



# Language- and literacy-learning opportunities in early childhood classrooms: Children's typical experiences and within-classroom variability

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## ABSTRACT

The present study examined the language- and literacy-learning opportunities of 400 young children enrolled in 81 early childhood classrooms to address two research aims: (1) to describe typical language- and literacy-learning experiences afforded to young children in classrooms, and (2) to investigate the extent to which young children had different experiences within classrooms. Results revealed that participating children, on average, spent over 18 min, or 20% of their day, learning in key language and literacy domains. Further, our findings highlight considerable between- and within-classroom variability in language- and literacy-learning opportunities and suggest that young children are afforded different experiences in their classrooms, particularly in specific learning domains. Future investigations ought to further unpack classroom educational practices to ensure that all young children develop the requisite knowledge and skills necessary for academic success in kindergarten and beyond.

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## Introduction

Over the past 25 years, young children's language- and literacy-learning opportunities have received increased national attention (Barnett, Carolan, Fitzgerald, & Squires, 2012; Barnett, Robin, Hustedt, & Schulman, 2003; National Early Literacy Panel (NELP), 2008; NICHD ECCRN, 2002). This movement is partly due to findings from rigorous research studies that highlight the importance of these opportunities in early childhood education, including links with later academic skills, such as decoding, spelling, and comprehension (Mol & Bus, 2011; NELP, 2008). Young children in rich classroom environments with ample language- and literacy-learning opportunities show greater gains in these two critical learning domains as compared to peers who are not afforded similar experiences (Burchinal et al., 2011; Pianta, La Paro, Payne, Cox, & Bradley, 2002). Moreover, best-practice and child early learning

standards developed over the past 5–10 years have heightened stakeholders' emphasis on the inclusion of critical language and literacy practices in early childhood classrooms. The general goal of these standards is to establish a strong language and literacy foundation and to enhance children's opportunities for school readiness and later academic success (Bodrova, Leong, & Shore, 2004). Children enrolled in classrooms aligned with standards demonstrate higher literacy skills, for example, as compared to those students without similar academic opportunities (U.S. Department of Education, 2001). As a result of the increased emphasis on young children's educational learning environments, there is a need for a rich, contemporary investigation of children's language- and literacy-learning opportunities in early childhood classrooms.

The present study is situated in Bronfenbrenner and Morris's (2006) ecobiological model, which posits that four areas, namely *process*, *context*, *time*, and *person*, interact to impact a child's development. Proximal processes, which are arguably the most important of these sources because they serve as the primary method with which young children learn in the classroom environment, include children's frequent interactions with adults, peers, materials, and concepts. The remaining three sources (context, time, and person) influence children's proximal processes. In the present study, we incorporate all four domains with the primary

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emphasis on children's language- and literacy-learning opportunities (proximal processes). These interactions capture the *context* in which they occur (e.g., content domains) and the amount of *time* that is spent in the language- and literacy-learning activities. Further, we are interested in investigating whether individual children have similar language- and literacy-learning opportunities in classrooms (*person* domain). Notably, the goal of the present paper is not to explicitly test this model but to use it as a theoretical framework to guide our work with regard to the interplay among these four considerations as related to the between- and within-classroom experiences of young children.

### Language- and literacy-learning domains

Theory and extant research converge on a number of language and literacy knowledge, skills, and activities that deserve substantial attention during the early childhood years (Bruner, 1975, 1981; NELP, 2008; Neuman & Roskos, 2005; Snow, Burns, & Griffin, 1998; Whitehurst & Lonigan, 1998). This accumulating evidence suggests that early experiences show strong predictive associations with later literacy achievement, play a causal role in outcomes, and are malleable with rich activities and instruction (Campbell & Ramey, 1994; Campbell, Ramey, Pungello, Sparling, & Miller-Johnson, 2002; NELP, 2008; NICHD ECCRN, 2002; Piasta et al., 2012a,b,c). For these reasons, scholars, practitioners, and policymakers agree that young children benefit from extensive opportunities to advance their oral language (e.g., vocabulary) and emergent literacy (e.g., print knowledge, phonological awareness, and writing) in early childhood classroom environments. Approaches to providing young children with ample opportunities include shared book-reading experiences, interactions/discussions with peers and adults, adult-mediated activities, and access to a variety of print materials (Catts, Fey, Tomblin, & Zhang, 2002; Downer, Booren, Lima, Luckner, & Pianta, 2010; Mol, Bus, & de Jong, 2009; Whitehurst et al., 1994). Because a considerable number of research studies support the incorporation of shared book reading in classrooms, we also highlight this instructional activity as one method of building oral language and emergent literacy (NELP, 2008).

#### Language knowledge and skills

Oral language development during the early years is particularly important because of relations with later literacy achievement, including word reading and reading comprehension (Dickinson & Porche, 2011; NELP, 2008; Scarborough, 1991; Storch & Whitehurst, 2002) and is directly related to the amount and quality of exposure (Justice, Mashburn, Hamre, & Pianta, 2008). Early childhood proponents thus advocate that oral language ought to be a central component of early childhood education (Mol & Bus, 2011; NELP, 2008; Snow et al., 1998), as entwined in curricula (Girolametto & Weitzman, 2002; Justice et al., 2008) and daily activities (Connor, Morrison, & Slominski, 2006; Early et al., 2010).

Vocabulary, in particular, has received considerable attention because the understanding and use of words is critical for literacy achievement, especially reading comprehension (Catts & Kamhi, 2005; McGregor, 2004). Thus, many interventions, particularly shared book reading (Wasik, Bond, & Hindman, 2006; Whitehurst et al., 1994), discussion of rare words (Beck, McKeown, & Kucan, 2002), and other explicit means of vocabulary teaching (Gonzalez et al., 2011; Penno, Wilkinson, & Moore, 2002; Pollard-Duodola et al., 2011) have aimed to improve young children's vocabulary skills (Darrow, 2009; NELP, 2008).

#### Emergent literacy knowledge and skills

Because most conventional reading skills (e.g., word identification, reading comprehension) cannot be formally assessed during

the preschool years, researchers more appropriately focus on young children's emergent literacy skills, including print concepts, alphabet knowledge, phonological awareness, and emergent writing as discussed below. Such skills are predictive of future literacy and develop prior to and during the early years (Cunningham & Stanovich, 1998; NELP, 2008; Storch & Whitehurst, 2002; Whitehurst & Lonigan, 1998) and are amenable to instruction (NELP, 2008). Below, we briefly review each of these important emergent literacy domains as well as those classroom learning opportunities supportive of other aspects, such as word identification (e.g., decoding and spelling) and reading comprehension (e.g., inferencing, retelling, building background and conceptual knowledge).

