OPEN

Top Lang Disorders
Vol. 45, No. 2, pp. 135–156

Adopting Quality for School Readiness (AQSR)

A Heuristic Framework Using Recommended Practice and Professional Knowledge to Support Oral Language in Multilingual Classrooms

Sonali Nag, PhD, Gideon Arulmani, PhD, Dhir Jhingran, PhD, Jelena Mirković, PhD, Alis Oancea, PhD, and Margaret Snowling, PhD

High-quality oral language interventions support children's readiness for formal literacy instruction, and yet guidance for multilingual classrooms is not available. To address this gap, we drew on the empirical literature on linguistically diverse learners, classroom linguistic environments, and usage-based theories to identify principles for recommended pedagogical practices. We next examined how teachers explained their oral language teaching and what they said after delivering an intervention based on recommended practice. Using a reflexive approach to qualitative interview and questionnaire data, we found some convergence but also areas of limited overlap between recommended practice and teacher professional knowledge. Supporting child talk was seen to serve a motivational-affective purpose more than the cognitive-linguistic purposes implicit in research-informed recommended practices. Based on insights from specialized literature and distillations of professional knowledge, we propose a heuristic framework named Adopting Quality for School Readiness (AQSR). We also discuss uses for the AQSR framework and outstanding questions for future research. **Key words:** *diverse learners, early childhood education, multilingual classroom, oral language intervention, usage-based theory*

Author Affiliations: *Department of Education, University of Oxford, Oxford, UK (Drs Nag, Oancea); The Promise Foundation, Bangalore, India (Dr Arulmani); Language and Learning Foundation, New Delhi, India (Dr Jhingran); School of Education, Language and Psychology, York St John University, York, UK (Dr Mirković); and Department of Experimental Psychology, University of Oxford, Oxford, UK (Dr Snowling).*

Author contributions*: The order of authors after the first author is alphabetical.*

Acknowledgements*: We thank the children and teachers who took part in the studies reported in this paper. Thanks too to our government and school management partners. We also thank, in alphabetical order, Prateek Agarwal, Ningappa Aladakatte, Yousef Aleghfeli, R. Amritavalli, Warda Arif, Kala B., Chandana B. S., Antonin Charret, Rinkle Crasta, Robert D'Souza, Amrita Gopal, Swati Gopinath, Anuradha Gupta, Arzia Habibi, Audrey Hagopian, Nidhi Kapoor, Vikas Khanna, Usha M. N., Siyu Ma, Chandrika Mathur, Rayan Miranda, Manju Mohandas, Sanjana Nagendra, Anay Nangalia, Jitendra Negi, Athina Ntalli, Sheesh Pal, Vikram Pal, Pooja Pandith, Deeksha Prabhu, Akhila Pydah, Nidhi Qazi, Ernesto Roque-Guttierez, Bhabesh San San Wal, Enxhi Sharxhi, Adhvika Shetty, Vamshi Shravan, Sukriti Shukla, Hannah Simmons, Amrendra Singh, Anandamayee Singh, and Akanksha Tyagi. This paper has gained from discussions with Yonas Asfaha, Kate Kupiec and Parin Siddhartha.*

Conflict of Interest statement*: Authors have no conflict of interest to declare.*

Funding and Funders statement*: The research is supported by the Economic and Social Research Council (UK), grant ES/T004118/1. This is a UKRI GCRF-funded project investigating oral language development among multilingual children aged 3-6.*

INTRODUCTION

Widespread low attainment at the end of primary school has prompted calls globally for quality interventions to support children's readiness for formal literacy instruction. Oral language skills are vital components of school success; when children begin with strong language foundations, they can make positive gains in literacy. A focus on language is particularly urgent in low- and middle-income countries where one estimate is that 37% of children "are not being taught in the language they speak and understand best," with numbers rising in some countries to 90% learning to read in a language other than the home language[1] (Crawford et al., 2021, p. 9). There are already several well-evidenced initiatives to support literacy development globally, with recommended teacher support for their implementation at scale (e.g., Stern et al., 2022). However, of particular interest here is the oral language instruction that must supplement literacy instruction to ensure success.

A modest but rapidly expanding evidence base is available on the precursor language skills linked to literacy growth and the language-related risk factors for underachievement (e.g., Hjetland et al., 2020; Liu et al., 2024; Nag et al., 2014; Snow & RAND Group, 2002; Verhoeven et al., 2023). Converging evidence in alphabetic languages shows that code-related skills like phoneme awareness and letter knowledge have a direct effect on the development of word decoding skills and an indirect effect on reading comprehension mediated via word decoding (e.g. Crawford et al., 2025). However, what is sometimes missed is that earlier developing oral language skills are the foundation for *both* decoding skills and reading comprehension across grades (e.g., Castles et al., 2018), and this finding holds across writing systems and languages (e.g., Romance, Slavic, Germanic, and Uralic language families: Caravolas et al., 2019; Ehm et al., 2023; Hulme et al., 2015; Torpa et al., 2016). Such broad-based and long-term impacts of strong oral language foundations provide the rationale for investing in the delivery of oral language interventions at scale.

