disabilities (4.00). A series of stepwise regressions found that global quality was the strongest predictor of individual child experience in both groups. It is interesting, however, that children's individualized scores were significantly lower for children with higher levels of behavior problems. The authors noted that children in this study tended to have mild disabilities and that levels of teacher education and training were high—factors limiting any generalization of the results to classrooms with children with more significant disabilities or less-well-trained staff. Nevertheless, this study provides the kind of data that are needed to better understand relationships between global quality measures and the quality of experiences for children with a range of types and severities of disabilities.

This study and the principles of DAP raise questions about how to conceptualize and then measure quality for children with disabilities so that the experiences of the individual children are reflected in the overall measure. Thurman (1997) proposed an ecological congruence model that speaks to the issue of the match between the child's characteristics and needs and the characteristics of the environment. The notion of congruence would appear to be critical to any determination of quality for an individual child. The model has three interrelated dimensions: 1) the degree of deviance (difference) of the child's behavior for a given context or setting, 2) the degree of child competence in doing functional tasks in that context or setting, and 3) the degree of tolerance for difference by the child and by adults—adults' tolerance of the child's difference and the child's tolerance for aspects of the setting, including the adult's behavior. A good quality environment would have an "adaptive fit" between the child and the environment. These dimensions relate to the interactions, program features, and program structures of the Carta model. The concept of "adaptive fit" must be considered in measuring program quality for children with disabilities. *Fit* refers to how well the interactions, the instructional practices, the ratios, the staff's expertise, the physical layout of the room, and numerous other features are compatible with the needs of a particular child; these factors have significant implications for how quality is measured. Adaptive fit implies that quality is not a stand-alone feature of a program, but can be determined only with regard to a particular child in the program.

To promote adaptive fit, one must consider how the many different experiences children have throughout the day and in the environment are compatible with the needs of a particular child. The concept of "activity settings" is particularly relevant to adjusting instructional or intervention practices, one area in which the program must fit the child's needs. Wolery (2004) describes research by Dunst and his colleagues in which environments are characterized as "activity settings," which constitute "a situation-specific experience, the opportunity, or event, that involves a child's interaction with people, the physical environment, or both and provides a context for a child to learn" (Dunst et al., 2001, p. 70). This body of research suggests that an important question for the measurement of program quality for children with disabilities is: How are the adults in the child's program structuring, presenting, and exposing the child to

appropriate activity settings? The more they do, the more learning the child will experience and the better will be the child's outcomes—compared with being exposed to inappropriate or low-quality activity settings. The implication of this perspective for a child with a disability is that the adult may need to intentionally structure the activity setting somewhat differently than would need to be done for typically developing children. For instance, in a free-play period, a teacher may need to reduce the number of toys in an area of the classroom and provide more verbal structure for a child with an attention problem, or use a child's picture exchange communication method[5] during small-group activities to support full participation of a child with a communication problem.

Implementing a Child's IFSP or IEP

Children with identified delays and disabilities in GECE programs should be receiving services through IDEA EI (for birth to 3-year-olds) or ECSE (3- through 5-year-olds). Through these services, these children will have an individualized family service plan (IFSP) if they are under 3 or an individualized education program (IEP) if they are 3 through 5. The IFSP and IEP outline the focus of individual supports to promote the child's functioning and how the child's IDEA services should be integrated into his or her GECE context (i.e., these children should be included in segment C1 of Figure 10.1). Another dimension of quality for children with disabilities attending GECE programs is the extent to which the child's IFSP or IEP is being implemented as part of the program. Integration is one of the primary ways in which the GECE program and the EI or ECSE program should be coordinated, and it should be captured in measures of quality (Buysse & Hollingsworth, 2009).

Parent Partnerships

Working closely with families is an essential element of high-quality services for children with disabilities. Positive support and communication with parents is included in several GECE program quality measures and also is central to quality as laid out in DAP recommendations (Copple & Bredekamp, 2009) and in best practices in EI and ECSE (Hemmeter, Joseph, Smith, & Sandall, 2001; Sandall et al., 2000; Trivette & Dunst, 2000). Strong relationships with parents are important for all early childhood programs but especially for children with disabilities. Parents of a child with a disability may have more extensive information about best strategies for supporting the child's full and maximal participation in a GECE program, including ways to adapt the activities and the physical environment, special instructional strategies, and other accommodations that meet the child's individual needs and incorporate the IEP goals into the daily activities and routines. Also, continuity of experiences, strategies, or approaches between classroom and home is especially important to promoting development for many children with disabilities.

Programs should be working with the family to promote family, as well as child, outcomes. Family outcomes identified by stakeholders as the responsibility of EI and ECSE include helping families to 1) know how to help their child develop and learn; 2) understand their child's strengths, abilities, and special needs; 3) know their rights and advocate for their child; 4) have support systems; and 5) have the ability to access desired services, programs, and activities in their community (Bailey et al., 2006).

