Expanding the Frame for a New Generation of Word Gap Research: Moving our Intervention Science Toward the Promotion of Greater Equity in Children's Early Language Experience

Abstract

Numerous studies (e.g., Hart & Risley, 1995; Hoff, 2003; Hoff, 2013; Huttenlocher, et al., 1991) have demonstrated that the communicative interactions young children experience in their earliest years have important consequences for their later language, cognitive, and social development, their later success in reading academic performance, and later life outcomes. When children have different opportunities to be exposed to nurturing language interactions, their resulting long-term outcomes can be very different. In the past, disparities in both the quantity and quality of interactive talk that young children experience have been identified as the "Word Gap" and linked to socioeconomic factors. Past research describing these early differences in young children's language exposure prompted the development of a science of intervention for preventing the Word Gap (Landry, Smith, & Swank, 2008; Roberts & Kaiser, 2012; Suskind et al., 2015; Walker & Carta, 2020).

The underlying rationale for early language intervention aimed at the Word Gap was to promote greater equity in children's opportunities children to be exposed to rich nurturing language interactions that would lead to better outcomes such as greater academic success and lifetime outcomes such as high school graduation, better health, and economic well-being. Recent discussions of the Word Gap have called into question the value of this concept and have criticized it for its use of a deficit approach to explain how family background factors underlie differences in children's early language (NICHD, 2022, Raz & Beatty, 2018). Some have called for "reframing the Word Gap" or replacing it with less stigmatizing approaches to guide research for promoting language and literacy development.

The Bridging the Word Gap Research Network (BWGRN) is in a unique position to provide perspective on the Word Gap and its value in understanding the role of children's early experience in guiding intervention science. BWGRN was funded by the Health Resources and Services Administration (Carta, Greenwood, & Walker, 2014) to prevent disparities in children's language learning opportunities and advance intervention research to reduce the Word Gap. We have used the recent calls to "Reframe the 'Word Gap'" as an opportunity to examine the early studies that shaped our understanding of the Word Gap and reflect on their contribution to the science of early language promotion and intervention.

Thus, we offer this paper with three purposes:

1. To provide background on the Word Gap and its history as a fundamental concept in advancing intervention research for promoting equity in young children's early language learning experiences.

2. To offer a broader conceptual model that describes the ecological and behavioral factors that shape children's early language experience and to underscore how greater awareness of disparities in young children's access to resources and positive experience are needed to promote equity in children's language learning opportunities.

3. To outline a set of nine principles to help researchers use this expanded frame to operationalize a new generation of research on intervention to build upon strengths and to prevent and reduce disparities in children's early language experience.

Our hope is that the principles will give researchers some guideposts to design research that builds on families' and caregivers' strengths to create evidence-based language-promoting intervention practices and policies for nurturing environments that enhance the outcomes of children, families, and communities. We invite others to provide additional principles and examples of ways we can expand the frame in our research for understanding the Word Gap and developing interventions for promoting equity in children's early language learning experience.

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A large body of research provides evidence of substantial differences in the quantity and quality of adult-child interactions related to language that children experience. This variation in children's language learning opportunities in the earliest years has generally been linked to their families' socioeconomic status (SES) including factors such as their parents' education, access to child care, safe neighborhoods, economic resources, and other social determinants of health (e.g., Hart & Risley, 1992;1995; Pace et al, 2017; Romeo et al., 2022; Rowe, 2022). These SES-related disparities in children's early language experience have been referred to as the "Word Gap" (Hart & Risley, 2003) and their significance is evident in the relations between these early differences and later language, literacy, and school outcomes (Hart & Risley, 1995; Rowe, 2008; Walker et al., 1994). Thus, researchers seeking to minimize or close the Word Gap and improve children's outcomes have created a variety of intervention approaches to promote children's language learning opportunities in the earliest years (Greenwood et al., 2020; Roberts & Kaiser, 2012; Suskind et al., 2015; Walker & Carta, 2020).

