Mind the Gap: Assessing and Addressing the Word Gap in Early Education

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Abstract

Children from poor families typically know fewer words when they enter school than children from wealthy families do. This "word gap" persists over time and may significantly affect educational achievement. The language children hear at home before they start school influences how many words they learn. Children from poorer families typically hear fewer words. New programs tackle the language gap by encouraging poorer parents to talk more to their children. These programs have excellent intentions, but they also have significant limitations. They count only the number of words, ignoring important differences in how language is used in social and physical contexts. They also carry implicit ideologies about "correct" language practices and may stigmatize some parents or cultures. To succeed in leveling the playing field in early education, interventions should consider features of language beyond the word and partner more closely with parents to create sustainable programs tailored to the desires and practices of local communities.

Tweet

Counting parents' words won't close language gap for rich and poor kids. Interaction quality matters; interventions need community input.

Key Points

- Rich and poor children's language proficiency shows a widely reported disparity when they enter school
- The language input children receive at home affects what they know when they enter school and can have lasting impacts on academic achievement
- Current interventions aim to increase parent talk to children in low-socioeconomic status (SES) households
- Parent language interventions measure only one aspect of language (words) and overlook much of the richness and diversity of language practices
- Language assessments need to move beyond vocabulary and take quality of language use and interactional context into account
- Interventions would benefit from building on culturally valued practices and should avoid stigmatizing minority populations

Introduction

The concept of the "word gap" is at the forefront of discussions about early education and child welfare in the United States. This term refers to differences in linguistic ability between young children from wealthy and poor families. In theory, the term merely acknowledges a difference between children with high and low verbal skills—one correlated with their class background. In practice, it also conveys an ideology of deficiency: labeling the language skills of children in poverty as lacking compared with their more affluent peers. Differences in children's language development have been linked to differences in the amount of language they hear at home. Children from wealthier families hear more language from their parents and develop language skills more quickly than children from poorer families (e.g., Hart & Risley, 1995; Hoff, 2003; Huttenlocher et al., 2007). For clarity, words like "wealthy" and "poor" are used throughout the text to refer to statistical differences between families in different income brackets; this language is not meant to erase the great variability that exists at the level of individual families.

In the past few years, the federal government has launched new funding initiatives for tackling the word gap, intervention programs aimed at increasing parent input have sprung up in cities across the country, and the topic has become a

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mainstay of popular science and parenting publications and programs (e.g., Talbot, 2015). However, there is significant disagreement over the existence and importance of, and solutions to, the word gap, often within the same news outlet. For example, in the past 2 years, *The Atlantic* has run at least four articles dedicated to the word gap: some promoting parent language interventions, some questioning the efficacy and equality of such interventions (Deruy, 2015; Erard, 2014; Lahey, 2014; Rothschild, 2016).

The movement to address the word gap springs from the idea that the amount of language children hear in their homes during their first years of life directly influences how much language they learn—and that their language level at the start of school has direct implications for their educational achievement and success later in life.

The relationship between parent language input and a child's school success is primarily discussed in relation to families of low socioeconomic status (SES).[1] Compared with their more affluent peers, children born into low-SES families typically hear less language in the home and have lower language skills when they start school. The most frequently cited number is that children in low-SES homes hear 30 million fewer words by the time they are 3 years old than children in more affluent homes do (Hart & Risley, 1995). In this study, children's language development in 42 families ranging in SES (13 "professional" class, 13 "working" class, and six families on welfare) showed differences in the size of children's vocabularies and in the number of words parents spoke to children. Similar SES effects in both child language production and in parent input to children have been found in subsequent studies (e.g., Hoff, 2003; Huttenlocher, Waterfall, Vasilyeva, Vevea, & Hedges, 2010).

Increasing the language skills of low-SES children *before* they start formal schooling is widely regarded as a way both to address the SES language gap present in preschool and to combat differences in academic achievement more broadly (e.g., Duncan & Murnane, 2011). Many programs around the country aim at increasing parent language input to children before they reach preschool. These programs range from public awareness campaigns (e.g., Georgia's "Talk with Me Baby" campaign http://www.talkwithmebaby.org), to alerts and reminders sent via text, to intensive training programs that measure parent input and tailor feedback to the language use in particular families (e.g., Providence Talks or the Thirty Million Word Initiative). These tailored interventions build on the legacy of programs like Head Start (which provides classroom-based education along with medical services and advice for parents on topics ranging from child development to nutrition; Deming, 2009), but they promise a more individualized approach to the language gap.