As noted previously in the discussion of the Carta framework, the concept of a partnership with parents is so central to program quality for children with disabilities that it merits being a major part of any approach to quality measurement. There are several measures of family-centered practice from the EI and ECSE field that attempt to capture the degree and quality of parent support and participation, focusing mainly on how parents perceive their partnership with and support from service providers (see review by Mannan, Summers, Turnbull, & Poston, 2006). Constructs captured in these measures, such as the parent–professional partnership and the extent to which the program provided family-centered services, are important constructs for program quality measures for children with disabilities.

Children with Disabilities and Available Program Quality Tools

Addressing the Needs of Children with Disabilities

Possible elements of program quality for children with disabilities that have been discussed thus far include the nature of the interactions among the child, the adults, and other children; the instructional practices and the extent to which these have been adapted to address the unique needs of the children with disabilities; the availability of appropriate equipment and environmental modifications; the role of parents in the child's program; the extent to which the program is working at the classroom and administrative levels with other providers and systems that are working with the child and family; and the extent to which the program's features are well matched to the individual needs of a given child.

A review of literature and Internet sources revealed no existing tools that measured even this limited subset of quality features of GECE environments for children with disabilities. However, because many of the features of quality care for young children with disabilities are identical to those for children in the broader population, the content of tools outlined in other chapters of this book have considerable applicability for children with disabilities. As the previous discussion indicated, the content in existing measures is necessary, but not sufficient, for measuring the quality of GECE for children with disabilities. Information about quality for children with disabilities obtained from most measures of program quality usually is embedded within other questions in the tool, making it difficult or impossible to distinguish the extent to which quality GECE experiences fully cover children with many different types of disabilities. The interpretation of scores is further complicated in global quality measures because they tend not to provide 1) the extent to which the program serves any children with disabilities, 2) the type and severity of disabilities of children served in the program, and 3) detailed information about whether or not the classroom observation included interactions with one or more children with disabilities.

The ways that existing assessment tools measure quality for children with disabilities are typified by the content and approach of the most widely used GECE quality assessment tool: the ECERS-R. The ECERS-R contains one item that addresses overall how well programs include children with disabilities. A rating of 1 to 7 on one item, "37-provisions for children with disabilities," aims to assess all aspects of successful inclusion. In rating this item, observers are expected to consider the program's

assessment and instructional practices, parent participation, staff involvement in intervention planning, and effectiveness in modifying activities to include all children or effectiveness at integrating special activities within the regular classroom routines. A few sample questions are included about activities that were not observed. The ECERS-R item 37 rating also is intended to provide a global sense of program provisions for all children with disabilities, regardless of the severity or types of disability of children in the program. The item is not scored if no children with disabilities are included in the program; no follow-up or scoring relates to the GECE program's history of enrolling children with disabilities or to the reasons that no children with disabilities are enrolled.

In addition to this global item, the ECERS-R makes reference to the need for modifications or accommodations for children with disabilities with regard to scoring on a number of the other quality indicators. For instance, for an item addressing discipline, the manual specifies that "a specialized program may be needed to help a child with a disability." For an item on "informal use of language," the manual mentions that staff should encourage communication among children; if a child uses American Sign Language, the teacher should teach key signs to the other children. Another example is that scoring criteria for the item "furniture for routine care, play, and learning" examine the extent to which "children with disabilities have the adaptive furniture they need" and "adaptive furniture permits inclusion of children with disabilities with peers." Under "fine motor activities," scoring is based in part on whether "materials on different levels of difficulty are accessible (e.g., regular and knobbed puzzles are available for those with varying fine motor skills)." Although some items clearly reference quality considerations for children with disabilities, other items, such as "free play" and "staff–child interactions," do not specifically mention children with disabilities.

Other commonly used quality assessment tools in addition to the ECERS-R also address children with disabilities by including one or more global ratings within the assessment or by mentioning children with disabilities in examples or scoring guidance in sections of the assessment tool and sometimes embedding these examples in training experiences and materials. Table 10.1 shows examples of how selected tools address children with disabilities. Other tools, such as the Classroom Assessment Scoring System™ (CLASS™, Pianta, La Paro, & Hamre, 2008) and the Early Language and Literacy Classroom Observation (ELLCO; Smith, Brady & Anastasopoulos, 2008), provide virtually no instructions in their manuals about how to interpret or modify use of the tools for classrooms that include children with disabilities.