Since 2014, the Bridging the Word Gap Research Network has been funded through the Department of Health and Human Services (HHS) Health Resources and Services Administration (HRSA) to create a cross-disciplinary collaborative of researchers, practitioners, and policymakers with the aim of advancing intervention science to reduce the Word Gap and prevent disparities in children's language learning opportunities (Carta et al., 2014). The focus of our network has been to design, test, and support the wide-scale implementation of evidence-based approaches that would build upon the skills of parents, caregivers, and communities and then ultimately would foster language-rich environments and learning opportunities for infants and young children.

Although this work was founded on the concept of a Word Gap as a target of prevention and intervention efforts, there is now a call to reframe the Word Gap as a focus of language interventions (e.g., Bruno & Iruka, 2022; Fernald & Weisleder, 2015; Kuchirko, 2019; NICHD, 2022). One of the reasons for reframing the Word Gap is that the term "Word Gap" places an emphasis on the _deficit_ that children from low-SES environments may experience in the language they are exposed to compared to the language experienced by young children from more privileged backgrounds (Masek et al., 2021; Raz & Beatty, 2018). The argument is that when researchers focus primarily on quantitative differences in language exposure between groups of children, qualitative differences in how children from diverse backgrounds may learn language may be overlooked. We believe that the focus of efforts to promote children's language development should move away from an emphasis on reducing a deficit in the home language learning environments in families from under-resourced communities. Instead, we should embrace non-stigmatizing approaches to language promotion by emphasizing the

diverse strengths that all families bring to children's early language learning and at the same time acknowledge the differential need for this work across communities.

In this paper, we discuss the concept of a Word Gap and how we can reframe this construct to emphasize nurturing environments rather than deficient environments. We first provide background on the Word Gap and its history as a fundamental concept in advancing intervention research for promoting equity in young children's early language learning experiences. We will briefly describe what was learned from early research on differences in children's early language experiences, and then illustrate how our field has moved forward in understanding ecological and behavioral factors that should be considered in promoting language learning opportunities for young children using a more finely tuned lens of equity. Finally, we will outline principles to assist the field in conducting research that reflects the expanded frame for understanding how children learn language and communication skills and we will provide examples of ways in which some researchers have begun to incorporate these principles in their work.

Early Research Identifying a Word Gap: How it Set the Stage

The seminal study conducted by Drs. Betty Hart and Todd Risley (1995) revealed the importance of adults providing language-learning opportunities to infants and young children (Hart & Risley, 1992; 1995). Observing in the homes of families from different socioeconomic backgrounds, these researchers documented the number and types of words per hour addressed to children in the homes of professional families, working-class families, and families receiving public assistance. They observed the number of conversational turns or interactions between parents and their young children as well as the qualitative aspects of those interactions and found that parents from higher SES households tended to talk and interact more with their infants and toddlers than did those from families experiencing less economic and social advantage.

Following up on children from different backgrounds, Hart and Risley documented that those children who had limited quantity and quality of language exposure as infants and toddlers had smaller vocabularies when they reached preschool age compared to children who had more language-learning opportunities. When researchers followed these children into elementary school, they discovered that discrepancies in language-learning opportunities associated with SES differences in the first few years of life predicted lower academic achievement of children in kindergarten and through early elementary school (Walker, et al., 1994). Although the original Hart and Risley study had a limited sample size and other methodological shortcomings, it was one of the first to illustrate that adult-child language interactions in the first years of life were predictive of later child academic outcomes. Findings from this study challenged prevailing views on language development as unmalleable and hereditary (Chomsky, 1986). Their work was pivotal in creating an understanding among researchers that children's early environments played a role in learning, and that early language experience could influence both short and long-term outcomes.