Investing in language development interventions is especially essential when children begin literacy instruction in a language other than the home language.[2] Unsurprisingly, as with monolingual contexts, children in multilingual contexts who begin with lower levels of oral language are at risk of lower literacy attainments (Kenya: Wawire et al., 2021; multiple countries: Crawford et al., 2021). At the same time, for bi- and multilingual children, proficiency in the language of school instruction is significantly associated with attainments (Ke et al., 2021). Yet, despite acknowledgement of its importance, explicitly supporting oral language development in multilingual contexts has not been an area of systematic attention when enriching mainstream literacy interventions (e.g., Kenya: Dubeck et al., 2015; multiple countries: Stern et al., 2022).

Supplemental digital content is available for this article. Direct URL citation appears in the printed text and is provided in the HTML and PDF versions of this article on the journal's website (www.topicsinlanguagedisorders.com).

Corresponding Author: *Sonali Nag, PhD, Department of Education, University of Oxford, 15 Norham Gardens, Oxford, OX2 6PY, UK. (sonali.nag@education.ox.ac.uk).*

DOI: 10.1097/TLD.0000000000000366

[1] We use the term "home language" as a shorthand to signal the child's primary language at home. It may or may not be the first language the child has learned or the only language in the child's home or their ambient language environment.

[2] Of interest is the linguistic distance between the home language and the language of instruction in school. The distance may come from where a language variety sits along a dialect continuum and the characteristics of a language within or outside a given language family, and from diglossia. Distance and diglossia may surface in domains like phonology, morphology, and syntax.

We present a descriptive narrative of the complementary forms of expertise available within the research and practice communities and how these may be integrated into a framework to support implementation of oral language interventions at scale. Our focus is on universal, whole-class programs at school entry, a time when children's experience of a match-mismatch between home-school language(s) is particularly sharp. We use an evidence synthesis on linguistically diverse learners, classroom linguistic environments, and usage-based theories to identify principles for instructional strategies and recommended pedagogical practices. Here, "recommended practices" are defined as covering categories of pedagogical activities (e.g., recitation) and their sub-types (e.g., recitation of poems and choral repetition). Using two teacher studies, we next examine local professional knowledge and views about purposes of specific activities and find some convergence with recommended practices but also areas of limited overlap. Based on insights from the two – recommended practice and professional knowledge – we suggest a heuristic framework named Adopting Quality for School Readiness (AQSR). Our aim is to enable teachers to flexibly implement oral language interventions, and we see the AQSR as a potential framework to support this process.

Forms of Practice

Conducting research and the professional delivery of education may each be considered as a form of practice. Shared features in the two forms of practice include systematic and inquisitive thought, reflective use of tools, and the potential for considerate exercise of professional virtues (Oancea, 2018). Within this perspective, both teacher and researcher practices are seen as framed by personal aims and expectations and shaped by experiences with the teaching-learning process. For teachers, accumulated experiences may include implementing prior guidance, including those introduced to them as informed by research evidence. However, teachers may experience a gap between the realities of classroom interactions and the distillations of knowledge drawing on research evidence. In this paper, we conceive of the relationship between research and professional practice as dialogical rather than unidirectional – an approach that is consistent with arguments against reducing the relationship between research and practice to a linear application of an evidence base (e.g., Biesta, 2007; Higgins, 2011; Oancea & Furlong, 2007; Smeyers & Depaepe, 2006).

In parallel, it is imperative to consider assumptions implicit in research-informed interventions against a pre-existing social-cognitive environment of beliefs that explicitly and/or implicitly underpin preferred educational practices (Arbib & Hesse, 1986; Arulmani et al., 2020; Asfaha & Nag, 2023; Bowne et al., 2016; Jukes et al., 2023; Nag, 2023; Newbury et al., 2023; Snowling et al., 2022). For example, a belief that choral lessons help learning may explain a preference for activities such as "spelling callout" and "say-after-the-teacher reading" (Dlamini, 2009, p. 10), or a belief about learning-by-writing may underpin daily copywriting and the "look-listen-say-copy" routine (Azuara, 2009, p. 9). These enculturated activities are common in many African, Latin American, and Asian communities (Arulmani et al., 2020; Nag et al., 2016) but often absent in most European communities. Some of these activities are yet to be systematically researched.

In addition, existing research in low- and middle-income countries, and specifically in India, suggests that teachers' beliefs mediate implementation of education reform (Nag et al., 2016; Sriprakash, 2009), with one argument being that teachers' beliefs serve as invisible barriers (Brinkmann, 2015, 2020). However, not much is known about teachers' preferred practices for oral language development, and how these relate to either new policy or new recommendations from university-based research. Likewise, not enough is

known about classroom-based solutions that have emerged from daily teaching situations in multilingual contexts. We examined these gaps in the literature about professional knowledge to then compare with recommended practice from published research.

Recommended Practice: Evidence Bases for Oral Language Interventions

We considered the following empirical literature to identify recommended practices for universal oral language interventions: (1) linguistically diverse learners, (2) classroom linguistic environments, and (3) usage-based theories of language development.