Challenges in Using Existing Quality Assessment Tools

Even those tools that integrate some content about children with disabilities into the tools or include a few global items specific to disability are not adequate as effective measurement tools to understand the quality of GECE environments for children with disabilities. We have identified five challenges that lessen the usefulness and validity of these tools in measuring the quality of GECE environments for children with disabilities.

First, the manuals do not contain enough specific details for most observers to judge adequately whether or not the characteristic being assessed by most items is well implemented for children with disabilities. The items are very broad and therefore require the observers to be familiar with the range of instructional techniques, accommodations, and assistive technology that apply to children with different kinds of disabilities. For

Table 10.1. Strategies for assessing program quality for children with disabilities in selected assessment tools

Program quality assessment tool	Strategy used for inclusion of children with disabilities
Assessment Profile for Early Childhood Programs (APECP; cited in Halle & Vick, 2007)	Contains one section on "Individualizing" activities and practices
Child Caregiver Interaction Scale (CCIS; cited in Halle & Vick, 2007)	Includes "Engaging children with special needs" in the social domain.
Child Development Program Evaluation Scale (CDPES; Fiene, 1984)	Has "special needs of the child" item in the child development curriculum section
Early Childhood Environmental Rating Scale—Extension (ECERS-E; Sylva, Siraj-Blatchford, & Taggart, 2003)	Contains one section focusing on "Planning for Individual Learning Needs"
Early Childhood Environmental Rating Scale—Revised Edition (ECERS-R; Harms, Clifford, & Cryer, 2005)	Has one global item—"Provisions for children with disabilities" specific scoring instructions or examples given for some (e.g., discipline, furniture for routine care and learning, fine motor, informal use of language). Not every item has specific instructions for children with disabilities.
Infant-Toddler Environmental Rating Scale—Revised Edition (ITERS-R; Harms et al., 2003)	Has one global item—Provisions for children with disabilities; like the ECERS-R, specific scoring instructions or examples given for some, but not all, of the other items
Observation Measures of Language and Literacy– Quality Rating of Language and Literacy Instruction (OMLIT–QUILL; Goodson, Layzer, Smith, & Rimdzius, 2006)	Has "integration of special needs children in the classroom" section on the assessment tool for recording a description of children with disabilities who are present.
Preschool Program Quality Assessment, 2nd Edition (PQA; HighScope Educational Research Foundation, 2003)	Contains section on "Respecting Diversity" focused on recognition of and responses to diversity, including in learning materials; has item on diagnostic/special education services in section on parent involvement and family services
Ready Schools Assessment (RSA; HighScope Educational Research Foundation, 2006a, 2006b, 2006c)	Has a section on "Respecting Diversity" and defines one aspect of diversity as special needs
Supports for Social Emotional Growth Assessment (SSEGA; cited in Halle & Vick, 2007)	Has a section on program identification and support of children with special needs that includes two global items
Teaching Strategies Rating Scale (TSRS; McWilliam, Scarborough, Bagby, & Sweeny, 1998; McWilliam, Zulli, & de Kruif, 1998)	Has several global items (i.e., "inclusion in activities," "teaching specific skills," including extent of individualizing teaching for children with disabilities, "developmental appropriateness")

example, without specialized training, most observers will not be able to adequately assess the language and communication items (e.g., "encouraging children to communicate") or even consider the many details necessary to determine whether classroom space is fully accessible for children with a variety of special needs. Although many of the assessment tools identified have an increasingly established research base supporting distinctions among programs, none have strong psychometric validation for assessing quality GECE with sizeable samples of children with disabilities. More work is needed to demonstrate reliability and validity in rating quality GECE for children with disabilities by existing assessment tools.

Second, the tools do not capture the quality of the program for individual children, which could be different from overall program quality, especially for children with

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disabilities. Specific items could be assessed as being of high quality for children with typical developmental patterns, but of low quality for some or all children with disabilities. There also may be variation in appropriate ratings for children with different types and severities of disabilities. Alternative approaches are needed to measure quality as experienced by individual children with disabilities, in addition to the overall quality. Recently, efforts have been made to capture quality for individual children within a classroom. An example is the piloting of a new measure called the Individualized Classroom Assessment Scoring System (inCLASS; Downer, Booren, Lima, Luckner, & Pianta, 2010). Although this measure is being piloted with a diverse group of 3- to 5-year-olds, it remains to be seen whether such measures are adequate for capturing quality for children with disabilities.

Third, the approach of having one or two items that address the global quality of a program for children with disabilities poses challenges because these items often span multiple dimensions of program quality. For instance, the ECERS-R item for children with disabilities yields an overall assessment, but could be further differentiated into a number of items assessing dimensions of the provisions with regard to assessment, curriculum, environmental modifications, and parent involvement, all of which are encompassed by this one item. Even on any one dimension, there may be considerable variability in the program's effectiveness in serving children with different disabilities. Greater specificity would yield the differentiated information needed to guide program improvement; it would provide a better sense of GECE quality for individual program features, of which some may be good and others may need improvement.

