Definition, Context, Quality: Current Issues in Research Examining High-Quality Inclusive Education

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Abstract

The most recent efforts to promote inclusive education have acknowledged the various contexts in which it takes place, moving away from a placement-focused conceptualization of inclusion. Acknowledging that inclusive education may take place within multiple types of early childhood education programs necessitates the consideration of context as a potential factor influencing its high-quality implementation. Moreover, assessing and supporting quality within inclusive classrooms requires a consideration of both global quality and inclusion quality; yet, these two facets of inclusive education quality have rarely been considered together. In accordance with recent advancements in the conceptualization and promotion of inclusive education, we discuss three ongoing challenges in inclusive education research: operationalizing inclusive education independent of physical placement, ensuring the adequate consideration of context, and appropriately measuring quality. We also provide recommendations for future research aiming to continue advancing the field's knowledge of high-quality inclusive education.

Keywords

early education programs, inclusive education

Recently, the U.S. Department of Health and Human Services and Department of Education (2015) released an unprecedented joint policy statement promoting and providing guidance on the inclusion of children with disabilities into high-quality early childhood education (ECE) programs. The statement was groundbreaking, in part, because it specifically noted the need for children with disabilities to be included into high-quality ECE programs, regardless of whether the program is in a public school. The statement cited several types of ECE programs young children may be educated within (e.g., public or private early childhood programs, Head Start, community-based childcare), pointing to a conceptualization of inclusive education that is not dependent on a singular physical placement. Instead, high-quality inclusive education is as a matter of instructional practice and institutional processes. Moreover, the statement moved away from the assumption that a high-quality classroom guarantees high-quality inclusive practices, and vice versa, by differentiating the need for high-quality ECE and high-quality inclusion for children with disabilities. Thus, the statement both reiterated a definition of inclusive education that is not placement based and indicated the importance of considering quality within the many contexts into which children with disabilities may be included.

Acknowledging that inclusive education may take place within multiple types of ECE programs necessitates the consideration of context as a potential factor influencing its implementation and quality. Indeed, the different types of programs that children with disabilities may be included into have been found to differ in terms of classroom quality (e.g., Coley, Votruba-Drzal, Collins, & Cook, 2016), teacher preparation (Barnett, Carolan, Squires, Brown, & Horowitz, 2014; Saluja, Early, & Clifford, 2002), and instruction (e.g., Greenwood et al., 2013), among other features. Yet, there has been limited consideration of the contexts that inclusive education is taking place within when research has examined children's outcomes and experiences within inclusive classrooms (Oh-Young & Filler, 2015).

In part, context has not been considered because of how inclusive education has been defined. Inclusion has frequently been operationalized as being primarily dependent on children with and without disabilities physically being placed in the same classroom (e.g., Hardiman, Guerin, & Fitzsimons, 2009; Nahmias, Kase, & Mandell, 2014). Moreover, discussions of

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quality within inclusive education have been limited by a lack of validated measures specific to the inclusion of children with disabilities and the continually changing trends in the conceptualization of global program quality (Odom, Buysse, & Soukakou, 2011). In effect, the definition and measurement of global and inclusion quality have evolved independently with largely unexplored implications for how they dually constitute inclusive education quality.

The focus of this article is on three challenges to research advancing our understanding and achievement of high-quality preschool inclusive education. As highlighted in the federal statement (U.S. Department of Health and Human Services & Department of Education, 2015), these challenges center on (a) defining inclusive education, (b) adequately considering the diverse contexts in which inclusive education occurs, and (c) appropriately measuring quality of inclusive programs. Further consideration of each of these issues is critical for future inclusive education research to inform high-quality practice.

Defining Inclusive Education: Place or Practice

Theoretical and Conceptual Definitions of Inclusive Education

Efforts have been made to conceptually define inclusive education as a matter of instructional practice and meaningful social integration, not physical placement. In an earlier project characterizing inclusive education, researchers argued that inclusion is a locally defined, flexible, and individualized process based on the needs of the children and families being served (Schwartz, Sandall, Odom, Horn, & Beckman, 2002). The authors, part of the Early Childhood Research Institute on Inclusion (ECRII), argued for the need to divorce inclusive education from a particular setting to provide appropriate and effective services to all children and families. Following this perspective, the Division for Early Childhood (DEC) and National Association for the Education of Young Childhood (NAEYC) put forth a more defined, yet not placement-focused, conceptualization of inclusive education as (a) *access* to a wide variety of learning opportunities, (b) individualized modifications that facilitate *participation* with adults and peers, and (c) systems-level *supports* that undergird classroom efforts (e.g., professional development; DEC & NAEYC, 2009). The DEC and NAEYC (2009) statement has since become central in efforts to conceptualize the key components of early childhood inclusion and support its implementation (e.g., Odom et al., 2011; Soukakou, 2016; U.S. Department of Health and Human Services & Department of Education, 2015). Thus, professional organizations, researchers, and policy makers have argued for a dynamic definition of inclusive education that does not solely rely on a particular placement, but rather focuses on individualized instruction, social opportunities, and available supports.