Print concepts refer to general knowledge of the purpose and conventions of print (e.g., directionality and the concepts of letters and words). Early instruction in this domain shows not only proximal impacts on children's print knowledge (Justice, McGinty, Piasta, Kaderavek, & Fan, 2010) but has also lasting impacts on more conventional literacy skills through first grade (Piasta, Justice, McGinty, & Kaderavek, 2012). Although specific early childhood education recommendations are variable, it is generally accepted that young children benefit from "regular and active interactions with print" as well as classroom environments that contain a lot of print (International Reading Association (IRA) and National Association for the Education of Young Children [NAEYC], 1998, p. 32).

Alphabet knowledge encompasses the identification of letters and corresponding sounds (Justice & Ezell, 2004; McGinty & Justice, 2009) and is moderately to strongly predictive of future decoding, spelling, and reading comprehension skills (Badian, 1995; Hammill, 2004; NELP, 2008). Evidence suggests that young children benefit from alphabet instruction (Ball & Blachman, 1991; Piasta & Wagner, 2010; Walton & Walton, 2002), particularly when focused on both letter names and letter sounds (Jones, Clark, & Reutzel, 2013; Piasta, Purpura, & Wagner, 2010). National standards for kindergarten (National Governors Association Center for Best Practices and Council of Chief State School Officers, 2010) as well as many state early learning standards indicate that letter name and letter sound learning are important goals for children (Bracken & Crawford, 2010; Neuman & Roskos, 2005; Piasta, Petscher, & Justice, 2012).

Phonological awareness is defined as the detection and manipulation of the sound structure of language (Phillips, Clancy-Menchetti, & Longian, 2008) with ongoing and overlapping development of specific phonological skills such as sound manipulation, segmentation, deletion, and rhyming (Anthony & Lonigan, 2004; Phillips et al., 2008). Phonological awareness skills measured during preschool consistently predict decoding, spelling, and comprehension in later years (Lonigan, Schatschneider, & Westberg, 2008) and are considered a primary causal factor in reading difficulties (Anthony, Lonigan, Driscoll, Phillips, & Burgess, 2003; Wagner & Torgesen, 1987; Wagner, Torgesen, & Rashotte, 1994). Phonological awareness develops with continued and brief exposure to language and literacy and is particularly malleable and sensitive to intervention; researchers recommend between 10 and 15 min per day of instruction (Ehri et al., 2001; Lonigan et al., 2008; Phillips et al., 2008).

Formal development of conventional word identification (i.e., decoding, encoding) and reading comprehension (e.g., inferencing, retelling) skills is necessarily expected during preschool years. However, it is quite possible that some preschool-aged children begin to develop these skills and that early childhood educators target them during classroom activities. For example, some young children identify labels, signs, and other forms of environmental print, which may serve as a precursor to later word identification skills (Neuman & Roskos, 1993; Purcell-Gates, 1996; Teale

& Sulzby, 1986). Thus, in classrooms, educators may incorporate various aspects of printed words (i.e., identifying a child's name in a group of words) to further support the development of word identification skills. Likewise, children benefit from interactions that include answering predictive and analytic questions, retelling the story, discussing previous experiences, and facilitating the inclusion of background knowledge as strategies to develop reading comprehension (Dickinson & Smith, 1994; Karweit & Wasik, 1996; Snow, Tabors, Nicholson, & Kurland, 1995).

Emergent writing encompasses a wide range of skills including young children's marks on paper and the correspondence with meaning (Clay, 1975; Rowe, 2008). Early abilities are a reliable, strong predictor of later reading, particularly spelling (Badian, 1995; NELP, 2008). Best practices (IRA/NAEYC, 1998), curricula (Preschool Curriculum Evaluation Research Consortium, 2008), and standards (Ohio Department of Education, 2012) include various aspects of writing, including name and letter writing instruction and activities to bolster young children's writing experiences. National standards recommend that writing activities are included in young children's classroom environment to allow for mastery of emergent literacy (IRA/NAEYC, 1998).

### *Shared book reading*

Notably, shared book reading is a common instructional activity that is often used in home and early childhood education environments for targeting and teaching the critical language and literacy skills discussed above (Beck & McKeown, 2007; Biemiller & Boote, 2006; Gonzalez et al., 2011; Justice, Meier, & Walpole, 2005; NELP, 2008). Young children benefit from opportunities that promote frequent exposure to books (Mol et al., 2009), which may include independent or shared book-reading experiences. Findings link these experiences to young children's development, with small to moderate effect sizes (Bus, van Ijzendoorn, & Pellegrini, 1995; NELP, 2008; Scarborough & Dobrich, 1994). Notably, shared book reading facilitates an environment where adults may target the previously discussed domains, as well as incorporate additional strategies, such as comprehension monitoring, cognitively complex questions, and print referencing, which may further enhance development of language and reading (van Kleeck, Vander Woude, & Hammett, 2006; Whitehurst et al., 1994; Whitehurst et al., 1988; Zucker, Justice, & Piasta, 2009). Given the importance of children's early interactions with books for continued reading development, this practice is widely incorporated in as well as recommended for early childhood classrooms. In particular, shared book reading should occur daily (McGee & Schickedanz, 2007; Trivette, Simbus, Dunst, & Hamby, 2012) for at least 10–20 min (Flynn, 2011; Lonigan & Whitehurst, 1998).

### *Summary*

In summary, young children's language and literacy development is particularly important during the early years because of links with later academic success (Campbell & Ramey, 1994; Campbell et al., 2002; NELP, 2008; NICHD ECCRN, 2002). In this vein, researchers, practitioners, and policymakers agree that young children benefit from extensive learning opportunities in these two broad areas. However, with the implementation of new early learning standards, it remains unclear how much and which types of language- and literacy-learning opportunities are provided in early childhood classrooms. Thus, the present study fills this gap by providing an account of young children's classroom learning experiences that is more updated and detailed than existing studies, which are reviewed below.