Fourth, quality tools vary in how they handle scoring in cases where no children with disabilities are in the program. Similar programs could receive different ratings on the same tool due in part to whether or not children with disabilities (and with varying disability characteristics) attend the program. One reason children with disabilities or other special needs may not attend a program is because the program was not welcoming to the child or the child's family. Many tools do not assess the program's preparation for serving children with disabilities as a necessary feature of a high-quality program. It can be argued that inclusion is a value that should be promoted in all GECE programs and thus reflected in quality rating scales. Indeed, good early childhood practice would suggest that a program that has not laid the groundwork for serving children with disabilities through policies and professional development should not be considered a high-quality program. This concept of a low score on one indicator overshadowing scores on other indicators already exists in some tools; for example, programs that do not meet certain indicators of health and safety practices on standard GECE quality tools automatically receive low ratings. How programs prepare to serve a child with a disability, even if none is served in the program at a given point in time, is reflected in some innovative work being done in some states in designing their quality rating systems[6] (National Child Care Information and Technical Assistance Center [NCCIC], 2009).

Fifth, some specific considerations may apply only to children with disabilities and their parents or may have special significance for this group (e.g., the measure of how well the child's IFSP or IEP is being implemented in classroom activities and routines[7] or the relevance of many items in the "parents and staff" subscale of the ECERS-R). Some of these are not included, and others currently are rated for everyone. Identifying the key questions and separating them out would considerably aid interpretation and usefulness of the measures.

Specific Tools Designed to Assess Quality of Inclusion

Several tools have been designed to assess how GECE programs support the inclusion of young children with disabilities. The constructs addressed highlight possible key aspects of a quality environment for children with disabilities. Some of these tools are checklists designed primarily for self-assessment or professional development. An example of this kind of checklist is the Preschool and Kindergarten Inclusion Readiness Checklist (PKIRS; Watson & McCathren, 2009). This checklist contains 59 items that are scored as "yes" or "not yet" for a variety of structural and process aspects of the environment as they apply to children with disabilities. One strength of the PKIRS is that it contains sets of items appropriate for children with different types of disabilities. These items are important for examining whether a program may have better quality for some types of children with disabilities than for others. For self-assessment or professional development related to serving children with disabilities, these kinds of checklists are likely to provide richer information than would be available on more standard measures such as the ECERS-R, and they also could be a source of information for more structured quality measures. Because the checklists were not intended for use across programs, they were not designed with the psychometric rigor needed for research purposes or for state quality rating systems, nor have they been examined carefully for their ability to discriminate between programs with different levels of quality. These checklists vary considerably in their comprehensiveness and in the extent to which detailed instructions are available to guide the completion of the assessment. However, the very existence of so many checklists suggests a need to help programs address effective practices related to including children with disabilities.

In addition to checklists around inclusion practices, two assessment tools have been designed to provide more specific measures of program practices around the inclusion of children with disabilities: the SpeciaLink Child Care Inclusion Practices Profile and Principles Scale (Irwin, 2005) and the Quality of Inclusive Experiences Measure (QuIEM; Wolery, Pauca, Brashers, & Grant, 2000). The contents of these tools include more detailed information related to children with disabilities than is found in common quality measures of GECE. Although published research validating and using the tools remains in its infancy, both measures may be useful for research purposes and for program use. The major content areas in each of these measures are presented in Table 10.2.

SpeciaLink Child Care Inclusion Practices Profile and SpeciaLink Child Care Inclusion Principles Scale

The SpeciaLink Child Care Inclusion Principles Scale (Irwin, 2005), developed at the National Centre for Child Care Inclusion in Canada, was designed as a measure of inclusion progress that complements the ECERS-R. The tool uses the same scoring format as the ECERS-R (1 to 7, *inadequate* to *excellent*) and similar terminology in descriptions and explanations. Eleven overarching items on the Practices profile and the six items on the Principles Scale are intended to be administered together. Unlike the items in the ECERS-R, many of the items cannot be scored wholly with observation. Respectful questioning and document review according to protocols are important for completing the tool. The tool provides a detailed description of elements contributing to item scores

Table 10.2. Content of two assessment tools designed to measure inclusive program practices for children with disabilities

SpecialLink Child Care Inclusion Practices Profile and Principles Scale

Practices Profile

- Physical environment and special needs
- Equipment and materials
- Director and inclusion
- Staff support
- Staff training
- Therapies
- Individual program plans
- Parents of children with special needs
- Involvement of children who are typically developing
- Board of directors and other similar units
- Preparing for transition to school