Definition of Inclusive Education Within Empirical Research

Although theoretical definitions of inclusive education have focused on effective practices, rather than physical placement, this same nuance has been inconsistently applied in empirical research studying the implementation and outcomes of inclusive education. In line with the broad conceptualization of inclusive education put forth by ECRII researchers (Schwartz et al., 2002), Odom and colleagues (1999) originally delineated "forms of inclusion" based on two dimensions—organizational context (i.e., type of institution that classrooms are a part of) and service delivery model (i.e., individuals primarily responsible for providing individualized services). This two-factor conceptualization does not serve as a definition of inclusion, but rather is an empirically based representation of the ways it may be enacted (Odom et al., 2011). More recently, Barton and Smith (2015a) applied the DEC and NAEYC (2009) framework to examine challenges and potential solutions related to implementing high-quality inclusive education. Adopting the DEC and NAEYC (2009) definition of inclusion allowed them to identify more specific policies and systems-level practices that contribute to the implementation of inclusive education.

In contrast, the physical presence of both children with and without disabilities has largely become the sole indicator of inclusive education in research aiming to characterize the quality of inclusive classrooms (e.g., Pelatti, Dynia, Logan, Justice, & Kaderavek, 2016), and young children's outcomes in inclusive classrooms compared with segregated special education classrooms (e.g., Hardiman et al., 2009; Nahmias et al., 2014). For example, classrooms designated as inclusive in a study by Nahmias and colleagues (2014) included reverse mainstreaming classrooms (i.e., classrooms lead by a special education teacher with a majority of the children having a disability label), Head Start classrooms, and community-based preschools. Although the classrooms were collapsed under the "inclusive classroom" category, they represent three different models of inclusion, according to the categorization by Odom et al. (1999). Although group comparison is a valid and important research method, there is often a lack of information about classroom context, instruction, and special education service delivery in such studies (Oh-Young & Filler, 2015). Thus, it is difficult to comprehensively discern what specific practices and institutional processes contribute to reported child outcomes. Moreover, the repeated reduction of inclusive education to a single variable— the physical presence of children with and without disabilities—has led to a shortage of research that systematically examines the potential influence of contextual features on the implementation of high-quality inclusive education.

In another line of research, multiple studies have been conducted that investigate children's outcomes based on their placement in comprehensive intervention programs that take place within classrooms that include children with and without disabilities (e.g., Boyd et al., 2014; Sainato, Morrison, Jung, Axe, & Nixon, 2015). Although the programs are positioned as inclusive, they are within classrooms that primarily serve children with disabilities (i.e., "reverse mainstreaming" classrooms). In addition, the teaching practices and specialized services are often heavily prescribed based on the needs of children with disabilities. Whether such reverse mainstreaming classrooms can be considered inclusive has been debated. In particular, several federal guidance documents challenge the categorization of reverse mainstreaming classrooms as a "regular early childhood program" for the purposes of least restrictive environment (LRE) data collection (U.S. Department of Education, 2017; U.S. Department of Special Education and Rehabilitative Services, 2012). In addition, the previously discussed federal policy statement specifically recommends that states "ensure the principle of natural proportions guide the design of inclusive early childhood programs," meaning the proportion of children with and without disabilities in inclusive classrooms should reflect that of the general population (U.S. Department of Health and Human Services & Department of Education, 2015, p. 7). Consequently, there could be potential challenges applying the findings of research on comprehensive intervention programs to inclusive early education classrooms, as conceptualized by policy recommendations, because of differences in classroom composition.

Summary

Defining inclusive education within early childhood contexts has proven to be a complex endeavor. Although theoretical and policy-based definitions of early childhood inclusive education focus on practice and institutional processes, research addressing children's experiences and outcomes in settings that include children with and without disabilities has inconsistently taken up such a definition. Because inclusive classrooms have largely been designated based on a single variable in research (the physical placement of children with and without disabilities), most of the empirical literature addressing children's experiences and outcomes in inclusive classrooms has either reported little information on the classroom context or the classroom context and practices have been closely controlled as a method of intervention. Researchers' operationalization of inclusive education does not invalidate findings. However, the results give little information about *how* to implement high-quality inclusive education in a variety of general early childhood settings. Thus, there is a need for research that more closely connects theoretical definitions of inclusive education to its practical enactment.

Examining the Diverse Contexts of Inclusive Education: Revisiting "Forms of Inclusion"

Moving from the perspective that inclusive education is a matter of practice and process, not place, it is necessary to separately consider the places, or contexts, in which inclusive education is implemented and how such contexts may influence its implementation. However, considering context within ECE and early childhood special education (ECSE) is complicated by the wide variety in program and classroom features. The rapid increase in ECE programs has created a patchwork early education system with differences based on funding sources, attendance eligibility criteria, teaching and staffing patterns, and program standards, among other features (Guralnick & Bruder, 2016).

As stated earlier, ECRII researchers developed a categorization capturing much of the diversity of early childhood settings based on an empirical study of inclusive programs (Odom et al., 1999). The investigation led to the establishment of two dimensions on which inclusive classrooms may differ—organizational context and service delivery model. Research that has examined the influence of contextual features on classroom quality, instructional practices, and child outcomes indicates that organizational context and service delivery model remain meaningful dimensions by which early education classrooms may vary (e.g., Coley et al., 2016; Greenwood et al., 2017; Tsao et al., 2008). Odom and colleagues' (1999) two-dimensional categorization will be applied here to discuss how these contextual features may specifically influence inclusive education.