### *Variability of children's language- and literacy-learning opportunities in early childhood classrooms*

A handful of observational studies has attempted to discern the extent with which learning opportunities are provided to young children in the classroom environment (Chien et al., 2010; Connor et al., 2006; Curby, Rimm-Kaufman, & Ponitz, 2009; Dickinson, Hofer, Barnes, & Grifenhagen, 2014; Early et al., 2010; La Paro et al., 2009; La Paro, Sexton, & Snyder, 1998). General conclusions support that whereas some classrooms provide ample language- and literacy-learning opportunities, other environments do not afford such opportunities (NICHD ECCRN, 2002). In other words, there is considerable between-classroom variability in the language- and literacy-learning opportunities offered in early childhood classrooms. Connor et al. (2006), for example, found that children in one classroom had over 90 min of exposure to language and literacy activities yet children in another classroom had less than 4 min. More specifically, Early et al. (2010) investigated the amounts and types of activities of 2061 children in 652 classrooms and reported that specific language and literacy learning was relatively variable across five domains: book reading, pre-reading, letter-sound correspondence, oral language, and writing.

More recently, Dickinson et al. (2014) analyzed over 146,000 teacher utterances with respect to certain aspects of the language represented in Head Start classrooms and also reported considerable variability, particularly in specific settings. Notably, with the exception of the latter, which focused exclusively on language, data from many observational studies were collected over a decade ago (e.g., data reported in Connor et al. (2006) was collected in 2002–2003; 2001–2002 for Early et al. (2010)), prior to the national and state emphasis on early learning standards (including key knowledge and skills related to language and literacy), release of the NELP report, and accumulation of additional research findings. The present study adds to extant research such that data were recently collected and provide an updated picture on current practices across a broad sample of early childhood classrooms.

In addition to between-classroom variability, there are three theoretical and practical reasons to believe that individual children within the same classroom may also have vastly different language- and literacy-learning experiences. First, a small number of studies have examined the individual learning opportunities of children in elementary schools and found substantial within-classroom variability (Connor, Morrison, Fishman, Schatschneider, & Underwood, 2007; Connor, Morrison, & Katch, 2004; Connor et al., 2009b). To our knowledge, only one study has examined within-classroom learning opportunities of preschool-aged children and provided data on how these experiences may differ. Connor et al. (2006) observed the individual learning opportunities of 156 children in their early childhood classrooms. Similar to their results for elementary school classrooms, these authors found within-classroom variability in the overall amount of language- and literacy-learning opportunities offered to individual children and in the extent to which they experienced code-focused learning opportunities (i.e., an amalgamation of those focused on understanding how speech maps to print, including, alphabet, print concepts, and phonological awareness activities) versus meaning-focused learning opportunities (i.e., an amalgamation of those focused on understanding language and print, including language, comprehension, and writing activities). Moreover, the authors found that individual children's language and literacy knowledge and skills were differentially related to the types of learning opportunities offered in their classrooms. Given the paucity of studies addressing this question, one goal of the present study is to examine within-classroom variability in early childhood environments.

A second reason to expect varying language- and literacy-learning opportunities for children within the same classroom



concerns the notion of individualized instruction. This pedagogical approach posits that teaching activities, methods, and instruction are modified to best meet the needs of individual learners (Tomlinson, 1999; Tomlinson et al., 2003). Because children have vastly different home experiences (e.g., diverse cultural, linguistic, and economic backgrounds; varying language- and literacy-learning opportunities; Dodd & Carr, 2003; Sénéchal, LeFevre, Thomas, & Daley, 1998; Snow et al., 1998), they enter classrooms with varying knowledge and skills (Cabell, Justice, Konold, & McGinty, 2011; Justice & Ezell, 2001). As part of developmentally appropriate practice, early childhood educators are expected to account for children's individual learning needs when planning language and literacy instruction (IRA/NAEYC, 1998), which would result in heterogeneity in learning opportunities in classrooms. Notably, the extent to which individualized instruction actually takes place in classrooms requires empirical investigation, as some evidence suggests that individualizing instruction may be difficult for educators to implement (Connor et al., 2006; Pentimonti & Justice, 2010).

Finally, we might expect differing language- and literacy-learning opportunities for individual children in the same classroom due to accumulating evidence that young children may evoke or elicit different learning opportunities from adults. One potential reason for such differences may be related to individual children's characteristics, including temperament. For example, children's effortful control, which is conceptualized as one dimension of temperament, was significantly related to vocabulary (McClelland et al., 2007) and letter and word identification (Blair & Razza, 2007). Thus, perhaps children with specific characteristics elicit experiences that enhance language and literacy development. Further, research evidence suggests that rich interactions with adults (e.g., conversational responsiveness) are related to children's language development (Girolametto & Weitzman, 2002; Girolametto, Weitzman, & Greenberg, 2003; Piasta et al., 2012) and vice versa (Justice, McGinty, Zucker, Cabell, & Piasta, 2013). Piasta, Justice, Cabell, and colleagues (2012), for example, found that children in classrooms with educators who produced more complex talk demonstrated superior conversational language when compared with their peers who were in classrooms with teachers who produced more simple language. Notably, Justice et al. (2013) found that this paradox was bi-directional such that children's language, particularly syntax, was associated with adults' conversational language (Justice et al., 2013). Thus, consistent with the Matthew effect (Stanovich, 1986), children with specific characteristics or higher skills in language and literacy domains may seek out learning opportunities from adults that facilitate further development and refinement of their knowledge and skills while those with lower levels may have different or fewer learning opportunities.

## The current study

In summary, research findings convincingly establish the types of classroom learning opportunities necessary for facilitating young children's language and literacy development, and such findings have been translated into educational policies requiring additional attention to these areas. Although a small number of studies have examined the extent to which such language- and literacy-learning opportunities are offered to young children, these studies are limited in two important ways. First, data were collected prior to the proliferation of new policies aimed at translating such research into early childhood practice and, with a single exception (Connor et al., 2006), anticipated variation in the opportunities offered to individual children has not been examined. Second, most of the available studies have collapsed learning opportunities into broad domains

(overall language and literacy; La Paro et al., 2009; code- and meaning-focused; Connor et al., 2006), disallowing detailed understanding as to the specific types of language- and literacy-learning opportunities that are and are not offered to young children in their classroom environments. The present study addresses these two limitations by providing an updated account of current practices in light of the accumulating research base and the development of relevant policies, thus extending these by parsing young children's experiences into specific components that are linked to later outcomes and attending to variability at the level of the classroom and individual child. This study contributes to the extant research base by providing a rich, in-depth examination using recent data of children's language- and literacy-learning opportunities during a typical day to address the following research questions: (1) To what extent are young children afforded language- and literacy-learning opportunities in their classrooms?, and (2) To what extent are there differences in young children's language- and literacy-learning opportunities in their classrooms?