Since Hart and Risley's seminal work, other researchers have conducted longitudinal studies of children from diverse SES backgrounds with larger sample sizes. Several studies have corroborated the finding of SES--related differences in children's early language environments and many have pointed out that these disparities are related to both the quantity and the quality of language with caregiving adults (Rowe 2012, Goldin-Meadow et al. 2014). Also, similar to the original findings by the Hart/Risley team, these early disparities in children's language performance often grow over time and are predictive of later academic trajectories (Burchinal et al. 2002; Gilkerson et al., 2018; Hoff, 2013; Huttenlocher et al., 2010; Pace et al., 2017; Romeo et al., 2018; Rowe, 2017).

We recognize that the early studies leading to the Word Gap discovery are not without controversy in terms of their methods, and they are open to criticism for the small sample size, overrepresentation of children of color in the lower-SES groups, and for underemphasizing the potential impact of systemic societal disparities that may account for SES-related differences in parents' responsiveness to their young children (Adair, et al., 2017; Sperry, et al., 2019). It is worth noting that Hart and Risley (1992) pointed out that variation in language-related skills did not appear to put children at a disadvantage within their individual homes or communities. However, differences in language experience "…did appear to place children at a relative disadvantage in school where the emphasis is on standard, majority culture language-related skills" (Walker et al., 1994, p. 618). Although they attributed differences in children's early language experience to SES-related factors and not to race, ethnicity or cultural background, Walker and her colleagues acknowledged the following:

> The disproportionate association between economic disadvantage and minority status necessitates that future research address the effects of early, culturally specific experiences on later developmental outcomes…as exposure of minority children to different early learning experiences may give rise to communication and other skills that are alternative to those characteristic of the majority culture… but are otherwise valued and adaptive within their respective homes and cultures. (p. 618).

The early longitudinal descriptive studies documenting the Word Gap provided valuable contributions to the science of early language intervention. First, they substantiated that before children start preschool, their home and early caregiving environments can have a profound impact on their later school success (Huttenlocher et al., 1991; Rodriguez et al. 2010; Rowe, 2012). Additionally, in pointing to early language exposure disparities, these studies underscored the importance of enriching the home language learning environment to build a more equitable foundation for all children. Moreover, the findings of disparities in children's early language learning opportunities helped mobilize research around effective ways of empowering parents and caregivers with tools for nurturing language interactions with young children and promoting their language growth (Aririguzo et al., 2021; Bigelow et al., 2020; Greenwood et al., 2020; Heidlage et al., 2020; Walker & Carta, 2020).

Taking a More Expansive View on the Influences on Children's Early Language Opportunities

In our most recent iteration of the BWG Research Network (https://bwg.ku.edu/), cross-disciplinary researchers from several universities are working in partnerships with community-based organizations to reduce disparities in children's early language opportunities through interventions implemented in homes, child care, health care settings, and in everyday spaces assisted by trusted messengers in their communities. Each of these projects is engaged in interventions using the expanded framework to describe precursors of language and early literacy development and using this expanded view to illustrate how parents, caregivers and communities can foster language-rich environments in a multitude of ways. Thus, across many different settings, children will have opportunities to be exposed to a broad range of early language-learning opportunities that may support their development and enhance skills associated with later school success.

We view this newest generation of research on intervention to prevent and reduce early disparities in children's language experience as "expanding the frame" for how we begin to understand and influence the factors that contribute to early language learning, rather than "reframing" the Word Gap. This expanded frame incorporates an ecobehavioral model to the