Linguistically diverse learners

Oral language interventions that are for all children in the classroom should ideally be informed by evidence on cognitive-linguistic needs that may be similar for first language (L1) and second/third language learners (henceforth L2 learners). While the literature is overwhelmingly focused on delineating group differences between L1 and L2 learners (e.g., see meta-analysis by Melby-Lervåg & Lervåg, 2014), there is the smaller body of research on the *commonalities* across groups with diverse language characteristics. This research on similarities suggests remarkable parallels across groups in skills and processes. For instance, the precursor skills for reading comprehension including word decoding, reading fluency, listening comprehension, vocabulary, and morphological awareness are similar among L1 and L2 learners, as are the patterns of their relative contributions and inter-relations (e.g., Drummond & Nakamura, 2021; Kieffer & Lesaux, 2012; Siegelman et al., 2024). There are similarities among monolingual and bilingual children also in how the amount and quality of language exposure explain growth in component skills of language such as vocabulary and grammar knowledge (Hoff et al., 2012). Finally, after controlling for socioeconomic status and school effects, children for whom the home and school language are matched develop similarly to those for whom the home and school languages are different. Indeed, a meta-analysis based on data from 41 countries from the Global South showed the association between home learning attributes and literacy attainments was similar irrespective of children's home-school languages (Nag et al., 2024). Not surprisingly then, teaching practices that support oral language development such as the quality of teacher talk (e.g., high lexical diversity and expansive syntactic complexity) or engaging children in talk (e.g., extended discourse and cognitively challenging talk) are similarly beneficial for linguistically diverse groups of learners (e.g., Dickinson et al., 2023).

Classroom linguistic environments

Micro-elements of talk in the classroom such as the number of unique words used by teachers and patterns of teacher-child turn-taking and pause times are arguably the hidden core of an oral language intervention. Opportunities to produce language for communicative purposes and space for extended talk by the child are associated with an increase in children's vocabulary at school entry (e.g., Dickinson, 2001). In addition, growth in child vocabulary and the complexity of the sentence structures they use is predicted by the ratio of new and varied vocabulary and complex syntax in teacher talk (e.g., Dickinson & Porche, 2011; Huttenlocher et al., 2002; Vasilyeva et al., 2006). Questions-guided talk also improves children's narrative coherence (Silva & Cain, 2019). Another language-supporting practice is teachers' modeling of more sophisticated vocabulary and advanced sentence structures (also called "recasts"). Together, the pedagogically distinct approaches of questions-based conversations and the use of sophisticated syntax in teacher talk can be statistically explained by a single factor of teaching practices that provide "advanced linguistic models" (Justice et al., 2018, p. 89).

Teachers' use of pauses or "wait time" appears to be an especially strong prompt for children to extend their talk (e.g., Ingram & Elliot, 2016). Examples of extended child talk include the addition of descriptive details, explanations, and verbally reflecting on their thinking behind their inferences, predictions, and speculations. With teachers waiting and slowing down the pace of conversation, children have time to plan their talk (e.g., McDonald, 2013), reconstruct sentences, and process information more thoroughly. Making extra time available also provides the space to deepen conceptual knowledge (e.g., mathematics: Ingram & Elliot, 2016; science: Mercer et al., 2004) and predicts modest vocabulary growth (Justice et al., 2018). Wait time thus supports both language production and language comprehension.

Quality of communication is another key characteristic of a supportive language environment (e.g., Hirsh-Pasek et al., 2015). Almost all language supporting behaviors are interpersonal and relational such as when teachers tailor their replies to the level of the child's talk, scaffold the approximate language used to communicate, and affirm halting attempts. In addition, the level of respect, enthusiasm, warmth, and "the overall emotional tone of the classroom" – characteristics of a positive classroom climate (Hamre & Pianta, 2007) – are enabling factors in oral language development although they are not a sufficient condition for improving scores on standardized tests (Hamre at al., 2014).

Usage-based theories

A growing body of evidence from across different social and linguistic contexts, including classrooms at school entry, shows the key role of language exposure and language production in language development. This evidence base demonstrates that the quantity and quality of language input are essential for language acquisition and development (e.g., Hoff, 2006; Hoff et al., 2012; Huttenlocher et al., 2010; Rowe, 2012). Implicit learning mechanisms, including statistical learning, underpin these effects across all levels of linguistic structures (Ambridge & Lieven, 2015; Aslin & Newport, 2012; Chang et al., 2006; Romberg & Saffran, 2010; Savage et al., 2006; Seidenberg & MacDonald, 2018). Here, statistical learning is the process of encoding and retaining probabilistic regularities in environmental language input, without either explicit, intentional instruction or a conscious awareness to systematically learn. In addition, utterance planning before speaking is important because it is in the planning that multiple component skills of language come together for communication (MacDonald, 2013; Hopman & MacDonald, 2018). For children, language exposure and language production support multiple aspects of narrative expression (e.g., story grammar: Silva et al., 2014; Silva & Cain, 2019; the complexity of sentence structures: Hesketh et al., 2016; Huttenlocher et al., 2002; Kidd, 2012).

Evidence synthesis of principles, strategies, and practices

The above literature was assessed by a panel of language and literacy researchers (three of the authors and a working group). For a research finding to be shortlisted for our evidence synthesis, two criteria had to be met: (1) the availability of high quality, experimental studies and (2) well articulated theorizing about the learning mechanisms associated with a principle, strategy, or practice. Shortlisted instructional strategies and recommended practices were thematically organized under eight principles (see Table 1). The number of identified strategies and practices varied by principle, ranging from two to six. The entries went through several iterations to ensure they were succinct yet conceptually distinct.