Organizational Context

Odom and colleagues (1999) identified six organizational contexts that characterize the type of institution in which inclusive classrooms may be based (i.e., community-based childcare, Head Start, Public School ECE, Public School-Head Start, Public School-Child Care, Dual Enrollment). Those six contexts were later collapsed into three categories: community-based programs, Head Start programs, and public school programs (Odom & Bailey, 2001). The organizations largely differ by funding source (i.e., federal or local public funds vs. private funds), regulations, and the families they primarily serve (i.e., Head Start programs are specifically for families with a low socioeconomic status). Another group of researchers proposed a fourth organizational context—blended programs. Blended programs are those that combine multiple resources or funds within a single program, such as Head Start, Title 1, special education, and state funding (Tsao et al., 2008). Significant research indicates that organizational context may influence the quality of instruction and intervention, denote variations in teachers' preparation and professional support, and reflect divergent program standards.

Quality of instruction and intervention. Research has shown differences in global quality across different preschool program types. For example, public school and Head Start programs have been found to have higher global quality than private center-based programs (e.g., Coley et al., 2016; Greenwood et al., 2013). These findings may be due to the regulations that govern public school and Head Start programs. The global quality of the program children with disabilities are included into would subsequently affect the quality of their inclusive experiences.

Program type may also influence intervention efforts. Greenwood and colleagues (2013) assessed the effects of response to instruction (RTI)-based literacy instruction on children's language and literacy skills at four types of preschool programs—state pre-K, public school Title 1, Head Start, and tuition based. The researchers reported multiple differences across program types. Head Start programs had the highest Classroom Assessment Scoring System (CLASS) scores. However, children with the greatest needs (Tier 3) in Head Start classrooms made the smallest progress on multiple early literacy measures from fall to spring. These results present a conundrum that illustrates the possible effect of differential program regulations (an organizational context feature) on inclusive education quality. Head Start programs generally use the CLASS to report program quality and provide teacher feedback, which may explain why the classrooms had such high scores. However, that regulation may inadvertently narrow the focus of professional supports. As a result, the practices associated with inclusion quality—in this case, differentiation using RTI principles and individualization—may not be supported enough.

At least one study has reported differences in inclusion quality across program types, meaning the authors found differences in the quality of practices specific to the education and inclusion of children with disabilities. Soukakou, Winton, West, Sideris, and Rucker (2014) found that center-based childcare programs had significantly lower Inclusive Classroom Profile (ICP) scores compared with public school, Head Start, and reverse mainstreaming preschool classrooms. The significant difference between childcare ICP scores and the other programs remained when controlling for teacher education, Early Childhood Environment Rating Scale–Revised (ECERS-R) scores, special education course hours, and the number of children with an Individualized Education Program (IEP). However, not all research has found such differences in inclusion quality across program types (e.g., Vlachou & Fyssa, 2016).

Other research offers some evidence that the classroom features that differ by organizational context may affect the quality of children's inclusive experiences. For example, children's positive interactions with adults differed across four organizational contexts studied by Tsao and colleagues (2008; i.e., community-based, Head Start, public school, blended programs). The authors found that children with disabilities in blended programs had significantly more positive interactions with adults than children in other programs. The researchers' finding may, in part, be due to the different teacher–child ratios across the program types. Importantly, Tsao and colleagues examined children's behavior using an ecobehavioral observation, and did not compare the programs on a classroom quality assessment. However, their findings in conjunction with Greenwood et al. (2013) point to the importance of capturing inclusive education at the individual child level, an idea that is supported by definitions of inclusive education as an individualized process (Schwartz et al., 2002).

Teachers' preparation and professional support. Variability in the education and professional development of early educators is a key challenge to the advancement of early childhood inclusive education (U.S. Department of Health and Human Services & Department of Education, 2015). In particular, teachers' educational backgrounds vary greatly by organizational context. For example, in the most recent Head Start Family and Child Experiences Survey (FACES) study, less than half of Head Start teachers held a bachelor's degree and slightly more than half had formal training in ECE (Hulsey et al., 2011). The number of Head Start teachers with a bachelor's degree may have changed since that study, as Head Start policy requires that at least 50% of Head Start teachers nationwide have a bachelor's or advanced degree, as of 2013 (42 U.S.C. 9843a § 648A). Meanwhile, public school teachers are generally required to possess a bachelor's degree in ECE and/or ECSE and meet additional state licensure requirements. As state and national accountability measures have been implemented, the gap in qualifications between teachers in public programs and those in private community-based centers has likely increased (French, 2010).

Whether teachers have a bachelor's degree, however, can be misleading as a sole measure of their preparation to implement inclusive practices due to differences in available professional supports across organizational contexts (e.g., in-service professional development, classroom materials, opportunities for professional collaboration). For example, Vu, Jeon, and Howes (2008) found that teachers' educational attainment predicted classroom quality in private and nonprofit center-based classrooms (e.g., Head Start or community-based childcare programs), but not in public school districts or state-sponsored preschool programs. Teachers in the latter two programs were more likely to have access to positive working conditions, high-quality supervision, and professional development—all of which contribute to classroom quality.