## Method

### Participants

Data for the present study came from the first cohort of a larger project evaluating the professional development (PD) provided to early childhood educators by the Department of Education in one Midwestern state. Educators who registered for this state-sponsored PD were asked to voluntarily participate in its evaluation (further information about the larger project may be obtained from the second author). Participation was limited to the subset of educators who: (a) were early childhood educators (lead or co-lead educator, assistant educator, early childhood special educator), (b) directly taught young children including at least one child who was 4 years of age, (c) were willing to participate in any of the PD offered to facilitate random assignment for the larger evaluation project, and (d) were willing to participate in data collection activities.

Eighty-six such educators enrolled in the first cohort of the larger project; 81 of these educators (99% female) participated in classroom observations and constituted the sample for the present study (videotaped classroom observations, as will be discussed, were not available for five educators; thus, they were not included in the present study). On average, participating educators were 39 years old (range: 23–66 years) with nearly 10 years ( $M=9.90$ , range: 0–36) of experience working professionally with young children. Most educators reported that they were White/Caucasian (67%); 28% were Black/African American, 3% were Asian, and 1% was multi-racial (1% missing); of this, less than 2% reported that they were Hispanic or Latino. Participants' highest degree included the following: High school diploma (10%), Associate's degree (28%), Bachelor's degree (21%), and Master's/advanced degree (41%); educational data were missing for four educators (5%). Early childhood programs were located in rural (40%), suburban (30%), and urban (30%) areas; nearly half (49%) were Head Start classrooms. Forty one percent of the programs were half-day, 43% were full-day, and 16% were mixed in which some children were enrolled in half-day programs whereas others were enrolled for the full day. All educators worked in center-based early childhood programming; 50% of programs were located within a public school system. No standard classroom curriculum was used. Thirty-six percent of the educators ( $n=29$ ) reported that they did not use any particular curriculum; of the remaining educators (67%;  $n=51$ ; missing data = 1) who did, 11 reported that they used a state-developed curriculum, eight used a locally developed curriculum, and 38 used a commercially available curriculum (note that several educators indicated using multiple curricula).

Within each of the 81 classrooms, we employed random sampling and collected learning opportunity data for up to five randomly selected children per classroom ( $n = 400$ ; five of the classrooms only had four eligible children). A subset of these children ( $n = 302$ ) met project eligibility criteria (i.e., at least 4 years of age, proficient in English, and free of profound disabilities), and their parents provided consent for them to participate in additional child data collection activities, including provision of demographic data. This subset of children for which demographic data were available showed that 46% were female with an age range of 48–76 months ( $M = 58$  months). Most children were White/Caucasian (58%; 26% Black/African American, 15% Multi-racial, 1% Asian; 7% were Hispanic or Latino) and lived in households with an annual income of less than \$30,000 (59%; 19% lived in households with incomes between \$30,001 and \$60,000, and 22% lived in households with incomes over \$60,001). Per the demographic questionnaire regarding maternal education, 39% had no high school diploma, 38% had a high school diploma, 12% had at least a Bachelor's degree, and 11% had an advanced or graduate degree.

### Procedures

After approval ensuring compliance with human subjects' protections was granted, data for the larger project involved multiple educator and child assessments as well as videotaped classroom observations. The present study focused exclusively on classroom observations of up to five randomly selected children per classroom, which were collected prior to educators' completion of PD activities. Focusing on these initial observations allowed all educators, regardless of assigned PD condition, to be considered in the current analyses as PD was not yet a confounding factor. Participating educators identified a day and time that was representative of typical classroom procedures (e.g., no field trip) and were observed for the duration of time in which children were engaged in classroom activities; this included both instructional and non-instructional times (e.g., transition, snack, discipline). If an educator had two half-day classes (i.e., morning and afternoon) serving different children, only one observation was conducted. All observations occurred between November and early December and spanned all weekdays with most falling on Monday ( $n = 11$ ), Tuesday ( $n = 18$ ), Wednesday ( $n = 27$ ), and Thursday ( $n = 22$ ). The majority of the observations began around 8 in the morning and concluded before lunch around 11 am; 17 were conducted in the afternoon because of the scheduling of those classes. Educators indicated that the observation day was "very typical" when asked to rate this using a five-point scale ( $M = 4.20$ ;  $SD = 1.07$ ; range: 1–5). Notably, nearly all educators reported spending educational time in whole group and small group activities (95%), centers (99%), and free play (99%). Thus, our observations reflect an array of all such instructional formats, which were confirmed anecdotally by our field staff.

The length of the observations ranged from 24.33 to 151.42 min ( $M = 93.03$  min), given variability in the length of programs (e.g., half-day, full-day) and educators' classroom instructional time. Two high-quality cameras captured all classroom activity (i.e., all children in the classroom) during the designated time; one camera remained stationary on a tripod while a trained field assessor carried the other to record activities that may not have been captured by the non-mobile camera. To reiterate, every child in the classroom was captured on both cameras for the duration of the observation. The assessor also completed field notes to provide additional documentation of observed activities that might not be evident from the videos. These observation procedures were similar to those utilized by Connor et al. (2009a), as discussed below.

Videos from both cameras were coded simultaneously using Noldus Observer Pro software (Noldus Information Technology,

2009) to provide detailed accounts of how children spent their time in classrooms, including the amounts of time (in minutes) spent in language- and literacy-learning opportunities. The coding process largely mirrored that described by Connor et al. (2009a) and for the purposes of the present manuscript, captured the language- and literacy-learning opportunities experienced by individual children within classrooms. Trained coders (training process described below) watched the classroom videos and continuously coded the content of the activities in which each individual child participated. All activities, both language- and literacy-related as well as non-language or non-literacy activities lasting 15 s or more, were coded. Note that activities were coded regardless of whether an adult was present or actively participating, thus capturing both teacher-managed and child-managed activities (Connor et al., 2009a). Activities in which children left the classroom (e.g., restroom break, fire drill) were not videotaped.