theory and practice of early language intervention that assumes that children's language is learned through the opportunities afforded by caregiver–child interactions and the frequency or impact of these interactions is influenced by multiple factors (Ford et al, 2020). Figure 1 illustrates how these interactions are driven by (a) caregiver knowledge, beliefs, and include factors such as the caregiver's education, culture and SES (Rowe, 2008; Weber, et al. 2017); (b) environmental contexts and resource availability, such as books, toys, and experiences that set the stage for communication (Rodriguez et al., 2009) and (c) policies, practices, and other distal factors (such as availability of high quality child care and paid parental leave (Berger et al., 2005; NICHD Early Childhood Research Network, 2005) that can profoundly influence the opportunities caregivers have to sensitively respond and interact with young children and the timing, frequency, and quality of these interactions.
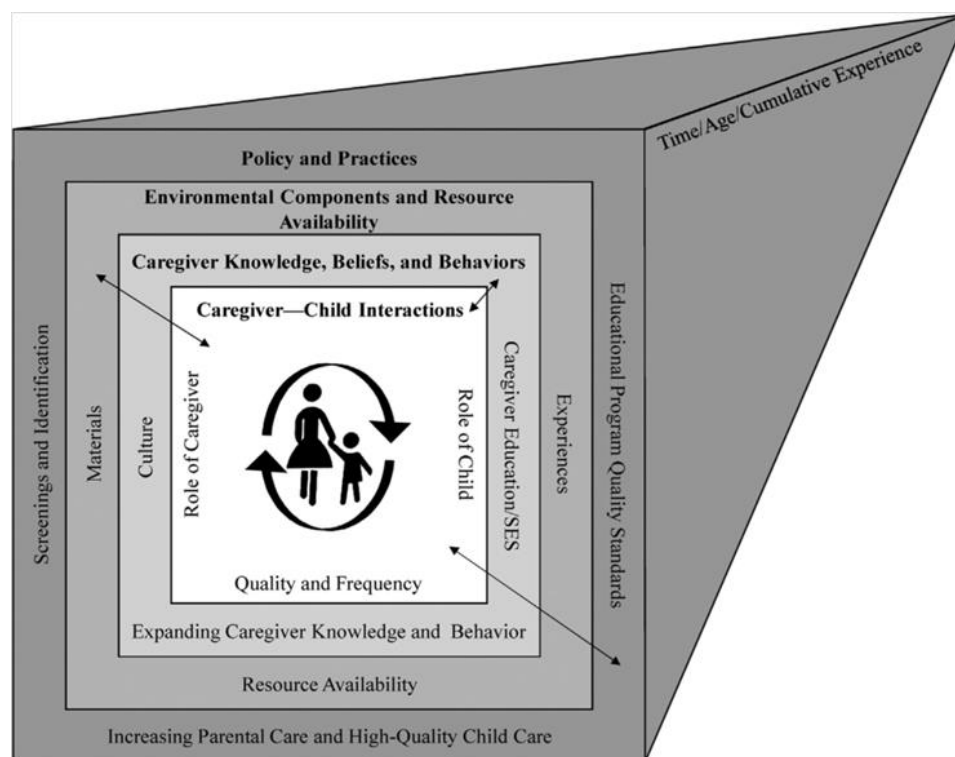

Fig. 1. An ecobehavioral model of language development which views child interactions as the mechanism for language learning. The model aims to conceptualize the influential levels that can shape the quantity and quality of caregiver-child interactions. The arrows across the various levels depict the bi-directional nature of the levels (Ford, et al, 2020).

A challenge to understanding disparities in children's early language experience is reconciling how multiple levels of influence impact the language learning environment parents and caregivers create for young developing children. Identifying gaps attributed to individual characteristics of children or families or communities fails to recognize the structural societal inequities that may be responsible for SES-related differences. The recent consensus study report on "Closing the Opportunity Gap for Young Children" (National Academies of Science, Engineering and Medicine, 2023) similarly concluded that the unequal access to crucial supports for children's development are rooted in policies that intentionally limited various populations' access to resources. The resulting inequitable distribution of experiences translates to opportunity gaps that compound and intertwine to affect a variety of life outcomes that begin in childhood and extend across the life span and across generations. The disparity known as the "Word Gap" is one example of the "opportunity gap" and, like the opportunity gap, the Word Gap intersects with and often predicts academic, health, and economic outcomes.

Recent work has begun to investigate how daily interactions of parents and caregivers with their children (events occurring at the center of the model) may be influenced by more distal or structural factors. In both naturalistic studies and intervention studies, parents who are experiencing economic scarcity may be more likely to talk less with their children (Ellwood-Lowe et all, 2022). This finding helps illustrate that all levels of the ecobehavioral model must be considered in understanding the types of support parents and caregivers may need to provide home language experiences to promote their young children's learning.