Table 1. Evidence synthesis: Principles, instruction strategies, and commended practices for oral language interventions at school entry

Principle	Instructional Strategy[a]	Recommended Practice (to be read in conjunction with three enabling conditions for multilingual contexts[b])
Provide rich language exposure	Story reading, including stories scripted for rich language	Use the story as the core of the lesson
	Role modeling rich language use for communicative purposes Peer-to-peer listening, including during group answers and staggered retelling	Ask meanings of words and/or teach new vocabulary before reading story Use question-answers soon after story reading Use questions to guide group talk
Demonstrate varied sentence use	When appropriate, demonstrate use of • simple mono-clausal sentences • more complex, multi-clausal sentences (typically two clauses, occasionally three)	Model well-structured full sentences after incomplete utterances by child Model well-structured full sentences for answers gathered after each question
Demonstrate longer narratives	Provide opportunities for listening to stories, including stories with a problem-attempt-resolution story line	Model story retelling with story elements[c]
	Building up from two-part narratives to multi-episode narratives	Model how to talk more about their thinking (e.g., about the story, a question, and a study topic)
Support implicit learning Prime to enhance implicit learning	Provide opportunities for listening and using target vocabulary and sentence structures in • stories scripted for frequent exposure to target vocabulary and sentence structures • multiple texts (fiction and nonfiction) for frequent exposure to target vocabulary and sentence structures but in diverse contexts • scripted answers to questions for further exposure to target vocabulary and sentence structures	Use questions to prompt thinking (e.g., about story elements[c], a question, and idea units in a study topic) Use questions to draw attention to target vocabulary and sentence structures Use questions that prompt children to predict, summarize, clarify, and further question Deliver lesson as close to the language-rich script Make lesson as consistently language-rich as possible
	Providing opportunities for listening to extended talk and reconstructed/recast sentences • especially following incomplete, brief, and condensed utterances	
	Practicing extended talk	

(*continues*)

Table 1. Evidence synthesis: Principles, instruction strategies, and commended practices for oral language interventions at school entry (*Continued*)

Principle	Instructional Strategy[a]	Recommended Practice (to be read in conjunction with three enabling conditions for multilingual contexts[b])
Guide narrative production	Providing several opportunities for • practicing extended talk using activities such as questioning after story reading • practicing longer narrations using activities such as story retell	Give time for group and individual story retell Provide props to support recall Provide opportunities to communicate for an audience Use turn-taking routines so all children get the opportunity to talk Use questions to extend thinking
Provide wait time	Giving time for children to plan before they say Giving time for children to reconstruct what they want to say	Ensure wait time during the question-answer activity and the story retelling activity
Nurture a positive communicative environment	Starting from where the child is • Scaffolding to extend language use • Encouraging conversational turn-taking	Model rather than simply say child did not express well Praise approximately close language use Praise child participation in teacher-child joint activity Praise turn-taking in child-to-child talk

[a]Supported by well-resourced materials and content such as age-appropriate and culturally diverse story books, thematically linked poems, and props for story retelling; also relevant for mandated textbooks.
[b]Three enabling conditions are essential for multilingual contexts: (a) accept code-switching, code-mixing, and translanguaging in communications, (b) reject the monolingual rule that states that child and teacher talk must be in no language other than the school language, and (c) reject shaming and humiliating the child when their talk is in a variety other than the privileged variety.
[c]Examples of story elements include the character, setting, mental states, problem, attempts, and resolution.

Enabling conditions in multilingual classrooms

The principles, instructional strategies, and recommended practices collated in Table 1 are to be read in conjunction with three conditions that were conceptualized as essential for multilingual contexts. The first enabling condition was to accept that alternating between languages is a spontaneous mode of communication; these communicative modes are discussed as code-switching, code-mixing, and translanguaging in the literature (for a critical review, see Treffers-Daller, 2024). The other two enabling conditions were to counter two pedagogical practices that regulate and stifle language use: (a) a monolingual rule that talk must be in no language other than the school language and (b) the shaming and humiliating of children when their talk is in a variety other than the privileged variety. Accepting code-switching, rejecting a monolingual rule, and

rejecting shaming practices were seen as essential when applying any of the principles in Table 1 in multilingual contexts. For example, the principle of "guide narrative production" through "providing opportunities to communicate for an audience" could not be restrictive if the aim was to support oral language development. In other words, during a presentation by a child to an audience such as story retelling to the peer group or visitors to the class, the enabling conditions would be to accept code-switching in the narration, to not penalize if the narration was in part or completely in the home language, and to not shame the child for speaking in a particular language variety.

Taken together, one use of our evidence synthesis is for intervention development. In this paper, we went further. Our aims were two-fold: to map teacher professional knowledge alongside this evidence synthesis and to use insights from the mapping exercise to develop a framework for supporting teachers.

The Current Study

We examine teacher professional knowledge in India where many children and classrooms are multilingual. Aside from our interest in professional knowledge, a study on teacher knowledge is especially relevant for India given the local policy context. India's mainstream policy discourse has recently included the need for well-resourced interventions for literacy learning (Jhingran, 2023). This focus is partly due to innovations in the field (e.g., Jhingran, 2019; Nag, 2010; Nag, 2013), a National Educational Policy (2020) focused on foundation learning, and an implementation plan at the local and national levels (National Initiative for Proficiency in Reading with Understanding and Numeracy [NIPUN], 2022). Many states in the country now have a daily *maukhik bhasha* period (literal translation: oral language lesson). These dedicated times within the school day are an excellent pathway to scale-up oral language interventions. Yet, there remain concerns that the new policy will be adopted in a 'legalistic manner', but teaching practice will not change (Gupta, 2022; Mangla, 2022). A further concern is unique to the multilingual landscape of the country in that multiple studies show a privileging of certain languages of instruction both at the point of school entry and earlier within the context of early childhood education (e.g., Alcott et al., 2020; Sriprakash et al., 2023).