Principles Scale

- Full participation
- Zero rejected
- Natural proportions
- Same hours/days of attendance available to all children
- Maximum feasible parent participation at the parent's comfort level
- Leadership, proactive strategies, and advocacy for high-quality inclusive child care

Quality Measures of Inclusive Experiences Measure (QuIEM)

- Accessibility and adequacy of the physical environment
- Program goals and purpose
- Staff supports and perceptions
- Individualization of goals, planning, and implementation
- Participation and engagement (with activities, routines, and transitions common for all children in the classroom)
- Child–child contacts and relationships
- Adult–child contacts and relationships

(e.g., for "staff support," the program may have a high level of consultative support for teachers but not have reduced staff–child ratios that would support inclusion or may not have expert resource teachers accessible to staff for support). All 250 specific indicators detailed within the 17 items are completed each time the measure is administered.[8]

Quality of Inclusive Experiences Measure (QuIEM)

This measure (Wolery et al., 2000) includes seven scales of child care program practices that are believed to promote positive outcomes for young children with disabilities. Comprehensive and abbreviated versions of the instrument are available and yield scores for each of the seven scales, as well as a profile across all of the scales. Observation, interview, document review, and questionnaires are used to complete the QuIEM tool over a period of several days. Results provide information about global program quality, quality of various classrooms within the program, and quality of the experience for individual children. A portion of the tool is completed separately for each child with a disability in a class. The QuIEM is intended to be used in conjunction with other global measures of classroom quality, such as the ITERS or the ECERS-R. Training and use of the tool are rather labor intensive, but the QuIEM provides a much richer sense of the children with disabilities' GECE environment than does a global program quality measure.

In sum, obtaining a valid measure of GECE program quality for children with disabilities is challenging. Existing tools designed for general programs may include examples or global questions related to these children. The tools may provide valid information with regard to the common constructs of quality relevant to *all* children. The shortcoming is that they do not adequately address the unique and multidimensional nature of the requisite individualized quality for children with disabilities. A few tools (e.g., the SpeciaLink Child Care Inclusion Practices Profile and Principles Scale and the QuIEM) hold promise, but much work is still needed to investigate the validity and reliability of these tools for distinguishing between programs with different levels of quality.

Measurement of Quality in Early Intervention and Early Childhood Special Education

Conceptualizing and measuring quality for EI and ECSE differs in several fundamental ways from conceptualizing quality in GECE settings. One fundamental difference is that the delivery of EI and ECSE is governed by a federal law—IDEA—and its regulations. Furthermore, state laws and regulations also govern the delivery of these services in many places. Consequently, legal requirements establish some of the parameters of quality for the provision of specialized services. These requirements tend to address structural and procedural elements of quality, such as personnel requirements, time lines, and mandating that children have service plans containing certain elements and that these plans be reviewed annually. A new provision in the 2004 amendments to IDEA requires that federal and state monitoring activities focus on "improving educational results and functional outcomes for all children with disabilities" (20 U.S.C. § 1416). This provision expands the focus of oversight activities to include monitoring the achievement of child outcomes and, presumably, practices to achieve those outcomes. This new emphasis brings IDEA monitoring more in line with the connection between program elements and child outcomes that traditionally has been found in discussions of quality measurement for GECE.

A second way in which measuring quality for EI and ECSE differs from measuring quality for GECE is that the measurement of quality of specialized services is far less developed. Acknowledging the measurement issues in GECE as discussed throughout this volume, we nevertheless have a plethora of tools that have been developed for accessing quality in GECE, especially in center-based settings. That is not the case for EI and ECSE, where much work remains to be done in conceptualizing quality as well as measuring it. There is nothing comparable to the states' quality rating systems for EI and ECSE programs. No rating systems exist that parents can use to learn how one program compares with another or that provide parents with a list of elements to consider as they visit programs. A researcher or evaluator seeking to examine the relationship between program quality and child outcomes cannot review the most recent set of studies as background for tool selection; there is no body of research for EI and ECSE parallel to the large-scale and well-known Cost, Quality and Outcomes Study (Peisner-Feinberg et al., 1999) or the NICHD study (NICHD Early Child Care Research Network, 2005). These studies have produced rich information about the relationships between child outcomes and program quality for GECE; such studies are needed for specialized EI and ECSE services.

The paucity of tools may be connected to the many years during which federal and state monitoring emphasized compliance with procedures as quality rather than espousing a broader definition of quality which would encompass services and supports that produce good outcomes. A second possible reason for the lack of tools is that measuring quality for EI and ECSE is considerably more complex than measuring quality in GECE. Aytch, Cryer, Bailey, and Selz (1999) noted the following challenges for measuring quality in EI, which apply to ECSE as well: 1) The programs represent a broad range of services, 2) the services are highly individualized, and 3) the services seek to address multiple child and family goals. The challenges in service provision do not, however, preclude defining and measuring quality in the provision of EI and ECSE. They do mean that measurement of quality is complicated and, consequently, there are no tools for EI or ECSE that have been broadly adopted to measure quality in the way that the ECERS-R or the CLASS are widely used to measure quality for GECE.