This ecobehavioral model provides a multi-level framework for guiding intervention efforts aimed at promoting the quality of children's language experiences. An important aspect of intervention development is integrating strengths from each level of the model that can be used to foster more language learning experience and promote more nurturing caregiver-child interactions. Building cultural and linguistic integrity into interventions from the outset of development and considering individual and community strengths and resources will provide a strong foundation for their acceptance and scalability.

In the public health field, researchers have identified multi-level models of intervention as a promising approach to address minority health and reduce minority health disparities (Agurs-Collins et al., 2019). There is a growing understanding that factors that underlie health disparities are multifaceted and range from the individual and interpersonal, to the community, and societal level. Thus, multi-level interventions that target the broader community, societal, and environmental contexts and that affect individual behavior or risk can produce greater reductions in health disparities than do approaches targeting a single level (Gorin et al., 2012).

When multi-level and multi-sector interventions are delivered within a community, individual caregivers or families may be affected by the additive, interactive or synergistic effects of specific interventions delivered within one level (Gottfredson et al., 2015). In the field of language promotion intervention, some intervention researchers may focus on levels of the model more distal to caregiver-child interaction (e.g., policy and practice) (e.g., Love et al., 2005), while others may focus on more proximal levels (e.g., parents' knowledge of child development) (Alper et al., 2021). Some prevention models are targeting strategies that influence multiple levels simultaneously and seek to engage as many levels and sectors of communities as possible (e.g., Greenwood et al., 2017).

Some Principles to Guide the Expanded Research Framework

We believe that this expanded view of factors influencing children's early language learning opportunities offers more than just a new way to conceptualize our research. It also provides a framework for some principles that can help guide our research network and the larger community of language researchers (and perhaps others interested in child development and the factors that affect it) to carry out research using methods that are more inclusive and that are built upon the strengths of families and communities from diverse socioeconomic, cultural, linguistic, and racial backgrounds (e.g., Meek et al., 2020).

As we strive to address the inequities in opportunities in children's early language environments through our interventions, we expect that much of our work will continue to focus on the center of the model--promoting caregiver-child interactions through strengths-based approaches. We will continue our focus on changes that can be made in the center because these factors are ones that we can influence most directly with the current state of our intervention science. Nonetheless, we must continue the work to understand the factors identified in the outer edges of the model and advocate for systems change in the policies and practices that provide all children with opportunities to thrive in their early years and prepare them for school success.

What follows are some principles that we hope will guide our community of researchers and others in moving the field forward. We offer these in the spirit of continuing the conversation about "reframing the word gap," with the hope that others can add to this list of principles that can guide this work using approaches that are more meaningful and acceptable by those most affected by our research. For each of these principles, we provide examples that illustrate how researchers have applied the principle. We hope these examples will provide some direction for ways to conduct research using a sociocultural lens that considers the broader context in which children and families live and work. Our belief is that these principles will increase our understanding of how we can best provide children with opportunities that will foster their language skills, ways of reasoning and communicating, and readiness for later school success and other highly valued life outcomes.

Here is an initial list of principles meant to advance our work in promoting equity in children's early language learning opportunities:

PRINCIPLE 1. <u>Move away from the term "Bridging the Word Gap"</u> when describing the difference in early learning experience of children from high versus low socioeconomic groups and frame the focus on developing intervention efforts on "increasing equity in children's early language experiences."

- The rationale for this reframing is that by moving away from the deficit language that describes what some children from historically marginalized communities may lack in their early experience, (i.e., "greater quality or quantity of language or interactions,") we will be less likely to attribute this presumed "gap" to some inherent linguistic deficiency of families or communities. Instead, we should broaden the focus of our interventions to ensuring that all children have equitable access to language-promoting environments in their homes, school and community settings where parents, caregivers and others engage and interact with children in ways that help them thrive.