Other evidence similarly suggests that teachers practicing in different contexts have different in-service professional development and support needs. For example, Head Start teachers have expressed specific concerns about limited resources and the integration of IEP goals into the

required curriculum (Bruns & Mogharreban, 2008; Yu, 2019). In addition, Head Start teachers have reported a significant need for instructional support professionals focused on implementing inclusive practices (Muccio, Kidd, White, & Burns, 2014). Meanwhile, early childhood educators working in non-Head Start settings have reported a need for greater consideration of classroom load and other responsibilities (e.g., classroom size, teacher–child ratios) and reliable resource personnel (e.g., in-class and administrative support for inclusive instruction; Leatherman & Niemeyer, 2005). Thus, differential professional supports across organizational contexts may contribute to teachers' ability to implement high-quality inclusive education.

Program standards. One central way that organizational context may influence inclusive education is through a program's funding and oversight agency. Public school–based preschool programs are subject to state funding and academic standards, similar to K-12 education. Thus, these classrooms are often required to follow certain curriculum, assessments, or early learning standards that can vary by state and district. For example, in Kansas, publicly funded early education programs are required to follow the Kansas Early Learning Standards (KELS; Kansas State Department of Education [KSDE], 2013). Districts may prescribe certain assessments that align with the standards and may determine resources based on the standards (e.g., instructional pacing guides, curriculum, or classroom materials). When addressing children with identified disabilities, the KELS guide advises that the standards should be used as "the starting point from which individual modifications can be created" (KSDE, 2013, p. 8).

In contrast to public school early education programs, Head Start programs are considered publicly funded programs, but are rarely affiliated with a public school district or under the supervision of state departments of education. Instead, Head Start programs receive funding and oversight from the federal Office of Head Start and are required to follow specific federal guidelines. For example, Head Start programs must adhere to a certain staff–child ratio, have facilities approved, use specifc classroom quality and child-level assessments, and demonstrate particular family communication practices. Curricula must be scientifically valid and align with the Head Start Early Learning Outcomes Framework (Administration for Children and Families Head Start Standards, 2016). In addition, the Office of Head Start provides resources and professional development specifically supporting children with disabilities, including the Head Start Center for Inclusion and disabilities services coordinators. Thus, Head Start programs are heavily guided by the requirements put forth by their funding agency in ways that would influence teachers' practice and the classroom experiences of children with disabilities.

Perhaps surprisingly, only four out of every 10 children attend a publicly funded preschool program, including through Head Start programs and specialized ECSE services (U.S. Department of Education, 2015). Therefore, it is significant that community-based early education programs may be accredited by a variety of private and nonprofit agencies that subsequently influence program standards and teaching practices. Perhaps, the most well-known and respected nonpublic accreditation source is that of NAEYC. Attaining NAEYC accreditation is an extensive process that requires programs to maintain 10 standards that address teaching practices, curriculum, relationships between children and adults, family–professional collaboration, progress monitoring, the physical environment, and program management (NAEYC, 2018).

Although engaging in such outside accreditation programs can benefit program quality and teachers' practice, it costs money to go through such processes and maintain accreditation. Thus, programs in primarily low-income communities may be less likely to have the financial resources to go through outside accreditation. Instead, they may only be able to follow state license requirements for early education and care programs. In contrast to the extensive standards required by private agencies, any early childhood program can be licensed to operate by achieving what are typically much less strict state requirements. For example, most states do not have specific regulations for the curriculum that community-based centers provide or the types and amount of assessments employed (e.g., Kansas Department of Health and Environment, 2018; Nevada Division of Public and Behavioral Health, 2018). The large differences between what states require to license early education programs and the optional accreditation program standards point to a source of substantial inequities in the quality of early childhood programs. Such inequities may be particularly felt by children from low-income families and/or culturally and linguistically diverse backgrounds. For example, African American and Latino children are more likely to attend early education programs that do not meet quality standards (Hillemeier, Morgan, Farkas, & Maczuga, 2013). As a result, the types of organizational contexts that multiply-marginalized children with disabilities are included into could undermine their ability to access high-quality inclusive education.

In sum, there is great diversity in the standards with which early childhood programs may align themselves. These differences greatly influence the organizational context of inclusive education because such standards and accreditation requirements determine a wide range of practices, professional supports, and environmental features. The type of program children with disabilities are included into greatly affects their access to high-quality inclusive education.

Service Delivery Model

ECRII researchers identified six models of individualized service provision that denote who assumes primary responsibility for planning, implementing, and monitoring activities for children with disabilities on a day-to-day basis: itinerant teacher with direct child services or teacher consultation, team teaching, early childhood teacher model, ECSE teacher model, and integrative/inclusive activities (Odom et al., 1999). Although less research has investigated the potential influence of different service delivery models on children's experiences, there is some evidence that it could influence the quality of inclusive education children with disabilities are able to access. In particular, teachers' preparation and professional support, and classroom makeup could differ across service delivery models.