The new wave of intervention programs largely eschews direct interventions with children in favor of a parent-focused, home-based approach that capitalizes on recent technological advances to tailor interventions to specific family environments at scale. Programs like Rhode Island's Providence Talks (www.providencetalks.org) and the University of Chicago's 30 Million Word Initiative (www.thirtymillionwords.org) aim to change child-directed speech in the home by using individualized assessment and feedback for parents regarding their interactions with their children. The language gap is a funding priority for both government agencies (www.acf.hhs.gov/programs/ecd/child-health-development/bridging-the-word-gap; www.wordgapchallenge.hrsa.gov) and private foundations (www.clintonfoundation.org/our-work/too-small-to-fail).

Parent-input interventions highlight the importance of language and cognitive development during the first 3 years of life, and provide parents with useful information to support children's learning. These interventions have worthy goals and leverage new technologies to creatively address longstanding problems in both research and policy. However, some scholars argue that these programs bring with them problematic ideologies about "good" parenting and stigmatize already marginalized populations by implying that poor children struggle because of poor parenting rather than persistent structural inequality and an uneven public education system (Avineri et al., 2015). In addition, these interventions focus on a single dimension of language (the number of words a child hears in a day), failing to take into account the richness and diversity of language. Thus, talking to children is described as "language nutrition" (Talk with Me Baby), and devices for measuring language describe themselves as "pedometers for language" (the Language ENvironment Analysis [LENA]).

This metric-based approach facilitates comparison between households, but its simple measure of linguistic input ignores the quality of language (Cartmill et al., 2013). Not all words infants hear are equally helpful in learning language (Gillette, Gleitman, Gleitman, & Lederer, 1999). Who the speaker is, whether talk is about present or absent objects, how language is embedded in interaction with the physical environment, and the gaze and gesture of both adult and infant can all affect an infant's likelihood of learning a new word in a given interaction. Although the richness of the interaction is more difficult to quantify than the number of words spoken, measures of input quality are either similar or stronger predictors of language learning than measures of input quantity are (Cartmill et al., 2013; Hirsh-Pasek et al., 2015; Rowe, 2015). A more nuanced view of language input acknowledges the complexity and diversity of language learning environments and characterizes input as more than a simple count of words.

This article aims to highlight both the promise and problems of programs designed to address the word gap, reviewing the relationship between parent input and language development (particularly as it relates to SES), the strengths and weaknesses of the most popular methods for measuring child language and child-directed language, the outcomes of parent intervention studies, and ways to improve both language interventions and language-development measures.

Language Development, SES, and School Success

SES and Language Development

Children do not begin formal education as blank slates. By the time they are 5, children are linguistic beings who have been communicating with caregivers and peers for years, and vary substantially in their language skills. Individual variation is expected, but what is concerning is *systematic variation* related to SES. Children from lower SES homes typically have lower language skills at school entry than children from more affluent homes do. This systematic variation is also observable in the language parents use when speaking to children, with children in poverty hearing many fewer words per day than children from wealthier backgrounds (Hart & Risley, 1995; Hoff, 2003; Huttenlocher et al., 2010).

Social scientists have long tried to understand how class, race, and parent language relate to children's academic performance (e.g., Bernstein, 1975; Heath, 1983; Labov, 1972). Current discussions about the impact of parent language have been strongly influenced by the work of Hart and Risley (1995), who found that over the first 3 years of life, differences in children's language skills emerged along class lines, such that children from the wealthiest families knew more than twice as many words as children from the poorest. Hart and Risley studied only 42 children, but large scale studies have found similar patterns in language differences related to socioeconomic status. In a longitudinal dataset of around 12,000 U.S. children (Farkas & Beron, 2004), SES differences in children's vocabulary emerged by age 3. After age 3, in African American children, the SES effect on academic performance continued to grow until age 5, but in White children, the gap did not widen after age 3. Importantly, SES-related differences in language are observable long before age 3. In a sample of 48 English-speaking infants, SES predicted the speed and accuracy of infants' vocabulary comprehension, as well as their productive vocabulary at 18 months of age (Fernald, Marchman, & Weisleder, 2013). Children who have more early language input at home develop stronger language processing skills, and these skills then influence language growth (Weisleder & Fernald, 2013).