PRINCIPLE 2. Develop interventions that <u>recognize the strengths</u> (e.g., cultural and linguistic characteristics) that families bring to parent-child language interactions and could be used to help move children on a trajectory toward family-valued outcomes.

- A recently developed intervention by Levya and colleagues (Levya et al., 2022) illustrates the principle of employing a "strength-based" approach to designing interventions. They designed an intervention, Food for Thought, in which parents were taught to foster children's narrative abilities. The intervention is based on two socially valued and frequently occurring practices in Latine culture (storytelling and family food routines). These practices provided a strengths-based platform for encouraging children's narrative abilities, a strong predictor of comprehension skills and later school achievement. The intervention was evaluated in a randomized trial and produced positive outcomes on four features of children's narrative abilities.

- Another example of a strengths-based intervention is Háblame Bebé, a phone app developed by Baralt and colleagues (Baralt et al., 2020). This mobile app is used to help caregivers talk and engage more with their young children. This culturally and linguistic responsive intervention includes a sociolinguistic pride component that encourages Latine caregivers to interact with their children in Spanish and encourage their bilingual development. Early studies using this app show promise in its effectiveness in promoting mothers' interactions with their young children and have reported a high level of parent satisfaction with this approach to intervention (Larson et al., 2022).

PRINCIPLE 3: <u>Engage diverse stakeholders in the community in co-creating language-promoting interventions</u> to increase their cultural relevance, linguistic appropriateness, and ecological and social validity.

- This principle was employed by Hammer and Sawyer (2016) who developed the content of story books that were the centerpiece of a culturally responsive interactive book reading intervention. Through an iterative process, Latina mothers provided input about the themes, storylines, and illustrations of books. Children who engaged with their mothers in the book-reading intervention showed superior gains in language outcomes compared to a control group, and mothers reported the culturally responsive intervention had strong social and cultural validity.

- Rumper and colleagues (2021) demonstrated the principles in their creation of a linguistically and culturally relevant Spanish adaptation of Duet, an early language intervention that employs modules and videos to guide parents in engaging in language interactions with their young child. A key part of their adaptation process was incorporating caregivers' knowledge and life-experience to create modules that would be accessible across multiple dialects of Spanish. Their article is noteworthy in its description of successful strategies for incorporating caregivers' perspectives into an early intervention that can serve as a blueprint for researchers for developing both linguistically and culturally valid early intervention materials aimed at caregivers.

PRINCIPLE 4: <u>Develop language-promoting interventions that parents and caregivers find easy to access</u> and can use within their everyday activities in their homes, child care programs, and within various community settings where they spend time with their children.

- One example of an easy-to implement intervention is PC TALK, an intervention developed by Walker and Bigelow (2012) that provides coaching to families and caregivers on ways in which they can use everyday routines as times in which they can communicate and interact with their young child using a set of evidence-based language strategies. This intervention has shown promise in increasing parents' and caregivers' use of these strategies to promote the communication of infants and young children (Bigelow et al., 2020; Pentimonti et al., 2022).

- Another example of an approach for increasing parents' access to intervention is using "every day" spaces in the community, such as laundromats or barbershops (Neuman & Knapczyk 2022). Neuman and colleagues (e.g., Neuman, Portillo, & Celano, 2020) have created small literacy centers with books and activities for young children in laundromats and discovered that these simple changes in the ecology of those everyday spaces in the neighborhood resulted in children engaging in 30 times as many literacy activities compared to laundromats that had not installed similar literacy centers.

PRINCIPLE 5: When reporting results of studies, <u>include information about the characteristics of participating children and families</u> and the salient aspects of their home and community so that results can be used to help inform what strategies work with whom and under what circumstances.