Teachers' preparation and professional support. Teachers' preparation and professional support opportunities are not just an issue associated with organizational context. Regarding teacher preparation, ECE and ECSE teachers receive very different training on inclusive practices and educating children with disabilities. Although organizational context dictates some divergent support needs for Head Start and non-Head Start ECE teachers, as previously discussed, both Head Start and non-Head Start ECE teachers have expressed significant concerns regarding their preparation to individualize instruction and work with children with more significant needs (Bruns & Mogharreban, 2008; Yu, 2019).

Once teachers have finished their preparation programs, their unique roles may dictate divergent professional support needs, including in-service professional development, classroom resources, and opportunities to collaborate with and learn from other professionals. For example, because ECE teachers typically have few opportunities to teach children with disabilities during their preparation, they may need additional in-service professional development in that area compared with ECSE classroom teachers and ECSE itinerant teachers (e.g., Yu, 2019). Without such professional development, ECE teachers might be less likely to implement effective inclusive practices.

ECSE classroom teachers and ECSE itinerant teachers also differ in their professional support needs, despite potentially similar preparation. Unlike ECSE classroom teachers, itinerant teachers are not in a child's classroom full-time, and often concurrently provide supports to multiple people (children directly, other professionals, families) in multiple places (homes, day care centers, preschool classrooms; Dinnebeil, McInerney, & Hale, 2006; Nelson, Lindeman, & Stroup-Rentier, 2011). As such, when programs are using an itinerant teaching service delivery model, itinerant teachers uniquely benefit from professional supports that include explicit definition of their roles and responsibilities for a given child and classroom, coordinated scheduling, and professional development that supports consultation skills (Dinnebeil et al., 2006; Dinnebeil, Pretti-Frontczak, & McInerney, 2009).

Co-teaching is a third service delivery model that is commonly utilized to support inclusive education. ECE and ECSE teachers who coteach may be able to supplement each other's knowledge, backgrounds, and perspectives regarding inclusive practices. Indeed, Shim, Hestenes, and Cassidy (2004) found that classrooms lead by co-teachers scored higher on the ECERS-R compared with a hierarchical two-teacher structure (i.e., teacher and assistant teacher) or a single teacher. The authors hypothesized that the shared decision-making and mutual respect facilitated by the co-teaching structure supported positive teacher behaviors, and consequentially, improved classroom quality. However, co-teaching also brings distinct challenges that dictate professional support needs. Co-teachers must uniquely collaborate around instructional planning, appropriately divide daily roles and responsibilities, navigate potentially divergent philosophies and expectations, and maintain effective communication (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010; Kohler-Evans, 2006). Distinctive program structures that specifically facilitate co-teacher collaboration, such as a common planning time, are uniquely important to inclusive education that utilizes a co-teaching service delivery model (Kohler-Evans, 2006).

Thus, early educators across the different service delivery models (i.e., ECE teacher, ECSE teacher, itinerant teacher, coteaching) have reported divergent preparation and require different professional supports to implement high-quality inclusive education. More research is needed that investigates how variations in teacher qualifications and professional supports influence children's inclusive experiences. Such research would yield possible ways to better support teachers based on their role and context.

Classroom makeup. One classroom feature that is unique to early childhood classrooms is intentional variation in the ratio of children with and without disabilities. In addition to inclusive ECE classrooms that primarily serve children without disabilities, reverse mainstreaming classrooms have been developed in which approximately half or more of the children in the classroom receive special education services. Such classrooms typically have smaller numbers of children and a lower teacher–child ratio compared with general ECE classrooms. Although a certain proportion of children with and without disabilities is not required for any inclusion model, children being served with an ECSE teacher service delivery model are more likely to be in a reverse mainstreaming classroom.

One important way classroom makeup may influence children's inclusive experiences is through peer effects. Multiple studies have found that the average skill level within a classroom predicts a child's growth in that domain (e.g.,

Ansari, Purtell, & Gershoff, 2016; Yeomans-Maldonado, Justice, & Logan, 2019). Research on peer effects in reverse mainstreaming, or ECSE teacher classrooms, specifically, has found that the average language skills of peers predicted the language skills of children with disabilities at the end of an academic school year (Justice, Logan, Lin, & Kaderavek, 2014). Peer effects were most consequential for children with disabilities whose classmates had relatively low language skills on average. Thus, having high proportions of children with disabilities or similar needs may actually influence children's development within that classroom despite the presence of peers who are typically developing.

Summary

Evidence suggests that the contextual features delineated by Odom et al. (1999), organizational context and service delivery model, may influence the quality of children's inclusive experiences and their outcomes in inclusive classrooms because of differences in teachers' preparation and professional supports, program standards, and classroom makeup. These differences appear to be important in understanding how programs can better support inclusion. However, more research is needed to systematically explore such differences and their impact on children's access to high-quality inclusive education.

Defining and Measuring Quality in Inclusive Early Childhood Classrooms

High-quality inclusive education depends on children being included into already high-quality environments (U.S. Department of Health and Human Services & Department of Education, 2015). Thus, global ECE quality is a necessary foundation for high-quality inclusive education. Yet, assessments of global quality typically do not account for the presence of inclusive practices and supports specific to children with disabilities—the core determinant of inclusion quality (Buysse & Hollingsworth, 2009; Odom et al., 2011). Consequently, global and inclusion quality complement each other to determine inclusive education quality (Odom et al., 2011). Therefore, there need to be separate considerations of the quality of the environments into which children are included (global quality) and the quality of practices and structures that facilitate their inclusion (inclusion quality). In this section, we briefly explore current conceptualizations and measurement of global and inclusion quality, and areas where research is still needed.