Many studies have replicated the statistical connection between poverty and relatively low language abilities in preschool years (e.g., Fernald et al., 2013; Hoff, 2003; Huttenlocher et al., 2010; Rowe & Goldin-Meadow, 2009). This language gap should be taken seriously when evaluating the accessibility of preschool curricula and designing standardized assessments for young children. However, in interpreting the reported link between SES and language, we should consider how language is measured in these studies, particularly when prescribing intervention to parents. (I explore this issue in a later section.)

Link Between Early Language and Later School Success

Children's linguistic skills when they enter school have consequences for their success. Children whose language comprehension is less developed and who do not understand the teacher may not benefit as much from classroom activities and may struggle to follow instructions. Children whose productive language skills lag behind their peers may not be able to demonstrate their knowledge and may receive less feedback than their more loquacious peers.

The connection between language skills at the start of school and educational success has been clearly demonstrated in literacy, where vocabulary knowledge in the first years of schooling predicts reading comprehension in later years (Anderson & Freebody, 1981; Cunningham & Stanovich, 1997; Scarborough, 2001; Snow, Burns, & Griffin, 1998). Literacy is crucial for academic success, and differences in language skills early in development may have broad downstream consequences. Demographically linked differences in language skills in preschool are particularly troubling because achievement gaps established during preschool persist and may affect students' whole educational careers (Farkas & Beron, 2004).

Beyond Quantity: Characterizing Parent Input and Language Growth

Defining the Gap—How Do You Measure Language?

Language is a complicated phenomenon. So, how do you measure it? Should you count, categorize, or describe? Are the relevant units sounds, words, rules, structures, practices, or some combination? These challenges confront measurement of both child language and parent input. Parents vary immensely in how they interact with their children. Although reports often focus on SES differences in parent speech, substantial individual variation exists between families with similar income and education (e.g., Pan, Rowe, Singer, & Snow, 2005). Most intervention programs focus on the quantity of parent input, but the quality can be just (if not more) important. Beyond raw quantity of language input, variation in social and contextual variables affects children's language learning (Cartmill et al., 2013; Rowe, 2015). Some kinds of input are better for learning (or for learning particular things) than other kinds are. *Linguistic quality* considers the types of words or structures children hear: for example, rare words or complex sentence structures. *Interactional quality* concerns how the parent's speech is embedded in social, emotional, conversational, and physical spaces: that is, the way language is used in interaction with others. This second category, while especially large, is systematically overlooked.

What Is Input? Child-Directed Speech Versus Overheard Speech

What should count as input? Is all language that an infant hears equally useful input for language learning? Is a child watching a television program getting the same input as a child whose father is reading her a story? What about a child overhearing his parents talk to each other?

These distinctions make a difference in how well or how fast children learn from the language around them. For example, children are more successful at learning new words from live speakers than from video, and this is particularly true for very young children (Krcmar, Grela, & Lin, 2007; Roseberry, Hirsh-Pasek, Parish-Morris, & Golinkoff, 2009). Social, interactive engagement is missing from video. However, even for very young children, learning differences may be negligible in some cases (e.g., hearing a story told on video vs. being read out loud: Takacs, Swart, & Bus, 2014). Speech directed to the child is also more effective than speech overheard from live speakers (Weisleder & Fernald, 2013). Child-directed speech retains its advantage, even in cultures that do not frequently talk directly to young infants (Shneidman & Goldin-Meadow, 2012).

Quantifying Parent Input and Language Development

Most studies of parent input and child language development focus on the word as an easily understandable unit of analysis. These studies typically use the total number of words children hear in a given period of time (*parent word tokens*) as a proxy for linguistic input, and use child vocabulary size (*child word types*) as a proxy for children's language development. Word-based measures have many advantages: They typically produce single, whole numbers, easily compared between studies, and they have the added benefits of familiarity, understandability, and relatability. Using child vocabulary (word types) as a proxy for language development allows common standardized assessments, but may not accurately measure children's true ability to use language in contextually relevant ways.

Although counting the number of words children hear and know has advantages in terms of speed, transparency, and standardization, researchers have recently criticized the use of the word as the main unit of linguistic measurement. These critiques argue that language consists of much more than words, and an over-reliance on counting words can overlook meaningful variation in other areas of language (Avineri et al., 2015). (A later section explores non-word features of language as they relate to parent input.)

The effect size and the measurement of child language vary between studies, but the finding that children who hear more words have larger vocabularies appears robust. In contrast, however, measures of quality (of speech or of the interaction) have received less attention and thus play little role in the current public dialogue about early language input. Understanding the quality of language input matters because not all language input is equally useful.