Of particular interest is the substantial number of children entering school with a home language other than the language of instruction and the multiple home languages within many classrooms (e.g., Nag & Arulmani, 2015). One characterization of such classrooms across multiple states in India is of "rote memorization and copying, passive children, little focus on thinking and reasoning, lack of support to struggling readers, and classroom instruction [that] does not include students' home languages" (LLF Annual Report, 2000-2021, Figure 1). In this paper, we refer to this pattern of teaching practices as business-as-usual. In parallel, there are examples of successful at-scale early literacy interventions such as the Talk – Hands on – Text – Publish approach (The Promise Foundation, 2016; Nag et al., 2020) and the four block model (Language and Learning Foundation, 2016; National Curriculum Framework–Foundation Stage, 2022). However, these interventions do not focus on structured support for oral language. There is therefore a need for a framework that can help teachers to support children's oral language development as well.

To understand teacher professional knowledge, we conducted two studies asking (1) how do teachers explain their teaching for children's oral language development? (Study 1a) and (2) what do teachers say about a mainstream intervention based on recommended practice? (Study 1b, description of intervention below). The studies received approval from the University of Oxford (CUREC R63616/RE002; RE003; DREC EDUC_C1A_23_233) and The Promise Foundation (India; 11-11-2021).

We focused on sites with a multilingual population both historically and following more

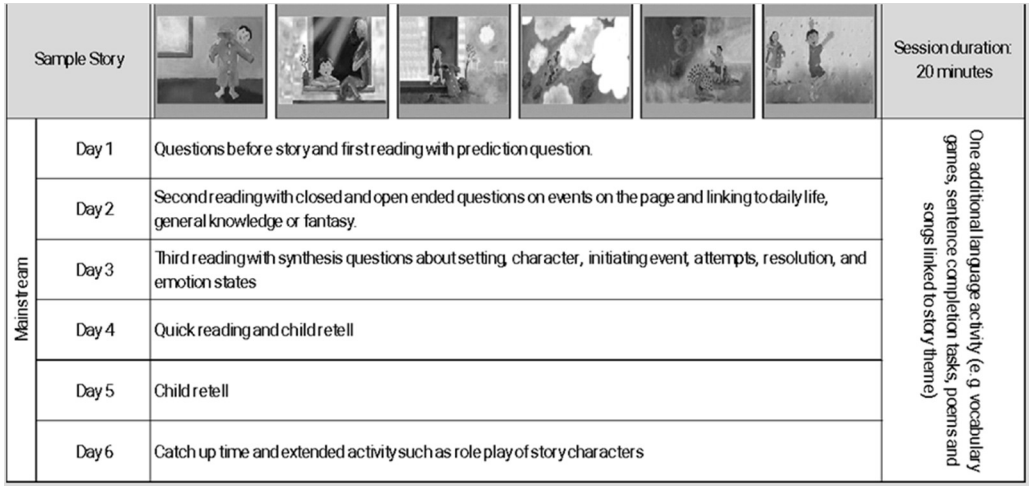

Figure 1. Implementation details structured around weekly stories with a problem-resolution storyline[1,2,3].
[1] Kasturia (2015); images Tambawalla (2015); storyline is a new raincoat and a daily wait, until one day the rains arrive. [2] The story panel was available to each child as a picture strip to refer to during individual story retell activities. [3] For page layouts to support question-answer activities, see Supplemental Digital Content (SDC), Figure 2 http://links.lww.com/TLD/A127.

recent internal migration (Study 1a: North India – Delhi, Kurukshetra, Gurugram, and South India – Mysore, Bangalore, Udupi, Kundapura; Study 1b: a district in western Haryana bordering Rajasthan and Punjab in North India). Inclusion criteria for both studies were teachers for 5- and 6-year-olds from low-income homes and in multilingual classrooms. For example, children's home languages in Study 1b were Hindi, Punjabi, Bagri, Haryanvi, and Bihari. Recruitment was through direct emails to school heads or the education bureaucracy and for Study 1a through snowball sampling. Consent was first sought from the institution and then the participating teachers.

Study 1a examined teacher explanations of their teaching for children's oral language development. Teachers implemented state- and school-level mandated curricula using a range of practices. Some, but not all, may have fit into a business-as-usual classroom. Study 1b examined teacher views and confidence ratings after implementing seven weeks of a nine-week program based on recommended practices (Table 1). The intervention was co-produced in Hindi (a major language of India) by the lead author and a working group of practitioners with the second and third authors. Participating teachers named the intervention *Sanjhe Bol*, a cognate phrase meaning "Talk Together" in Hindi, and the dialects and languages of the study site. The program was delivered to the whole class (20 intervention and 19 wait-list control schools, and class sizes ranged from 6 to 54 children, median age = 5.6 years, N = 979 children). Each week was structured around a central story with a problem-resolution story line. The program echoed the approach of a week-wise thematic curricula used in public preschools in the country. Figure 1 gives the weekly plan for this intervention.