Global ECE Quality

Global quality has been defined and measured in several different ways, including adherence to a theoretical conceptualization, the use of validated quality measurements, and the application of quality rating improvement systems (QRISs). Each conceptualization of global quality has implications for how ECE programs support global quality, and consequentially, the potential quality children with disabilities have access to in inclusive classrooms.

Theoretical definition. Conceptually, global quality has been broadly defined as consisting of two dimensions: (a) process quality, which includes the quality of the curriculum and instruction, and the presence of supportive teacher–child interactions, and (b) structural quality, which includes consideration of physical environment features, child–teacher ratios, and teacher qualifications (Early et al., 2007; Odom et al., 2011). Scholars have argued that such a broad definition of quality is preferable to one based on a particular assessment or set of program standards because it allows individualization to children, families, and communities (Odom et al., 2011). However, research addressing process or structural quality individually has revealed potential challenges with reducing global quality to the sum of two parts. For example, research has sometimes found that process quality measures are associated with structural quality features (e.g., Hestenes et al., 2015), but that finding is not consistent (e.g., Slot, Leseman, Verhagen, & Mulder, 2015). The process–structural conceptualization of quality has also been critiqued as being too researcher centered, meaning these dimensions have been determined based on the observations and perspectives of researchers, and not those of families and early educators (Fenech, 2011). Due to these challenges, translating this conceptual definition of global quality to research that improves inclusive education practice could be a nebulous task.

Global quality assessments. Global quality has also been defined according to certain well-established assessment tools, such as the CLASS and ECERS-R, for the purposes of research, program accountability, and quality improvement initiatives (Pianta, Downer, & Hamre, 2016). These assessments often mix process and structural elements within and across assessment domains.

Although research has arguably used a single measure of global quality most frequently, there are several challenges with defining global quality based on the continued use of a particular assessment. First, variations in quality measurement across research and practice-oriented applications make it difficult to draw conclusions across the two uses. Researchers typically report total or dimension scores (e.g., Coley et al., 2016; Pelatti et al., 2016), but state preschool evaluations often use individual items to determine financial appropriations and program support needs (Bryant, 2010). In addition, there is concern that overreliance on a certain tool to define and assess program quality may have unintended consequences. Pianta and colleagues (2016) observed that, as ECE program quality has become ubiquitous with

ECERS scores, in particular, variation in ECERS-R scores has decreased, and correlations between ECERS scores and child outcomes have weakened over time. Thus, overreliance on the ECERS-R seems to have created a ceiling effect, making it more difficult to identify and intervene on program quality. This could have particularly troubling effects on inclusive classrooms, which may require a more fine-tuned approach to quality improvement efforts.

Quality Rating Improvement Systems (QRISs). The third major way global quality has been conceptualized is according to QRISs (Odom et al., 2011; Pianta et al., 2016). QRIS scores are often attached to accountability and incentive programs (e.g., Race to the Top Early Learning Challenge Grants; Pianta et al., 2016). However, the specificity and rigor of such systems vary (Kirby, Caronongan, Malone, & Boller, 2015), meaning many systems may not address evidence-based practices specific to children with disabilities. In addition, the use of a QRIS is assumed to be associated with improved child outcomes, but there is insufficient research to confirm this relation (Hong, Howes, Marcella, Zucker, & Huang, 2015).

Quality of Inclusion

The concept of inclusion quality has been less well developed compared with global quality (Odom et al., 2011) and has often centered on the very definition of inclusive education. In addition, while multiple inclusion quality assessments have been developed, only one tool has undergone validation assessments. Finally, significant work has determined what constitutes inclusion quality based on stakeholder perspectives. Like the conceptualization and measurement of global quality, each method of defining and assessing inclusion quality brings different research implications.

Theoretical definition. Quality of inclusion is still a fairly new concept. As such, little scholarship has been conducted around theoretically defining inclusion quality separate from definitions of inclusive education. Inclusion quality may be broadly defined as the quality of program and classroom features specifically necessary to provide individualized services and supports that facilitate access to the general education curriculum, participation with peers and adults, and a sense of belonging (Odom et al., 2011; Schwartz et al., 2002). Because inclusive education is viewed as a necessarily individualized process, investigating inclusion quality based on its theoretical definition may be difficult; a consideration of the local context and individual child needs would be particularly necessary.

Inclusion quality assessments. Multiple measures and checklists of inclusion quality have been developed, though few have been subject to rigorous validity and reliability testing. For example, the Quality Inclusive Experiences Measure (QIEM; Wolery, Pauca, Brashers, & Grant, 2000) provides a comprehensive, individualized assessment of inclusion quality using observation, staff interviews, and document reviews. The measure includes seven subscales addressing classroom features, such as individualization, physical environment accessibility, participation, and engagement. Although promising, the QIEM has not been adequately validated (Odom et al., 2011). Other measures of inclusion quality have primarily been self-assessments paired with professional development resources at the classroom level (Barton & Smith, 2015b) and the district level (Cate, Dell, & Whaley, 2018). Such checklists are intended to identify the key features of high-quality inclusion and guide improved practice.