The coding scheme was adapted from earlier work (Connor et al., 2009a,b) that focused on the language and literacy experiences of children in various school grades, including elementary school. The original coding scheme included 14 exhaustive, non-overlapping domains that broadly described the types of language- and literacy-opportunities afforded to children (i.e., Phoneme Awareness, Syllable Awareness, Morpheme Awareness, Onset/Rime Awareness, Word Identification/Decoding, Word Identification/Encoding, Grapheme-Phoneme Correspondence, Fluency, Print and Text Concepts, Oral Language, Print Vocabulary, Comprehension, Text Reading, and Writing), each of which consists of more specific, detailed codes (e.g., Oral Language included codes such as Oral Vocabulary, Pragmatics, Sharing/Discussion; Connor et al., 2009a); the full code coding scheme can be requested from the second author.

For the purposes of the current study, all content codes utilized in earlier work (Connor et al., 2009a,b) were retained, with slight modifications to ensure that the coding scheme was appropriate for early childhood classrooms (e.g., providing early childhood examples in the coding manual; including a code for opportunities to learn letter names). Codes were slightly reorganized and renamed to better reflect the recommended domains of early childhood education. For example, codes related to vocabulary, whether either oral or print, were collapsed into a single Vocabulary domain, and an Alphabet Knowledge domain replaced the original Grapheme-Phoneme Correspondence domain. This resulted in nine domains (i.e., Oral Language/Discussion, Vocabulary, Print and Text Concepts, Alphabet Knowledge, Phonological Awareness, Word Identification, Comprehension, Writing, and Text Reading; see Table 1 for examples of specific codes in respective domains) that exhaustively captured the language- and literacy-learning opportunities experienced by randomly selected young children in early childhood classrooms (note that although activities could fall into Morpheme Awareness and Fluency domains, we did not observe these types of activities in early childhood classrooms and thus do not include them in the current analysis). Similar to the original coding scheme, and consistent with our primary interest in language and literacy, any activity that could be considered language or literacy was coded into one of these nine domains. For example, if a child was pretend reading a book independently during free play, this example was coded under Text Reading. Moreover, if an educator was teaching math concepts by reading a counting book, the time spent reading the book would also be coded under Text Reading.

Coders completed a rigorous training that included the following tasks: (1) completion or observation of a two-day training, (2) 80% or greater accuracy on four training quizzes, (3) observation of a "Master Coder" code at least one classroom observation in its entirety, (4) independent coding of at least one observation while the "Master Coder" observed and provided feedback, and (5)

**Table 1**  
Observed language- and literacy-learning opportunities.

Code	Broad definition	Sample activities
Oral Language/Discussion	Opportunities that facilitate young children's general speaking and listening abilities	An educator and child/children engage in multiple-turn conversations during "sharing time;" an educator expands a child's utterance to increase semantic or syntactic complexity
Vocabulary (oral and print)	Opportunities that increase young children's familiarity with specific words	An educator pauses during shared book reading to define and discuss an unknown/rare word; children generate antonyms or synonyms for words
Print and Text Concepts	Opportunities that familiarize young children with the forms, purposes, structures, and conventions of print	An educator explains how books are read from front to back, and pages are read from top to bottom and left to right; children count the number of individual words or letters on a page as they learn about the concept of a word
Alphabet Knowledge	Opportunities that focus on the letters and sounds of the alphabet	An educator discusses letters of the alphabet (e.g., "This is the letter 'B.'";) and their corresponding sounds ("B" says/b/.)
Phonological Awareness	Opportunities that focus on the sound structure of words or parts of words	An educator asks a child/children to identify or produce rhymes or segment or blend at any level (e.g., phoneme, syllable, onset/rime)
Word Identification	Opportunities that practice the identification (i.e., decoding) or spelling (i.e., encoding) of single, printed words	An educator asks children to copy single words (e.g., children's names) or to sound out a word and spell it
Comprehension	Opportunities that increase young children's comprehension of written text and/or oral development	An educator discusses what might occur in a story based on the illustrations, cover, and title prior to reading; builds background and conceptual knowledge; asks children to make inferences or retell a story in their own words; uses graphic and semantic organizers
Writing	Opportunities in which written connected text is produced or the process of producing such text is discussed or taught	An educator asks children to generate ideas for writing; discusses the format of "good" writing; instructs children on how to improve their handwriting
Text Reading	Opportunities in which children interact with connected text via print material, including shared book reading with an adult or pretend book reading	An educator reads a big book to all of the children during circle time; a child sits and "reads" a book in the classroom library center

interrater reliability (which was measured using intraclass correlation coefficient; ICC) of at least .7 for each code domain (moderately-high; Landis & Koch, 1977). If this measure of interrater reliability was not achieved, coders completed re-training until they met these stringent requirements. In addition, 10% of randomly selected 20 min segments of all observations were double-coded; the average ICC across all nine language- and literacy-learning codes was .94 (range: .77–1.00).

## Results

### *Language- and literacy-learning opportunities in classrooms*

This study's first research aim was to describe the extent to which young children were afforded language- and literacy-learning opportunities in their classrooms. To address this aim, we averaged the amount of time spent on language and literacy domains across the randomly selected children observed for each instructor (i.e., initially ignoring within-classroom variability). We then used descriptive statistics (mean, standard deviation, range) to examine educator differences among educators. These results are presented in Table 2.

All of the educators afforded children with at least some opportunity to learn about language and literacy concepts in their classrooms; the range for the total amount of language and literacy was from 0.73 to 47.80 min. On average across all participants, educators provided about 18.50 min of language- and literacy-learning opportunities, which represents approximately 20% of the instructional day. To reiterate, these numbers were calculated by dividing the average minutes per day spent in all language- and literacy-learning opportunities across all educators by the average length of classroom observation. The majority of these classroom opportunities were in the domains of Text Reading ( $M=4.63$  min), Comprehension ( $M=3.60$  min), Oral Language/Discussion ( $M=3.52$  min), and Alphabet Knowledge ( $M=2.77$  min). On the other hand, few opportunities were provided in Vocabulary ( $M=0.27$  min), Phonological Awareness

( $M=0.32$  min), and Print and Text Concepts ( $M=0.38$  min). Beyond the means, considerable variability across classrooms was noted. For example, whereas children in at least one educator's classroom averaged over 18 min of Text Reading on the observation day, some educators averaged zero minutes in this instructional code, thus suggesting that the children in these classrooms did not spend any time interacting with books (e.g., shared book reading, pretend reading).