Input Quality (Linguistic)

One approach to the linguistic quality of parents' language considers the vocabulary they use with their children. Parents who use many different words expose their children to a greater diversity of language. The number of word types (different words) parents use systematically varies with SES. Children in low-SES households hear fewer different words in a day than children in more affluent households (Hart & Risley, 1995; Hoff, 2003; Huttenlocher et al., 2007; Pan et al., 2005). This is also true if you consider only rare, unusual, or academic words (e.g., "spherical" for "round"). Children in low-SES homes hear fewer rare words and thus may have fewer opportunities to develop specialized vocabularies (Rowe, 2012). Rare words are not just novelties; they can predict language learning: The number of different rare words children hear at 2.5 years old predicts vocabulary at 3.5 years old, even controlling for overall quantity of parent speech (Rowe, 2012).

Of course, linguistic quality entails more than vocabulary diversity. Other language features provide rich sources of input to children's language learning. For example, how parents ask questions (Rowe, Leech, & Cabrera, 2016) and structure sentences (Huttenlocher, Vasilyeva, Cymerman, & Levine, 2002) predict child language development, even controlling for how much parents talk overall.

Input Quality (Interactional)

Language input does not occur in isolation. Language is embedded in social interaction, from routines and games to narratives and reprimands. Language scaffolds on its physical and social environment, relying on shared knowledge and experience to create meanings. These physical, social, and visual variables—crucial parts of children's language learning—make up the interactional quality of language. They are sometimes considered "extralinguistic" variables, but they are not outside of language; they are the fabric into which language is woven, and without which language would have none of its richness and flexibility.

Hearing specific words many times (i.e., a high quantity of input) may provide more opportunities to learn, but children can learn a word in a single exposure if accompanied by sufficient support from the social and visual environment (Heibeck & Markman, 1987; Medina, Snedeker, Trueswell, & Gleitman, 2011; Spiegel & Halberda, 2011; Trueswell, Medina, Hafri, & Gleitman, 2013). Support for word meaning frequently comes from factors like gesture, gaze, interactional timing, and talk about the here-and-now. Children are

sensitive to the gestures of others (Goldin-Meadow, 2006), and children's own gesturing relates to their language development. Parent gesturing mediates the relationship between family SES and child language development. Rowe and Goldin-Meadow (2009) found that family SES predicted how many meanings parents conveyed in gesture, and parent gesture predicted children's vocabulary at school entry. Parent gesture provides direct input for language learning, but it also predicts children's gesturing. Children's use of gesture not only marks burgeoning communicative development; it can also change the learning environment by eliciting additional feedback from parents. By gesturing to indicate interest in a particular object or event, a child is more likely to receive linguistic input from a parent that directly relates to that event (Goldin-Meadow, Goodrich, Sauer, & Iverson, 2007). When parents label objects or events that are already the focus of their infant's attention (*follow-in labeling;* Baldwin, 1991), this kind of input (contingent on the infant's behavior) supports word learning (Medina et al., 2011).

Although measures of *linguistic* quality (e.g., amount of "academic" language) typically correlate with input quantity, not all measures of *interactional* quality do. This means that parents who talk to their children a lot also use larger vocabularies and more diverse linguistic structures, but they do not always embed their language in richer interactional contexts. Different, independent pathways may provide language input that supports successful language learning.

To compare the effects of interactional quality and input quantity on children's vocabulary development, Cartmill et al. (2013) used video from a longitudinal study of 54 families varying in SES as input in a language learning experiment. Instead of coding the presence of variables like gaze and gesture, we measured the support from the entire socio-visual context by asking adults to guess "mystery words" in muted videos of parents and toddlers interacting. Participants' success in guessing parent words measured how much the interactional cues supported the word meaning. Parents varied in how easily their words were guessed from the interactional cues alone. Socio-visual support for word meanings (interactional quality) was unrelated to sheer quantity of parent speech, but quantity and quality before 1.5 years of age were equal predictors of children's vocabularies 3 years later (Cartmill et al., 2013). Moreover, although quantity of parent speech varied as a function of SES, interactional quality did not. Although the wealthiest and most educated parents used more language with their children, they were not systematically providing their children with better interactional support for learning new words. Interactional quality varies between parents, but it does so in both wealthy and poor homes. In 60 families from low-SES backgrounds, variation in measures of interactional quality like routines, joint attention, and parent responsiveness were stronger predictors of children's language than the quantity of parent speech (Hirsh-Pasek et al., 2015).