The most comprehensive compendium of what constitutes quality for EI and ECSE is a set of 240 recommended practices from the Division of Early Childhood (DEC) (Sandall, Hemmeter, McLean, & Smith, 2004; Sandall et al., 2000). The compilation is intended to "provide guidance on effective practices for attaining our shared goal of improved development and learning outcomes for young children with disabilities and their families" (Sandall et al., 2004, p. 11). The list of practices was developed through an extensive review of the literature, followed by field validation with experts and practitioners. The practices are organized into five strands addressing "Direct Services" and two strands addressing "Indirect Supports," with organizing principles in each strand. The seven strands and an example of an organizing principle within a strand, together with two corresponding practices, are shown in Table 10.3. Of particular interest (and serving as further evidence of the commonality of the major elements of quality) is that many of the recommended practices are descriptors of quality relevant for all children. The recommended practices also address the specialized nature of services required by children with disabilities, as exemplified especially by specific recommendations around specialized instructional techniques, IFSP/IEPs, legal requirements, assistive technology, and settings for services. It is important to note that, even though we are discussing the recommended practices as part of the discussion of specialized services, the practices cut across all environments in which children receive those services and thus apply as well to children with disabilities in GECE settings.

Materials have been developed to enable programs to use the recommended practices as part of a self-assessment, including several checklists. As the authors note, the sheer number of practices means that programs are not likely to be able to address all of the strands at the same time. Programs are encouraged to identify specific strands or practices upon which to focus. Although the recommended practices were not developed to provide a framework for state quality rating systems or for use as a research tool, the concepts in the practices could provide the foundation for such an endeavor because they are a multifaceted articulation of what constitutes quality in EI and ECSE. However, considerable additional work would be required to convert the practices into a measurement tool with adequate validity and reliability.

Another resource for the development of a tool for measuring quality in EI comes from a work group of experts in the field, who identified seven principles for providing services in natural environments (Workgroup on Principles and Practices in Natural Environments, 2008). The principles are further elucidated by key concepts related to each principle and multiple examples of practices that do and do not embody the principle. Two examples of principles are stated as follows: "Infants and toddlers learn best

Table 10.3.　Division for Early Childhood recommended practices: Strands and examples of practices

Strands
Direct services

1. Assessment
2. Child-Focused Practices
3. Family-Based Practices
4. Interdisciplinary Models
5. Technology Applications

Indirect supports

1. Policies, Procedures, and Systems Change
2. Personnel Preparation

Example

Strand: Child-focused practices

Organizing Principle

　Adults design environments to promote children's safety, active engagement, learning, participation, and membership.

Practice

　C3. Routines and transitions are structured to promote interaction, communication, and learning by being responsive to child behavior and using naturalistic time delay, interrupted chain procedure, transition-based teaching, and visual cue systems.

　C8. A variety of appropriate settings and naturally occurring activities are used to facilitate children's learning and development.

through everyday experiences and interactions with familiar people in familiar contexts" and "The families' priorities, needs, and interests are addressed most appropriately by a primary provider who represents and receives team and community support." Like the DEC recommended practices, the principles are not a quality measure, but they do provide a starting point for the development of such a measure.

A search of the literature found only one tool that had been developed specifically to examine the quality of EI and none for preschool special education. Aytch and colleagues (Aytch et al., 1999; Aytch, Castro, & Selz-Campbell, 2004) developed the Early Intervention Services Assessment Scale (EISAS) as a measure that would parallel the ECERS-R and that could be used to assess the quality of EI services. The developers envisioned EISAS as consisting of a program self-assessment and a parent survey. The initial version of the program self-assessment consisted of five subscales (Assessment, Intervention Planning, Service Provision, Transition Planning, and Administration) and 17 items. Scoring involved a 7-point scale. The parent survey examined family experiences and their perceptions of services. Initially, it consisted of five sections addressing the same five content areas as the program self-assessment. Parents respond to a series of items such as "We helped decide when and where an assessment would take place." The self-assessment was intended to be a collaborative process involving both consumers and practitioners. The authors note two limitations with the tool that compromise its usefulness as a program assessment instrument. First, because it was designed for self-assessment, objective use of the tool by outside observers would be difficult and might not be practical given the subjective nature of many of the items. Second, the length of the tool limits its utility. Initial feedback from providers indicated that the initial version of the instrument was cumbersome and redundant, and there was concern

about parents' willingness to complete the entire survey (Aytch et al., 2004). No additional research has been published on subsequent versions of the EISAS.