METHOD

Participants

Study 1a. Seventy-two teachers participated in qualitative interviews structured around a vignette titled *Suma and the workshop on speaking skills* (co-produced by several of the authors and a working group of practitioners; see Supplemental Digital

Content [SDC], Figure 1 http://links.lww.com/TLD/A127). The vignette was available in three languages (Hindi, Kannada, and English). Teachers chose the language they preferred and were paired with interviewers fluent in at least two of the three languages and some local languages or dialects. In the end, most interviews were held in Kannada and Hindi, with limited paraphrasing either in a regional dialect or one of three local languages (Tulu, Konkani, and Punjabi). Following consent to audio record, open-ended questions guided the qualitative interview protocol while allowing some flexibility in topic coverage (Rubin & Rubin, 2012). Research assistants received training through an online qualitative interviewing course and a three day in-person practice session. Transcriptions of audio recordings of interviews went through two rounds of independent checks.

Study 1b. All 20 teachers who were implementing the nine-week program filled out a semi-structured questionnaire after seven weeks of delivery. The questionnaire included open-ended questions asking for views on program features (e.g., which components worked well) and confidence ratings on a three-point scale for programmatic and process areas (e.g., conducting a discussion on questions related to the week's story on Day 3; Tyagi et al. 2024).

Inductive Thematic Analysis

A reflexive approach was adopted (Braun & Clarke, 2006) to map professional knowledge from interview transcripts (Study 1a) and questionnaires (Study 1b). Coders were postgraduates with varied specializations including early childhood education, digital and social change, social design, social work, speech and language therapy, and psychology. All had prior experience in the specific school sectors sampled in the studies. Coders fluent in the language(s) of a given transcript were assigned the task of thematic analysis. Initial training was with six transcripts and two questionnaires. Four coders for Study 1a and two for Study 1b independently suggested codes in weekly meetings until the final codebook was developed. Coders returned to each transcript/questionnaire following every update of the codebook. Discrepancies in coding were resolved within pairs or with the first author as arbitrator. Coder diversity brought a level of reflexivity to codebook development, arguably allowing for a triangulation of perspective informed by individual disciplinary backgrounds (Attia & Edge 2017).

RESULTS

Study 1a: Teacher Explanations of Their Teaching

An inductive thematic analysis was conducted on teacher explanations for the question "*What are some of the ways in which a child's speaking skills can be built up?*" Key words and phrases linked to classroom activities were first extracted and then grouped into activity types and their purposes (for the full code list, see SDC, Table 1 http://links.lww.com/TLD/A127). Three themes emerged from the purposes found across activity types; each is described below with one illustration.

Theme 1: Supporting oral language development

One set of purposes was to build component skills of language such as vocabulary and narrative expression. Other purposes were linked to the communicative purposes of language and for new language learning. Some explanations about decisions related to teaching included the need to persist to meet a purpose, as in this excerpt:

> ಅದನ್ನೆ **ಪದೇ ಪದೇ** ನಾವ್ ಮಾತಾಡ್ಸ್ತಾ ಇದ್ರೆ,
> ಮಗು "ಓ! ನಮ್ ಮಿಸ್ (Miss) ನಾನೇನೇ ಹೇಳ್ದ್ರೂ
> ಒಪ್ಕೊಂತಾರೆ, ನಾನ್ ಹೇಳದ್ರು ಕೇಳ್ತಾರೆ ಅಂತ
> ಒಂದ್ ದಿನ ಸುಮ್ನೆ ಇರುತ್ತೆ, ಎರಡು ದಿನ ಸುಮ್ನೆ
> ಇರತ್ತೆ ಆಮೇಲ್ ಆಟೋಮೆಟಿಕ್ (automatic) ಆಗಿ
> ತಾನೇ ಮಾತಾಡ್ದ್ನ ಕಲಿಯತ್ತೆ.
>
> If we keep **repeatedly speaking** with the child, the child will start thinking,

"Oh! My teacher will listen to whatever I say, even if I speak wrong". At first, they may remain quiet for a day or two, but after that, they will automatically learn to talk [hold a conversation] by himself *(SBH, teacher in a peri-urban Government Model Pre-Primary School, emphasis added)*

Theme 2: Supporting general outcomes

Teacher explanations also referenced general learning (e.g., for building memory) and supporting selected groups of children. Another purpose was to support a positive emotional and motivational outcome (e.g., positive class climate). An example of supporting class climate is captured in the aim to integrate children into class processes in the following excerpt:

उनके रोल प्ले [role play] करने की जो। या पोयम [poem] को दुबारा से रिपीट [repeat] करके अपने शब्दों में सुनाना है। या, कहानी को अपने शब्दों में सुनाना है। या, उनकी जो लोकल [local] कहानियाँ हैं, या लोकल [local] गीत है जो उनसे सुनें जाते हैं । तो ये सारी सारी ऐक्टिविटी [activity] उनको बोलने का अवसर प्रदान करती है, और बहुत फायदेमंद होती है क्योंकि **बच्चा इनसे जुड़ जाता है।**

We do role play with them. Or, after repeating a poem, they have to say in own words. Or, say stories in own words. Or, share their local stories, or local songs. So, all these activities bestow them with opportunities to talk, and this is really beneficial because **through these the child gets integrated** [into the group]. *(PNM, teacher in an urban Government Model Primary School, emphasis added)*.