The timing of interactional cues (e.g., attention and gesture) in relation to spoken words is critical to learning the meanings of words. In a follow-up study using video clips from Cartmill et al. (2013), we found that shifting the timing of a word by only a couple of seconds before or after the use of such cues significantly reduced the quality of the learning context and made it more difficult to guess what the parents were saying (Trueswell et al., 2016).

These studies demonstrate the variation and importance of interactional quality as a feature of language input. The number of words a child hears in a day may be less impactful than the contexts in which the language is used. Interactional quality is much messier and more complex to measure and commmunicate than the number of words a child hears in a day. However, it more accurately captures qualitative differences in the language children encounter in everyday life.

Automated Assessment of Parent Input

Studies of language input are becoming increasingly quantified and automated. The standard method uses small digital recorders (e.g., LENA) that can capture an entire day's language before needing to be recharged or downloaded. Specialized software then automatically identifies different speakers (child, adults) and parses and counts the number of words (Xu, Yapanel, & Gray, 2009).

Automated recording has many advantages. Devices can record continuously for long periods of time. Families can use the device without a researcher and may thus be more natural in their behavior. However, relying on automatically tallied word counts divorced from any contextual information overlooks meaningful differences in how language is embedded in daily life. Conversational context affects the characteristics of parent speech to children and differences in parent speech linked to social class are larger in some contexts than in others (Hoff-Ginsberg, 1991). Finally, relying on audio rather than video also means that interactional variables like gaze and gesture are not examined.

But is video recording a realistic option for interventions covering thousands of families? Most studies that measure interactional quality use video, but they typically include only a few families at a time, and the hours needed to hand-code video are a significant deterrent. The increased use of head-mounted cameras (e.g., Yu & Smith, 2012) and the development of automatic video analysis tools (e.g., Pusiol, Soriano, Fei-Fei, & Frank, 2014) hold promise for the development of video-based measurement systems in the future. However, while video recording provides more complete samples of the language learning environment, it also introduces more concerns about privacy and security.

Automatic analysis of recorded speech removes the hurdle of hand-coding data and allows measures of parent input to be based on longer recordings because the speech can be assessed quickly. However, it is not clear whether the speech

environments of all families are measured with similar levels of accuracy. The accuracy of automatic word counts has been tested against hand-coding in several languages. For English-speaking families in the United States, the automatic parsing shows moderate to high similarity to hand-coding when recorded under ideal, non-noisy, conditions (Oetting, Hartfield, & Pruitt, 2009; Xu et al., 2009). Reliability of the system is lower for other languages (e.g., Canault, Le Normand, Foudil, Loundon, & Thai-Van, 2015; Weisleder & Fernald, 2013). Reliability is lowest during overlapping speech, which may be systematically more frequent in some households than others, particularly environments with multiple children or several generations living in the same home (for current demographic trends in children per household, see Livingston, 2015). Hence, using these techniques may systematically underestimate word counts for adult speech in some families or some demographics.

Changing the Language Landscape

What is the right way to offer support to children who are at risk of falling behind their peers? The early developmental period (before children enter school) is an ideal time for language intervention because small changes at this age may have more significant effects as children age. But who should receive the intervention, the child or the parents? Programs aimed at boosting language skills can target children directly (often by offering teacher-administered programs in preschool classrooms), or they can target children indirectly by offering feedback to parents in an attempt to change the language environments children encounter at home.

Programs that directly train children and parent-input training programs have both produced only moderate success so far. A meta-analysis of 67 studies found that directly training children significantly increased children's vocabularies, but mostly for mid- and high-SES children. Vocabulary interventions may not suffice to close achievement gaps, even when administered in preschool (Marulis & Neuman, 2010).

Parent-input interventions show similarly limited effects. Although one study found training parental "warmth" and responsiveness significantly improved children's performance on a standardized vocabulary test (Landry, Smith, Swank, & Guttentag, 2008), gains have been modest and inconsistent across studies. A pilot study of 23 families used to design the interventions for the 30 Million Word Initiative found the intervention increased the number and diversity of words parents used with their children and the diversity of words children produced. However, these gains were only present during or immediately after the intervention. The changes in parent and child language had disappeared by the follow-up test 4 months later (Suskind et al., 2016). This suggests that parent input is indeed malleable during training programs, but the effects of training may not persist. Results

from Providence Talks and the 30 Million Word Initiative are not yet available, but these projects must continue to follow families after the end of the programs, to determine whether any behavioral changes persist.