The most recently developed inclusion quality measure, the Inclusive Classroom Profile (ICP; Soukakou, 2016), assesses aspects of classroom environment and practices necessary for addressing the developmental needs of children with disabilities. The measure consists of 11 subscales reflecting essential inclusive practices, such as adaptations of space and materials, adaptation of group activities, facilitating peer interactions, and progress monitoring. A set of detailed quality indicators accompanies each item. Although the ICP is still a relatively new measure, initial validation studies are promising (Soukakou, 2012; Soukakou et al., 2014). Like other inclusion quality measures, the ICP only assesses classroom features and practices unique to the education of young children with disabilities—it does not include global quality indicators. Thus, the ICP, and other inclusion quality measures, is meant to supplement global quality measures to reflect a complete assessment of inclusive education quality (Odom et al., 2011).

Stakeholder perspectives. In addition to formal classroom assessments, researchers have investigated what practitioners and families prioritize as features that affect quality of inclusive education (e.g., Barton & Smith, 2015a; Hurley & Horn, 2010). For example, Hurley and Horn (2010) used a unique methodology to have families and professionals rank and describe priorities for implementing high-quality inclusive education. Priorities included the provision of individualized accommodations and adaptations and collaboration among families, teachers, and other professionals. Importantly, the second most valued feature of high-quality inclusive education was that children are included into an otherwise high-quality program. Research investigating stakeholder perspectives illustrates the importance of considering practical concerns, such as state and local policies, and both family and practitioner support needs when investigating inclusive education quality.

Combining Global and Inclusion Quality Assessments

Although a complete picture of inclusive education quality requires an assessment of both global quality and inclusion

quality, ICP validation studies were the only ones found that have used both a measure of global and inclusion quality (Soukakou, 2012; Soukakou et al., 2014). The studies provide insight into the specific ways that global and inclusion quality may overlap and diverge.

Soukakou (2012) and Soukakou et al. (2014) assessed classrooms using the ICP and the ECERS-R. Both studies found that the two measures showed moderately high correlation when composite scores were compared as well as when ECERS-R subscales were compared with the ICP total score. As expected, correlation was highest for subscales that measured similar classroom features. In both studies, the ECERS-R subscales, *Space and Furnishings* and *Language and Reasoning*, showed the highest correlation with the ICP. In addition, the *Adult Interactions and Parent and Staff Interactions* ECERS-R subscales showed moderate correlation with classrooms' ICP total score. The correlation between these items and the ICP indicate that they may be specific domains where global and inclusion quality overlap.

The ECERS-R scales that displayed the smallest correlations with the ICP total score provide some insight into the classroom features unique to inclusion quality. For example, the *Activities* ECERS-R subscale was poorly correlated with the ICP in both studies. However, while the ECERS-R *Activities* subscale primarily measures the developmental appropriateness of provided activities, ICP items related to classroom activities evaluate the presence of necessary adaptations to activities. Furthermore, activities-related elements are spread across multiple ICP items. These differences indicate that global quality measures may contribute an understanding of the general developmental appropriateness of activities, whereas inclusion quality measures necessarily, and uniquely, address the quality of activity adaptations that facilitate individual children's participation in said classroom activities and routines.

Finally, there are multiple ICP items that are not reflected in the ECERS-R—*Adult involvement in peer interactions, Conflict Resolution, Membership, Feedback*, and *Monitoring of children's learning*. These items are reflective of key features of high-quality inclusion that may significantly differ from global ECE practices, including an emphasis on intentionally facilitating peer interactions and belonging (e.g., Meyer & Ostrosky, 2014), the provision of systematic individualized instruction (e.g., Hurley & Horn, 2010), and the use of individualized progress monitoring (e.g., Fox, Carta, Strain, Dunlap, & Hemmeter, 2010). Thus, the ways global and inclusion quality assessments do and do not converge provide valuable insight into the similarities and differences between these two constructs as they mutually constitute inclusive education quality.

Summary

"Quality" is a complex concept in inclusive ECE that does not have a singular definition. Understanding what constitutes high-quality inclusive education demands considering both global quality (what children are included into) and quality of inclusion; yet, the two concepts bring unique history and considerations. Global quality and inclusion quality have seldom been combined in a systematic way. Research that adopts a dual consideration of global and inclusion quality would allow a more comprehensive picture of inclusive education and a better understanding of the key features that constitute *high-quality* inclusive education.

Recommendations for Inclusive Education Research

As noted above, there has been inconsistency in how inclusive education is operationalized in research. A focus on the physical placement of children with disabilities distances inclusive education research from its effective implementation in general early childhood settings. Moreover, research to date indicates that the contextual features (i.e., organizational context, service provision model) of inclusive classrooms are associated with fairly significant differences in global and inclusion quality, teacher qualifications and professional supports, program standards, and classroom makeup. Yet, research examining children's experiences and outcomes in inclusive classrooms have seldom reported or systematically examined the impact of contextual features. Finally, "quality" within inclusive classrooms has proven to be a complex construct that includes global and inclusion quality. However, these constructs have largely evolved independently of each other and come with their own challenges of conceptualization and measurement. Consequently, there is a lack of research that has comprehensively investigated inclusive education quality. Based on these reflections, recommendations will now be made that could help advance future inclusive education research.