Theme 3: Standardising child language to a privileged variety

The focus here is on teaching the "right" language. Sometimes the explanations appeared to refer to articulation difficulties and sometimes to dialectic differences. An example of standardizing language use is the purpose of teaching the "correct" pronunciation:

उनको **सही शब्द बोलने** के लिए, हम बारबार उस चीज़ को, बारबार दोहराएँगे। एक शब्द को चार से पाँच पाँच बार दोहराएँगे। यह बच्चा बार बार दुहराता, जब फिर भी गलत बोलता है तो हम उसको करवाते ही रहते है।

Make them **say the right word**, we repeatedly say that thing, say it over and over again. We will repeat a word four to five times. This is what the child repeats and when the child still says it wrong, then we get him to keep doing it. *(HNA, teacher in a peri-urban Government Primary School, emphasis added)*.

In the next step, the number of mentions for different purposes were examined to infer professional knowledge and preferred practices (see Table 2). Several purposes to directly support oral language development appeared (Theme 1), but mentions were scattered and considerably fewer. Instead, supporting general outcomes (Theme 2) was mentioned more often, and within this, the affective-motivation purposes (for positive classroom climate, to boost self-confidence) were the most frequent. Thus, although a range of classroom activities were collectively described by the 72 teachers, the predominant focus was on process factors rather than to build up the component skills of oral language.

Study 1b: Teacher Views After Implementing Recommended Practice

After implementing recommended practice for seven weeks, most teachers described activities and materials as coherently linked and with playful elements. With regard to the appropriateness of programmatic elements, the rich illustrations, diversity in story scripts, multi-episode narratives, and thematically linked word sets were given as examples of age-appropriate content. A minority recognized the following as also age-appropriate:

Table 2. Professional knowledge: The stated purposes of classroom activities for oral language development presented by the theme and number of mentions

Stated Purposes of Classroom Activities	Mentions Across 12 Activity Types (To indicate mentions of identical or with near identical language: ** > 5 mentions, * between 2 and 4 mentions, and no asterisk = 1 mention)
Theme 1: Supporting oral language development	
To build vocabulary	Improves vocabulary*
To build knowledge of complex sentences	Improves sentence quality, helps improve grammar[a]
To build language quality	Improves language quality*
For word recognition	Improves word recognition*
For narrative expression	Improves spoken and written expression, builds imagination, improves creativity
For reading and listening comprehension	Helps connect ideas better, promotes conceptual understanding, improves comprehension*
For communicative language	Useful for daily language use, for exposure to daily life language
For new language learning	Exposure to different languages, encourages new language learning
Theme 2: Supporting general outcomes	
To boost self confidence	Increases child's self-confidence**, increases confidence in subject matter**, for overall child development
For positive classroom climate	To gain child's trust, promotes positive class climate (e.g., gives a sense of happiness**), removes fear of teacher; promotes friendly teacher-child relationship, improves peer communications/relations
To improve concept learning	Improves memory, learns more quickly
For socio-emotional learning	To understand story characters (their nature, emotions, and personalities), helps identify and express emotions
For silent children	Encourages silent children**, provides opportunities to talk
To individualise teaching	Personalizes subject matter, personalizes classroom activities
Theme 3: Standardizing child's language use to a privileged variety	
To standardize language use	To teach "correct" pronunciation (removing dialect variation and non-native variation), to use the "right" language

[a]The Hindi/Kannada word mentioned is व्याकरण /ವ್ಯಾಕರಣ (vyākaraṇ/a) and is likely about formal teaching of grammar rules although the nature of explicit teaching is not elaborated.

the use of predictive and open-ended questions during the first and second reading of stories, providing space for child retelling, and asking children to talk about their thinking. One teacher recognized the aim of implicit learning, describing the lessons as "unobtrusive" ("अप्रत्यक्ष रूप", AA, teaching in a government school). All teachers reported the intervention's success in improving child engagement and participation. A thematic extraction of teacher explanations showed two sets of factors that supported these positive outcomes: (a) programmatic factors: story-based lessons, use of repetition, multiple story-linked language activities including use of poems, question-answer and discussion-based lessons, and content linked to children's prior knowledge and (b) process factors: the greater number of joint activities and peer-to-peer talk compared to teacher-led activities, the drama brought by a stories-based curriculum, the guidance when children tried rich language, and the child's own improvements in (1) expressing more about their thinking, (2) oral language skills, (3) persistence, (4) taking risks to try and express themselves, and (5) reduced fear to talk.

Most teachers reported being confident with delivery of the songs and poems that were linked to the weekly story content, using picture strips/books, and managing children's answers to direct questions. Confidence was less for maintaining the intended focus in each successive round of story reading and activities using story vocabulary. The biggest challenge was supporting child language production, especially managing the range of answers to open-ended questions and during child retelling. Scaffolding children for retelling of event sequences was also reported to be difficult. Further analyses are in SDC, Figure 3 http://links.lww.com/TLD/A127.

Although an analysis of child outcomes is outside the scope of the current paper, two sets of measures are available from the intervention: teachers' ratings of a self-selected list of children and child assessment data using standardized language measures. Teachers reported a substantial improvement in taught vocabulary, classroom climate, and child engagement, enthusiasm, and excitement. Other reported improvements included children "expressing more", "more confident to speak", "using more 'good' language", and "better pronunciation". Two sub-groups were reported as gaining the most, silent children and L2 learners. However, compared to the wait-list control group, the reported gains in the intervention group did not translate into a statistically significant difference in performance on standardized tests (Roque-Guttierez et al., in preparation). This picture of no change on standardized measures alongside improvement in classroom quality measures is not unusual (e.g., Hamre et al., 2012).