- Bruno and Iruka (2022) provide an antiracist lens to critically examine how reports about the Carolina Abecedarian Project (Ramey & Campbell, 1984) failed to include information on the sociocultural context of participants (children, families, teachers). While the Abecedarian was critically important in establishing that early care and education experiences have long-term positive impacts on educational, social-emotional, and health outcomes, most reports of this study failed to point to the fact that the vast

majority of its child and adult participants were Black. These scholars raised the point that by not including critically salient factors impacting the sample, most reports about the Abecedarian Project fail to consider the racial sociohistorical context of the sample and how that context may have affected participants' outcomes and thus, limiting the work's ability to inform practice and policy for the population of Black children and families represented. They propose using an antiracist lens to examine whether and why race moderates the effects of intervention rather than assuming that an intervention results in an average impact across populations (Fisher et al., 2020).

PRINCIPLE 6: Develop and <u>employ measures sensitive to children's development within the context of cultural and linguistic diverse backgrounds</u> and align with long-term outcomes valued by diverse groups.

- Although there has been a growing call for measures that can accurately assess the language skills of children whose first language is not English (American Speech and Hearing Association, 2017; Durán et al., 2010), only a few measures are available to estimate levels of children's Spanish oral language development that are based on typical Spanish language development and not simply translations of English measures (Bedore et al., 2021; Fien et al., 2011). Durán and Wackerle-Hollman and colleagues (Durán et al., 2019: Wackerle-Hollman et al., 2019) have developed Individual Growth and Development Measures Español (IGDIs-E) that are based on a General Outcome Measurement approach to assess young children's oral language development in Spanish. Results on a large sample demonstrated that the measure has strong psychometric properties and is acceptable for children with varying Spanish dialects (Wackerle-Hollman et al., 2020).

- Gardner-Neblett (2022) recently reported that language assessments that use storytelling are more equitable and inclusive than typical standardized language assessment. She provided evidence of this point in an analysis of the Early Childhood Longitudinal Study (Najarian et al., 2010). Gardner-Neblett and Iruka (2015) found that for Black children only, preschool children's oral narrative skills mediated the link between the language skills of toddlers and later emergent literacy. This finding reinforces the point that more research is needed to develop assessments based on specific strengths of racial, cultural, and linguistic groups.

PRINCIPLE 7: <u>Recruit research teams with members who reflect the racial, cultural, and linguistic diversity</u> and range of ability and neurodiversity of the populations with which we work and encourage an open and respectful exchange of ideas.

- Like Bruno and Iruka (2022), we strongly support the notion that more diverse research teams are likely to improve our scientific undertakings. That diversity will add to the cultural sensitivity of interventions designed to advance the learning outcomes of all children. Thus, we need to take concrete steps to create more diverse teams for conducting intervention studies. Moreover, we must encourage action to ensure that more scholars of color are leading these studies and are involved in their design, implementation, and evaluation (Avilés-Santa, 2020; Nikaj et al., 2018).

PRINCIPLE 8: Expand our efforts to <u>develop the next generation of culturally diverse researchers</u> who have the skills, experience, and values to conduct community-engaged research and encourage an open and respectful exchange of ideas.

- Recent attention from funding agencies, research centers, and individual researchers has generated new knowledge about successful strategies for recruiting and retaining students from diverse backgrounds with the aim of creating a diverse scientific

workforce. In a scoping review, Williams and colleagues (Williams et al, 2022) reported several approaches for recruiting and mentoring individuals from diverse groups that have been identified in the literature. Although only a few studies focused on strategies to increase diversity, several studies focused on ways to facilitate research productivity among diverse young scholars. Among these strategies were: traditional one-on-one mentorship, structured mentorship by a senior mentor, and peer mentorship.

PRINCIPLE 9: <u>Develop community coalitions that engage multiple sectors</u> over time and result in collaborative partnerships based on trusting relationships with a shared vision of spreading language-promotion interventions to diverse families and early care and education providers.