Looking more closely at the specific codes that constitute each domain, we found that most of the time dedicated to Text Reading occurred during adult-child shared book reading (3.10 min; range: 0–13.73 min), and, on average, children spent little time pretending to read books on their own (0.84 min; range: 0–6.95 min). Comprehension opportunities mainly focused on building children's conceptual knowledge for understanding texts (1.02 min; range: 0–23.37 min) but also supported a variety of comprehension strategies, including using graphic and semantic organizers (0.43 min; range: 0–10.68 min), activating prior knowledge (0.40 min; range: 0–4.72 min), asking and answering questions (0.33 min; range: 0–4.47 min), predicting future events in the book (0.25 min; range: 0–9.25 min), and using context cues to understand new events or information presented in the text (0.23 min; range: 0–5.15 min). Nearly all of the time afforded in Oral Language/Discussion was spent in sharing opportunities in which an adult and child participated in multiple turn conversations (3.45 min; range: 0–16.83 min). Most Alphabet Knowledge opportunities focused on letter names (1.83 min; range: 0–14.28 min) with less time devoted to learning letter sounds (0.85 min; range: 0–11.13 min). Vocabulary opportunities largely consisted of class discussion about words (0.13 min; range: 0–2.47 min). Over half of the time afforded for learning Phonological Awareness involved rhyming (0.20 min; range: 0–8.73) with considerably less spent in concepts related to counting (0.08 min; range: 0–6.32) and segmenting (0.03; range: 0–1.80); other types of Phonological Awareness activities (e.g., blending, elision) rarely occurred. Very few, if any, Print and Text Concepts learning opportunities were offered beyond those that facilitated knowledge of book

**Table 2**Average<sup>a</sup> amount of time spent in nine language- and literacy-learning domains.

	Total number of educators in study	Duration (in minutes)		
		M	SD	Range
Language and Literacy (total)	81	18.47	11.23	0.73–47.80
Oral Language/Discussion	81	3.52	3.68	0–16.83
Vocabulary	81	0.27	0.57	0–2.47
Print and Text Concepts	81	0.38	0.68	0–2.58
Alphabet Knowledge	81	2.77	3.42	0–15.25
Phonological Awareness	81	0.32	1.38	0–9.02
Word Identification	81	0.83	1.35	0–5.62
Comprehension	81	3.60	4.80	0–26.85
Writing	81	2.07	3.32	0–14.28
Text Reading	81	4.63	4.05	0–18.25

<sup>a</sup> Time was averaged across up to five randomly selected children per educator.

conventions (e.g., identifying book title, author, illustrator; 0.27 min; range: 0–2.55 min).

To reiterate, the above findings are based on data from all educators. Yet, although every educator provided some language- and literacy-learning opportunities, many did not provide any opportunities in particular domains. For instance, although educators afforded an average of 0.32 min of Phonological Awareness learning opportunities, we found that 70 educators did not provide any such opportunities (i.e., zero minutes). We thus performed additional descriptive analyses to determine the average amounts of language- and literacy-learning opportunities when considering only those educators who provided at least some opportunity to learn about a given domain. We reasoned that these additional analyses may provide more realistic estimates of the amounts of language- and literacy-learning opportunities in learning domains actually experienced in classrooms. In other words, continuing with our previous example, we wanted to know the average amount of Phonological Awareness learning opportunities experienced in classrooms that afforded at least some opportunities in this domain (i.e., those in 11 educators' classrooms) as the lack of Phonological Awareness learning opportunities in most classrooms was likely driving the estimate of 0.32 min.

Table 3 presents these results, including the number of educators who provided learning opportunities in the respect language and literacy codes. Whereas a considerable number of educators provided learning opportunities in Oral Language/Discussion ( $n=73$ ), Text Reading ( $n=69$ ), Alphabet Knowledge ( $n=60$ ), and Comprehension ( $n=59$ ), fewer than half of the educators afforded opportunities in the areas of Phonological Awareness ( $n=11$ ), Vocabulary ( $n=28$ ), or Print and Text Concepts ( $n=35$ ). Because those educators who did not provide any opportunities were excluded in this analysis, the average amount of time in each learning category increased, albeit only slightly; increases of greater than 1 min were noted only for Phonological Awareness,

Comprehension, and Writing. With the exception of Phonological Awareness, the findings were consistent with the overall pattern of results from the full sample such that most of the time was allocated to opportunities provided in the domains of Text Reading ( $M=5.43$  min), Comprehension ( $M=4.95$  min), Oral Language/Discussion ( $M=3.92$  min), and Alphabet Knowledge ( $M=3.73$  min), and less time was allocated to opportunities in Vocabulary ( $M=0.80$  min) and Print and Text Concepts ( $M=0.90$  min).

#### *Language- and literacy-learning opportunities within classrooms*

The second research question was concerned with the extent to which children in the same classroom experienced different language- and literacy-learning opportunities. To answer this question, we first determined the number of educators who demonstrated within-classroom variability in the learning opportunities provided to children. As before, we calculated the average amount of language- and literacy-learning opportunities for each educator, averaging across the randomly selected children. We then computed the extent to which the amounts of learning opportunities experienced by individual children within the same classroom deviated from the classroom means, producing within-classroom standard deviations for each educator. Standard deviations of zero indicated that all randomly selected children in the classroom had the same experiences such that these children had identical amounts of time allocated to a particular domain. Standard deviations greater than zero indicated within-classroom variability such that some of the randomly selected children within the classroom experienced differing amounts of language- and literacy-learning opportunities. As summarized in Table 4, over half of the participating educators provided varying amounts of learning opportunities in the following instructional domains: Text Reading ( $n=59$ ), Oral Language/Discussion ( $n=59$ ), Writing ( $n=49$ ), and

**Table 3**Average<sup>a</sup> amount of time spent in language- and literacy-learning opportunities for educators who provided at least some opportunity.

	Number of educators who provided opportunity	Number of educators who did not provide opportunity	Duration (in minutes) <sup>b</sup>		
			M	SD	Range
Oral Language/Discussion	73	8	3.92	3.68	0.05–16.83
Vocabulary	28	53	0.80	0.72	0.05–2.47
Print and Text Concepts	35	46	0.90	0.77	0.05–2.58
Alphabet Knowledge	60	21	3.73	3.48	0.05–15.25
Phonological Awareness	11	70	2.40	3.15	0.08–9.02
Word Identification	39	42	1.73	1.48	0.08–5.62
Comprehension	59	22	4.95	5.00	0.13–26.85
Writing	51	30	3.28	3.68	0.05–14.28
Text Reading	69	12	5.43	3.85	0.07–18.25

<sup>a</sup> Time was averaged across up to five randomly selected children per educator.<sup>b</sup> Includes only those educators who provided some opportunity to learn in a given domain.