Although few tools are designed to provide a measure of global quality or multiple dimensions of quality for EI or ECSE in a single tool, numerous measures have been developed to assess a single dimension. For example, the Beach Center Family-Professional Partnership Scale (Beach Center on Disability, 2006) assesses parent satisfaction with the partnership between the family and providers, and the Family Support Scale (FSS; Dunst, Jenkins, & Trivette, 1984) measures parent perceptions of the helpfulness of various sources of support. Many of these scales have been used in research and have good psychometric properties, but they assess only one facet of quality. Using several would result in a time-consuming assessment and still leave important facets of quality in EI and ECSE not assessed.

Next Steps in the Measurement of Quality for ECE Programs Serving Children with Disabilities

Much work remains to be done around the development of measures to assess program quality for children with disabilities. Early childhood professionals increasingly have recognized and supported the inclusion of children with disabilities in general early childhood programs, but the measurement of quality of these children's experiences in the programs lags behind the measurement of program quality for typically developing children. The task of relating quality of program experiences to outcomes for young children with disabilities faces the additional challenge in that these children can be served by two service systems: the GECE systems (i.e., preschools, various child care arrangements) and the system that provides EI or ECSE services under IDEA.

As seen in this review, there is widespread consensus that the indicators of program quality for the general population of young children also are indicators of program quality for children with disabilities. In addition, there are unique features of quality that go beyond the common core for all children that programs need to address to be considered high-quality programs for children with disabilities. Identifying the complete set of features is an undertaking beyond the scope of this chapter, but is an essential step toward the development of measures of quality for programs serving children with disabilities.

In this final section, we summarize some of the common themes and elements related to measuring program quality for children with disabilities that appear across the currently available research and resources. In addition to the literature on effective practices, these resources include existing measures of program quality (e.g., the ECERS-R), the DEC/NAEYC joint position statement on inclusion, measures of inclusive practices (Irwin, 2005; Wolery et al., 2000), the DEC recommended practices, the recommendations of the Workgroup on Natural Environments, and the Early Intervention Services Assessment Scale (EISAS).

The conceptualization of what constitutes quality needs to account for individual needs, but it also needs to account for the two service systems in which children with disabilities may be participating. Because many children with disabilities participate in both the GECE system and the specialized systems that provide IDEA EI and ECSE services, the promotion of optimal development for these children will depend on the extent to which they are receiving high-quality services through both systems. Research

suggests that the best outcomes will be obtained when the systems work together and deliver EI or ECSE services in the context of GECE. In an ideal world, these two systems work closely together in the community to ensure that each child and each child's family experience a high-quality program. As suggested by the information in Table 10.4, GECE programs need resources and supports such as professional development, access to specialists, assistive technology, and other kinds of administrative supports to provide a quality program for children with disabilities. It is not necessary that each GECE program become a specialized program. Rather, the early childhood system at state and local levels needs to establish the kind of collaborative infrastructure that can assist GECE programs in developing the expertise and making the specific adaptations necessary to serve the entire range of children with disabilities. Coordination at the systems level will be essential to having quality at the classroom level, and any measurement system will need to capture how the administrative structures are or are not working together. Documenting this type of collaboration may prove challenging because much of the process will not be visible to an observer and will require interview data and other kinds of information.

As growing numbers of children with disabilities are served entirely or partially in inclusive settings, GECE programs will need to understand these requirements, and the developers of new quality measures will need to decide how legal requirements are to be incorporated into their measures.

The development of measures for the assessment of program quality for children with disabilities presents the same dilemma that applies to all measures of program quality: The development of these measures should be based on what is known about how specific program features relate to child outcomes, but much more research is needed to establish such relationships. Existing research supports the importance of some components for children with disabilities (e.g., specialized instructional strategies, environmental arrangements), but research has not been done that would establish what constitutes a high-quality ECE program in its entirety for all children with disabilities. Much more research is needed to thoroughly understand what works for which children and under what circumstances (Guralnick, 2005b). The development of a comprehensive set of quality indicators of children with disabilities will require drawing on the existing research as well as professional wisdom, with an understanding that as the knowledge base addressing effective interventions and instructional practices continues to grow, the elements of quality measures will need to be revised.

In closing, we return to the three dimensions of inclusion: access, participation, and supports (DEC/NAEYC, 2009). With particular regard to access, developers of quality measures will need to determine the scoring weight to place on the importance of a program's demonstrated commitment to serve *all* children. A case can be made that a program that has not laid the groundwork for accessibility to children with special needs and their families cannot, by definition, be considered high quality, regardless of ratings on other dimensions. Participation and supports, the other dimensions of inclusion, make clear that a willingness to enroll children without regard to disability or other special needs is a necessary, but not sufficient, marker of quality. In addition, high-quality ECE programs must promote and support the development of all children. As early childhood systems continue to evolve and become better integrated and coordinated, program quality measures also need to evolve to capture how well programs are structured to promote positive outcomes for all children, including children with disabilities.