Adopting a Nuanced Operationalization of Inclusive Education

Although the presence of both children with and without disabilities in a classroom is necessary for inclusive education to take place, it is not sufficient. Therefore, the DEC and NAEYC (2009) definition of inclusive education should guide the operationalization of inclusive education. This means classroom and program features denoting access to diverse learning opportunities, participation with peers and adults, and institutional supports should be distinctly identified and measured. There are multiple ways operationalizing inclusive education according to the DEC and NAEYC (2009) statement could influence research. First, adopting such a nuanced definition could help researchers select data sources and organize findings to capture a more complete picture of inclusive education. For example, the ICP is conceptually based on the DEC and NAEYC (2009) definition of inclusive education, but almost solely represents the

principles of *access* and *participation* (Soukakou, 2016). Supplementing the completion of the ICP with teacher and/ or administrator interviews or surveys addressing institutional *supports* would provide a more complete picture of the inclusive education quality a child is experiencing.

The DEC and NAEYC (2009) definition of inclusive education could also serve as an analytic tool to help researchers make meaning of findings. Deductive, theory-driven analysis of qualitative and mixed-methods research, in particular, can be especially useful in attempts to contextualize existing theory and contribute to practice-oriented applications (Bazeley, 2018). For example, applying the DEC and NAEYC (2009) definition to analyze qualitative data about practitioners' beliefs, strengths, and challenges related to inclusion could allow researchers to better identify the specific areas in which practitioners need supports, and how childrens' inclusive experiences are being affected.

Examining the Context of Inclusive Education

The diversity of contextual features across early childhood settings points to a need for research that investigates the practical implementation of inclusive education in contextualized and multifaceted ways. Such inquiry would provide a better understanding of how inclusive education can be differentially implemented across multiple types of early childhood contexts while maintaining the quality of its key features. Researchers may contextualize inclusive education research by specifying the types of programs and service delivery models to be used during sampling procedures, and investigating contextual features that could serve as moderators to influence children's outcomes within inclusive classrooms.

The diversity of educator preparation and professional supports across inclusive settings must also be specifically recognized in any research aiming to explore inclusive education in a more nuanced way. It has already been established that professional development that supports teachers' use of evidence-based practices should be role- and context-specific (e.g., Wayman & Jimerson, 2014). It is reasonable that the same could be said of professional development that supports teachers' ability to implement inclusive practices. That is, such efforts would be improved if they are specific to the context in which teachers are working and their service delivery role. Yet, little research has approached the study of inclusive education from a role- and context-specific perspective. Research that contextualizes inclusive education could reveal context-specific ways to support teachers and children within inclusive settings, potentially addressing the persistent research–practice gap.

Dual Measurement of Global and Inclusion Quality

Exploring how global and inclusion quality have individually been conceptualized and measured indicates the importance of considering both when examining quality within inclusive classrooms. To some extent, they reflect different practices and priorities in the provision of high-quality inclusive education. Future research aiming to capture inclusive education quality should ensure consideration and measurement of both global and inclusion quality. Together, they allow investigators to speak to both the quality of children's inclusion (i.e., the quality of inclusive practices specific to children with disabilities) and the global quality of the instruction and environment into which children are included. Children's outcomes within inclusive classrooms are dependent on both of these components, and research should reflect that.

Importantly, measuring both global and inclusion quality helps address some of the challenges of investigating quality within inclusive classrooms. Using both a global and inclusion quality assessment moves away from the process–structural dichotomy of global quality to focus on the specific features of high-quality inclusive education. In effect, many of the classroom and program features that are most important to inclusive education would be measured from multiple perspectives and would address both process and structural quality features. Moreover, because measuring both global and inclusion quality requires using multiple tools, assessing both would help prevent overreliance on a single measure or the sole perspective of outside researchers. Finally, using both measures would more closely align with the practical enactment of inclusive education, which depends on practitioners implementing developmentally appropriate practices that are adapted in individually meaningful ways.

Conclusion

To continue increasing children's access to high-quality inclusive education, an implementation science framework has been recommended (Barton & Smith, 2015a; Odom et al., 2011). The goal of implementation science is to help "scale up," or increase the use of, evidence-based practices while maintaining their efficacy (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). Such a framework necessitates establishing the ideal key features of early childhood inclusive education and systematically determining how practitioners may adapt those features without decreasing effectiveness. The key features of inclusive education have arguably been determined (e.g., DEC & NAEYC, 2009; Hurley & Horn, 2010; Odom et al., 2011). However, little is known about how those features may need to be adapted or differentially supported based on the many contextual differences across early childhood settings. By directly addressing the challenges associated with conceptualizing and measuring inclusive education in contextualized ways, future research can advance notions of what high-quality inclusive education looks like, better speak to the needs of practitioners, and bridge the persistent gap between inclusive

education research and practice. Issues around definitions, diverse contexts, and quality measurement will continue to shape inclusive education practice, and, therefore, should shape inclusive education research.

Declaration of Conflicting Interests

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