**Table 4**Variation<sup>a</sup> in time spent in language- and literacy-learning opportunities for educators who exhibited within-classroom variability.

	Number of educators who provided varying amounts of learning opportunity	Duration (in minutes)			
		Average within-classroom SD	Range of within-classroom SDs	Average of within classroom range	Range of within-classroom ranges
Oral Language/Discussion	59	2.15	0.10–9.00	4.97	0.22–24.37
Vocabulary	16	0.55	0.03–3.20	1.17	0.08–6.72
Print and Text Concepts	12	0.28	0.01–.90	0.63	0.02–2.05
Alphabet Knowledge	48	2.20	0.02–18.33	4.93	0.07–43.88
Phonological Awareness	7	2.03	0.10–11.87	4.88	0.23–28.75
Word Identification	30	0.93	0.05–4.95	2.15	0.13–11.10
Comprehension	40	1.75	0.10–11.03	4.15	0.12–29.97
Writing	49	2.42	0.12–9.80	5.60	0.27–22.83
Text Reading	59	2.63	0.01–12.28	6.10	0.03–26.40

<sup>a</sup> Variation was assessed across up to five randomly selected children observed per educator.

Alphabet Knowledge ( $n = 48$ ). Conversely, a limited number of educators provided varying amounts of learning opportunities in the domains of Phonological Awareness ( $n = 7$ ), Print and Text Concepts ( $n = 12$ ), and Vocabulary ( $n = 16$ ).

Next, we examined the magnitude of within-classroom variability by calculating the additional descriptive statistics depicted in Table 4; all statistics were computed using only the sample of educators who exhibited within-classroom variability for a particular type of learning opportunity. We included the average within-classroom standard deviation (i.e., the mean of the within-classroom standard deviations computed for each educator for the randomly selected children, as described above) to summarize the extent of within-classroom variability and also provide the range of these within-classroom standard deviations. A higher standard deviation represents greater within-classroom variability for the randomly selected children. The greatest variability was exhibited in the domains of Text Reading ( $SD = 2.63$  min), Writing ( $SD = 2.42$  min), Alphabet Knowledge ( $SD = 2.20$  min), and Oral Language/Discussion ( $SD = 2.15$  min). The average standard deviation for these domains indicates that the typical difference in the amount of learning opportunities within the same classroom for the randomly selected children was over 2 min. Conversely, the small within-classroom standard deviations for Print and Text Concepts (0.28 min) and Vocabulary (0.55 min) suggests that, on average, children in the same classroom were provided with similar learning opportunities in these domains, as is likely to occur, for example, during whole-group activities. The range of standard deviations, however, demonstrates that for each type of learning opportunity, some educators provided similar experiences for the randomly selected children (relatively small standard deviations) and those in other classrooms did not (relatively high standard deviations).

We also computed the within-classroom ranges to describe the largest amount (in minutes) by which children's language- and literacy-learning opportunities differed within classrooms. For each educator, we calculated the within-classroom range by subtracting the least amount of time any individual child spent in a given learning opportunity from the highest amount that any other child spent in the same learning opportunity. We then computed the average within-classroom range across all educators and also determined the minimum and maximum within-classroom ranges (i.e., range of within-classroom ranges). As expected, the greatest within-classroom ranges were seen for the same types of learning opportunities that demonstrated large within-classrooms standard deviations (i.e., Text Reading, Writing, Oral Language/Discussion, and Alphabet Knowledge). For these domains, the difference between children who experienced the most and the least amount of learning opportunities averaged 5 min (Oral Language/Discussion, Alphabet Knowledge, Writing) to over 6 min (Text Reading). In general, some children experienced vastly

different amounts of language- and literacy-learning opportunities despite attending the same early childhood classroom (e.g., within-classroom range differences of greater than 20 min for all domains except Print and Text Concepts, Vocabulary, and Word Identification).

## Discussion

The goals of the present manuscript were two-fold: (1) to describe typical language- and literacy-learning opportunities afforded to young children in early childhood classrooms, and (2) to investigate if young children have different experiences within classrooms. Theoretically, our study was motivated by the framework that four sources (process, context, time, person) interact and play a role in the between- and within-classroom experiences of young children (Bronfenbrenner & Morris, 2006). This study adds to the extant literature by providing a contemporary, in-depth investigation of early learning experiences afforded to young children in their classrooms in light of recent national and state standards, policies, and current research findings. Because these data were collected at the beginning of the school year and prior to educators' PD activities, we propose that our study provides a glimpse into representative classroom practices. Further, given existing theory and research suggesting that children in the same classroom may have vastly different language- and literacy-learning opportunities, we also address the extent to which this premise holds true within early childhood education. Because these early learning experiences provide a venue for bolstering children's knowledge and skills, there is a need in the literature for an up-to-date study that investigates the everyday-learning experiences of individual children in across a diverse range of classrooms. Below, we address three major implications of our findings.

First, our findings suggest that young children, on average, may be afforded slightly more learning opportunities than previously reported in the literature with regard to the total amount of time dedicated to language and literacy. Educators in the current study spent, on average, over 18 min or 20% of the typical day providing language- and literacy-learning opportunities. In comparison, previous studies have documented slightly less time afforded in these domains. For example, Connor et al. (2006) found that, on average, young children spent 15 min or 19% of the observation in such learning domains, and Early et al. (2010) documented that 17% of time was dedicated to language and literacy in a study following over 2000 children. Although not considerably higher than previous studies, this finding is encouraging in light of recent research findings, standards, and national calls that emphasize the critical need for young children to have ample language- and literacy-learning opportunities in early childhood environments (Burchinal et al., 2011; Connor et al., 2006; Dickinson et al., 2014; La Paro et al.,



2009) despite the staggering and substantial budget cuts for early childhood education funding (National Institute for Early Education Research, 2013). Notably, it remains unclear if more classroom time dedicated to language- and literacy-learning opportunities results in less time spent in other key learning domains, such as math, science, and socio-emotional development. It is possible that multiple domains could be targeted at the same time (e.g., reading a book about caterpillars to target both literacy and science); future investigations might address this.