- In Kansas City, KC Brainbuilders is engaged in developing and evaluating a community-wide coalition with representation from multiple sectors to work together to find new ways to engage parents and caregivers in learning about ways in which they can promote their young children's language and early literacy. Working together they are creating a community where parents and children encounter environments where they get the message about the importance of talking, reading and playing together. (Greenwood et al., 2021).

- In New York City and Pittsburgh, PA, Mendelsohn, Shaw, Roby and others have been implementing Smart Beginnings, a multi-sector community-wide approach to improving population-level school readiness. Critical to their approach has been integrating two evidence-based interventions: 1) a universal primary prevention strategy (Video Interaction Project [VIP] (Mendelsohn et al., 2013); and 2) a targeted secondary/tertiary prevention strategy (Family Check-up [FCU]) for families identified as having additional risks (Roby et al., 2020)

Conclusions

One of the most important accomplishments for children in their earliest years is acquiring language: learning to understand others and to express wants and needs. Developing language matters, as it allows an individual to communicate, store knowledge, and establish relationships with others. Despite the critical importance to everyday living, striking individual differences in language skills exist among children in their early years. Strong associations with later disparities in income, health outcomes, job placement, and other life milestones underscore the importance of these differences in verbal achievement (Golinkoff et al., 2018).

Therefore, understanding the factors associated with children's language learning differences and discovering how best to foster environments that nurture children's language should be of paramount importance to researchers interested in designing effective evidence-based interventions. The ecobehavioral framework (Ford et al. 2020) provides an expanded perspective on the many layers of factors that may account for disparities in children's early language learning opportunities. Recent scholarship, discussion and research has pushed us to recognize that many factors influence and intersect to affect the daily interactions that parents and caregivers have with children. We have a growing awareness of the variety of strengths as well as stressors that can influence the quality and the quantity of interaction time that parents and caregivers have with children. Yet, as we begin to understand how environments affect children's experience, we need to acknowledge that stressors including socioeconomic disadvantage are not evenly distributed across groups but disproportionately affect families of color, families in under-resourced communities, and immigrant families. "These stressors are particularly challenging for families with intersecting identities affected by multiple systems of oppression" (Meek et al., 2020).

What is clear then is that interventions are needed at multiple levels to address factors that influence children's development and the environments in which they grow and learn. We need to work to change the systems of oppression, racism and marginalization that exert their influences on caregivers in their daily interactions with young children.

> But working on that broader level does not negate or diminish the effort still needed to develop strategies that caregivers can use to help children be successful and maximize their opportunities. We are not preparing children for the world we hope one day exists-- but the world in which they find themselves. (L. Durán, personal communication, April 10, 2019)

This paper lays out principles that help outline a science of language promotion based on an understanding of the broader context of stressors and supports that families and caregivers face. It helps put into perspective that children's early language experience is usually affected by not just one but many layers of factors that for marginalized groups often create inequities and structural barriers to opportunity. It argues that interventions best suited to influence children's language trajectories should be multi-tiered and multisector (Greenwood et al., 2017; Pace et al., 2017). Our goal should be to create opportunity and access and support for families and caregivers. Our aims should be:

- to create evidence-based practices that build on families' and caregivers' strengths,

- to involve communities and diverse stakeholders in the creation of those practices,

- to document the extent to which these practices work and for whom,

- to disseminate interventions and their evaluation broadly to make a meaningful difference in the outcomes of children from diverse socioeconomic, racial, cultural, and linguistic backgrounds and ability levels.

These principles are just a starting point for a conversation about how best to achieve these aims using research that is more strengths-based and focuses on individuals in a way that is more "contextually, socially, and culturally grounded" (Bruno & Iruka, 2022, p. 12). The principles provide some beginning guideposts to answer questions such as how our intervention research should be conducted, how we should create our research teams, and how we will determine outcomes.

We hope that this will be the beginning of a conversation about these issues and that others will share their reactions and additions, add to examples of research that illustrate these principles and expand on our collective journey in designing practices and policies that will create more nurturing environments that will enhance the outcomes of children, families, and communities.

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