Table 10.4.   Framework for program quality for children with disabilities: Major areas, related concepts, and examples

Major areas	Related concepts or examples
1. Interactions	
• Interactions with peers	• Presence of typically developing children
• Interactions with adults	• Adult facilitation and support of child's interaction with peers
	• Adult use of appropriate techniques to address challenging behavior
	• Adult implementation of specialized techniques to facilitate language development
2. Program features	
• Curriculum	• Curriculum modifications and adaptations
• Instructional practices	• Instructional practices geared to child's needs
• Scheduling	• Use of everyday routines to promote development and learning
• Nature of activities	• Availability of specialized materials
• Materials	• Full engagement of child in activities
	• Implementation of IFSP/IEP
	• Developmentally appropriate and functional goals
	• Integration of specialized services
3. Staff characteristics/program structure	
• Staff education	• Professional development for staff related to children with disabilities in general, and to the child's special needs in particular
• Staff training	
• Experience	
• Beliefs	• Staff support for inclusion
• Goals	• Reduced ratios for classes with a child with special needs
• Child-to-staff ratios	• Assistive technology, adapted equipment, modified physical space
• Group size	
• Arrangement of physical space, equipment, and furnishing	
4. Administrative characteristics	
• Philosophy (program goals, beliefs about children, families, and early education	• Policy voicing support for inclusion
	• Zero reject policy
• Structures (policies, compensation)	• Coordination between general and specialized programs/services
• Context (funding adequacy, accreditations, connections to other agencies)	• Access to specialists
	• Time provided to support team planning
• Supports (professional development activities, availability and quality of specialists, supervision of staff)	• Transdisciplinary service provision
5. Parent partnerships	
• Communication	• Services and supports designed to help parents support child's development and learning
• Program support for family outcomes	
• Family-centered practices	• Staff use of parents' knowledge of child's strengths, needs, and interests
	• Ongoing communication to support continuity of experiences for child between home and center
	• Important decisions related to child's programs or services made jointly by parents and providers

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Endnotes

[1]See also Tout, Zaslow, Halle, & Forry (2009).

[2]This coordination also includes coordination at key transition points, such as when a child leaves early intervention at age 3 and enters preschool special education, as well as coordination when there are transitions across child care programs.

[3]*Naturalistic teaching* refers to using the naturally occurring learning opportunities of young children in everyday situations and

activities as the main context to teach children new skills and behaviors, rather than setting up artificial didactic situations to teach children (Dunst et al., 2001; Dunst, Bruder, Trivette, & Hamby, 2006; Roper & Dunst, 2003). *Response prompting* refers to a specific behavioral technique in which reinforcement is used differentially to shape successive approximations to a desired behavior (Wolery, 2000). *Embedded instruction* refers to techniques used in naturalistic teaching in which the teacher intentionally structures natural activities in the classroom to allow the child to have opportunities to practice specific learning goals in ways that are interesting and meaningful to the child (Bricker & Cripe, 1992; Horn, Lieber, Li, Sandall, & Schwartz, 2000; Macy & Bricker, 2006). These techniques, which also can be used by parents in daily routines at home (Woods, Kashinath, & Goldstein, 2004), have demonstrated evidence for their effectiveness in teaching skills to young children (Odom & Strain, 2002; Odom & Wolery, 2003).

[4]*Structural quality* refers to conditions and characteristics of an early childhood setting, such as group size, adult–child ratio, staff qualifications, and materials, that are related to a high-quality experience for children. *Process quality* refers to teacher–child and peer interactions, as well as age-appropriate classroom activities, that support children's development.

[5]A common method is the Picture Exchange Communication System (PECS), which is an intervention approach that uses pictures and a variety of well-established behavioral principles to teach communication skills to children with language and communication deficits (see reviews by Preston & Carter, 2009; Tien, 2008).

[6]Quality Rating Systems (QRS) are meant to provide consumers with a uniform metric to judge the quality of ECE programs within a state or locality. QRS are also used as a tool for quality improvement of programs throughout a state or locality. To date, half of all states in the United States have either established QRS or are developing and/or piloting QRS.

[7]Note that a child's disability and whether or not the child has an IEP or IFSP is confidential information, as are the contents of the child's records related to special education. This information cannot be shared with an observer external to the program without parent permission.

[8]Since this chapter was written, a revision to this scale has been released (Irwin, 2009).