Second, our findings indicate that, despite this potential increase in the overall amount of language- and literacy-learning opportunities offered to young children, not all classrooms were afforded learning experiences that are consistent with the recommendations set forth by standards and best practice guidelines. In particular, only a handful of educators afforded learning opportunities in some of the critical language (e.g., Vocabulary) and literacy (e.g., Print and Text Concepts and Phonological Awareness) domains. Although we acknowledge that educators are faced with the daunting tasks of targeting many aspects of young children's development (e.g., academic, socio-emotional, physical, etc.), these findings, in general, are in stark contrast to recommendations that emphasize frequent learning opportunities with a strong emphasis on promoting oral and print vocabulary (Wasik et al., 2006), print (IRA/NAEYC, 1998), and phonological awareness (Ehri et al., 2001; Lonigan et al., 2008; Phillips et al., 2008). Further, specific learning opportunities under several of the broad domains were seemingly neglected, a finding that is detailed in turn.

To illustrate these points, we highlight the examples of phonological awareness and alphabet knowledge. Most of the time afforded in phonological awareness learning opportunities was dedicated to the specific task of rhyming. Although this skill is encompassed in the developmental continuum of phonological awareness, little, if any, time was afforded in other phonological awareness learning opportunities, such as counting, segmenting, blending, and manipulating (Phillips et al., 2008). As another example, over half of the time afforded in alphabet knowledge learning opportunities was spent in tasks related to letter names, with considerable less attention dedicated to activities involving both letter names and sounds combined; this finding is in contrast to research literature supporting instruction combining letter names and sounds (Piasta et al., 2010). Without at least some exposure in classrooms (e.g., those educators who did not afford any time), it is unlikely that young children who have not mastered these critical skills will “catch up” to their peers who demonstrate mastery of skills (Anthony & Lonigan, 2004), although this is an empirical question that needs to be addressed in subsequent research studies. Nonetheless, it appears that educators may continue to benefit from PD aimed at strategies or techniques that intertwine meaningful interactions into all classroom contexts that may not include rich learning opportunities (La Paro et al., 2009).

Finally, our findings revealed considerable within-classroom variability in the amount and types of learning opportunities and suggest that even within the same classroom, children experience different learning environments. There are two potential interpretations of this finding. Children could be choosing or evoking engagement in different types of learning opportunities based on individual characteristics, such as temperament (Blair & Razza, 2007; McClelland et al., 2007). Alternatively, educators could be attempting to individualize learning opportunities within some specific content domains (e.g., Text Reading, Writing, Alphabet Knowledge, and Oral Language/Discussion). The idea that educators may be sensitive to the individual needs of children in their classrooms is particularly encouraging because of the individual nature of children's development in these areas. For instance, writing, alphabet knowledge, and oral language develop along a spectrum, and children enter school with varying knowledge and

skills in these areas (Cabell et al., 2011; Justice & Ezell, 2001; NELP, 2008). Because a considerable number of educators in the present study provided varied learning opportunities (SD greater than zero) in these areas, it is possible that educators were individualizing instruction to meet the diverse learning needs of young children in their classrooms. Given that we are not able to address educators' intent or children's level of skills or characteristics that they evoke in the present paper, we leave further examination of this issue to future investigations.

On the other hand, minimal within-classroom variability was evident for many educators, particularly in some specific content domains (e.g., Print and Text Concepts, Vocabulary). It may be the case that some educators are unfamiliar with or struggle to implement individualized instruction strategies, which is consistent with previous research (Connor et al., 2006, 2007; Pentimonti & Justice, 2010). Given the timing of the observation (i.e., beginning of the year), some educators may not yet have determined children's skill levels or instructional needs. As a result of either of these possibilities, educators may have afforded language- and literacy-learning opportunities in whole-class settings. Moreover, perhaps little individualization was necessary in particular content areas. In the case of print and text concepts, perhaps the children enrolled in these classrooms had mastered skills in this area. As a result, there would be no need to provide varying opportunities to children. However, given the complexity and ongoing and overlapping nature of development in the area of vocabulary, for example (Dickinson & Tabors, 2001), learning in this domain ought to be a central focus of every early childhood classroom environments (Wasik & Bond, 2001; Wasik et al., 2006; Whitehurst et al., 1994). In other words, preschool-aged children should have daily access to vocabulary learning opportunities (IRA/NAEYC, 1998).

#### *Limitations, future directions, and conclusion*

In light of these findings, three limitations must be acknowledged. First, data used in the present study were collected during a one-day observation. Given the considerable expense required to collect and code observational data (Connor et al., 2006; La Paro et al., 2009), one-day observations are commonplace in educational research. Moreover, daily learning opportunities are often recommended for supporting young children's language and literacy learning (e.g., at least 10 min per day of both shared book reading and phonological awareness activities). Yet, although we made every effort for this observation to reflect typical classroom activities, it is possible that this one-day snapshot did not fully capture all language- and literacy-learning activities that are characteristic of typical classroom procedures. Because of the length of programs (half- versus full-day) and educators' report of classroom instructional time, considerable ranges (in minutes) of observations were noted. It is possible that variability between (but not within) classrooms was a result of the observation length. Second, we observed and coded up to five randomly selected children per classroom as an attempt to capture individual children's learning experiences. Although this method may have been sufficient for addressing our second research aim, we may have detected greater variability if we had more resources to code all children in the classroom. As a result, our results may be best interpreted as a “lower bounds” of the variability that may occur between and within early childhood classrooms. Lastly, as with any research involving human subjects, we cannot fully eliminate the potential for a self-selection bias. In other words, it is possible that there are differences between those educators who voluntarily participated in the present study and those who did not. Thus, we acknowledge this as a potential threat to external validity.

In conclusion, the results of the present study revealed that although young children have at least some language- and

literacy-learning opportunities in their classrooms, considerable between- and within-classroom variability was observed, particularly in specific learning domains. While we acknowledge that early childhood educators face many challenges (Barnett, 2003; Hale-Jinks, Knopf, & Kemple, 2006), there appears to be a continued need for them to attend to the recommendations set forth in research, theory, and practice standards in terms of time afforded in language- and literacy-learning domains and the provision of individualized instruction. Future investigations ought to further unpack classroom educational practices to determine how much (e.g., learning thresholds) and what types of learning opportunities are necessary to ensure that all young children develop the requisite knowledge and skills necessary for future learning and academic success. Also, in the future, research studies should investigate if language- and literacy-learning opportunities vary by specific child demographics (e.g., income level), classroom setting (e.g., Head Start, home care providers), classroom curricula, or context (e.g., small and whole group, centers, free play).

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