Programs We Want Versus Ones We Need

Interventions aiming to increase equality in early education have increasingly focused on the home environment over the first 3 years of a child's life. This window promises the greatest return on investment because socioeconomic differences in children's language skills have already begun to emerge by the start of preschool, and these differences predict later academic achievement. However, there is considerable controversy over how to ensure that all children are proficient enough at the start of school to benefit equally from instruction.

Tax-payers, parents, and educators want language programs that are easy to implement, with clear guidelines and methods of assessment. We value the word as a unit of measurement because it is intuitive, accessible, readily measured, and comparable from one family or scenario to the next. We crave a recipe for good parenting, a relatively quick fix that will close early achievement gaps and remove barriers for participation in education. As a nation, we have begun to place our hopes in programs designed to train low-income parents in how to interact with their children in the "right way" (i.e., in ways resembling affluent parents). These programs and the advice they provide are well intentioned, but they carry considerable ideology about what is good parenting, and they may not translate into long-term gains in children's educational performance.

By extending beyond a one-size-fits all approach to language development, programs could capitalize on the diversity of natural language learning environments and take advantage of the full range of factors that contribute to language learning (e.g., Cartmill et al., 2013; Hirsh-Pasek et al., 2015; Rowe, 2015). Programs should include measurements other than the number of words children hear, making sure to include some measures that do not typically correlate with the word count. Language is not a skill in a vacuum, just made up of a certain number of words, structures, and meanings. Being a fluent user of a language involves interactional sophistication: knowing not just what to say, but when, how, and to whom to say it. Creating a linguistic being requires more than building a vocabulary. The sounds, uses, and practices of language are also closely tied to personal and cultural identity. Language is not isolated from context, social interaction, and culture; hence, scholars and practitioners should pay more attention to these factors.

Some propose to improve language outcomes for children in poverty by providing more specific advice on the number and type of words to be taught to children (e.g., Hindman, Wasik, & Snell, 2016). Although teaching targeted words

may be necessary for children to learn the meanings of certain academic terms, this approach may also restrict spontaneity and interactive fluidity, particularly in the informal learning environments at home. Programs aimed at boosting parent talk and responsiveness might benefit by minimizing self-conscious monitoring of language (e.g., have I used the word "zebra" enough today?), and instead encouraging play, creativity, and sustained engagement between parent and child. Inclusion of creativity and play is equally important once children reach school. So-called "playful learning" may help children develop new skills while promoting agency and social engagement (Fisher, Hirsh-Pasek, Golinkoff, Singer, & Berk, 2011). Children around the world learn language through participating in social and cultural life, and most do it without the aid of flashcards and vocabulary lists. The focus on training children to *perform* language rather than participate in it is a unique construct of middle-class Euro-American families (Avineri et al., 2015). Although such training may help children acquire the ability to produce particular words on demand and thus increase scores on standardized assessments of language, it does little to increase their fluency in the process of *doing language* rather than *performing words*.

Language intervention programs often emphasize building on children's interests, extending conversations through probe questions and keeping children engaged by letting them pick the topics of interest. However, the advice to build on the interests of the participant is less often taken by those who design language initiatives. In an effort to highlight best practices and evidence-based interventions, language training programs are often built according to a standard model. Of course, implementation is tailored to the language use of participating families and advice is given in response to measurement of their speech, but the goals of the program (increase speech to the child) are promoted through fairly generic advice (e.g., explain what you are doing, make sure to ask about the child's interests). Just as programs encourage child-led topics of conversation, they should similarly embrace community-led development of the programs themselves.

Local communities should play more of a role in designing the goals and guidelines of any language initiatives. This will help ensure that members of these communities are not marginalized and stigmatized for parenting the "wrong way." By giving community members a stake in the design and implementation, programs are more likely to fit local practices, which may increase the likelihood that new behaviors are continued after the intervention ends (Rossman, 2014). Finally, it is also critical to address inequalities in the educational system itself. If all children entered school with equivalent language skills but more affluent classrooms built more successfully on those skills, socioeconomic differences would inevitably emerge. Equitable investment in early education will help ensure that all children have safe, creative, engaged environments in which to build on their interests and develop into lifelong learners.

Note

1. SES is defined in different ways across studies, but is typically operationalized as family income, educational attainment of the primary caregiver, or a combination of the two variables.

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