DISCUSSION

Supporting oral language at school entry is important for later child attainments. Of interest is the global need to document how best to support oral language in particularly diverse linguistic contexts. One aim of this paper was to map teacher professional knowledge to support oral language development alongside an evidence synthesis of recommended practice. In Study 1a, this was done by examining teaching activities. We found depth and diversity in teacher explanations on the activities they chose, and together, they provide a first insight into what may be driving teaching decisions and why some aspects are prioritized. Supporting child talk was seen to serve a motivational-affective purpose more than the cognitive-linguistic purposes implicit in research-informed recommended practices. Giving children the opportunity to talk was seen as contributing to a positive classroom climate and boosting confidence, but its value for directly promoting oral language development was less recognized. Importantly, while most recommended practices were not new to teachers, they were not frequently

mentioned. Here, the pattern of mentions of different purposes across activity types could be taken as an index of the local social-cognitive environment, with more mentions suggesting preferred practices.

In Study 1b, we examined what teachers said after implementing a mainstream oral language intervention based on recommended practice. Their professional judgement was that program components were age-appropriate and effective in maintaining student engagement and enthusiasm. Confidence ratings were, however, low for other areas such as how to guide narrative production. Teachers' dilemmas related to managing open-ended questions and supporting extended talk. In addition, teachers' explanations on what supported child engagement during the intervention showed remarkable overlap with the research-informed assumptions of the intervention. Examples of overlap are a recognition of the enabling roles of wait time and guided narrative production.

Standardized Language Use

The evidence base suggests that language may be strengthened via implicit learning, priming, and practice through teacher modeling and child retelling. In addition, essential enabling conditions for multilingual settings include accepting code-switching and rejecting the monolingual rule. In line with this, we developed an intervention that did not explicitly aim to correct children by drawing attention to what was said poorly or where there was an error (Study 1b). However, in Study 1a, teachers did speak of correction of children as a purpose with the stated aim to "correct" and make "right" both pronunciation and general language use (Theme 3, Table 2). While correction behaviors can have positive effects on language development (e.g., Dickinson & Porche, 2011), these effects are likely related to the tone of delivery. If correction turns to shaming and humiliating, leading to certain varieties of language being stigmatized or simply silenced, then the outcomes are unlikely to be positive. Shaming the child is a concern not only for the immediate harm this may cause but also the longer-term alienation that can lead to school dropout (Nag, 2023). Hence, one barrier to effective implementation may be the stated purpose of using language activities to standardize language use to a privileged variety.

A Framework for Supporting Teachers

The foregoing summary of findings from the teacher data, the mapping exercise with recommended practice, and the overlaps and gaps identified between the two provide insights that may be used to develop a framework for supporting teachers. The data suggest that a coaching and mentoring strategy, at least in the sites we studied, is not so much about introducing recommended practices as if they are new but rather to bring teaching ideas that are in the margins into more regular implementation. One approach to meaningfully take theoretical propositions derived from research (the recommended practices) to teachers is to thus build a meta-awareness about what is already available and to encourage their flexible use (after Burn et al., 2023, and the teacher education approach of "practical theorizing").

We propose a heuristic framework named Adopting Quality for School Readiness (AQSR) that draws together the recommended practices from the empirical literature and the professional knowledge from the two teacher studies. The AQSR[3] framework is in four sections. First is recognizing training needs. This section draws on training needs and child characteristics identified in the literature and Study 1b. This part of the framework requires teachers to rate their confidence for different oral language activities and make a judgement about children in their class. This exercise is aimed to help

[3]AQSR may be pronounced /aksar/; "aksar" in Hindi-Urdu is an adverb of frequency and invokes the often and regularly repeated implementation of the practices that underpin the framework.

identify what to focus on and prioritize in teaching. Second is identifying teaching targets. Here, the full range of affective-motivational and cognitive-linguistic targets of interest to the teacher is included. The entries are informed by findings from Study 1a and the evidence synthesis. Third is identifying high-quality language-supporting teaching practices for chosen teaching targets. The list of teaching practices is divided into *provide and demonstrate* sections that are related to language exposure and *provide and guide* sections to intentionally support children's language production. Last is planning sessions. This section includes the time given to teach and what content may be used, and these details are drawn from teacher feedback in Study 1b. The section offers flexibility in implementation using either teacher-selected storybooks and expository texts or already-prescribed textbooks and lessons plans. The flexibility in text resources is because AQSR focuses on how the content is delivered, and how to promote good practices in micro-elements of the talk that is at the heart of a teaching-learning interaction. A blank template of the framework is available in SDC, Figure 4 http://links.lww.com/TLD/A127.

Teacher self-reflection

Figure 2 provides an example of teacher self-reflection using the AQSR framework. Two areas of low confidence were identified and the teaching targets and practices flow from this. The template shows (a) the training need evaluation (low teacher confidence to guide children to use rich language alongside rating children in class as having low confidence to speak), (b) the teaching targets (build narrative expression and boost child's confidence), (c) the practices chosen to meet the teaching targets (5 to *provide and demonstrate* and 5 more to *provide and guide*), and (d) the duration and content. Another teacher with the same training needs could pick another set of practices, type of teaching content, and duration for delivery to meet their teaching targets.

Coaching and mentoring

There is some indication that teaching practices that provide opportunities for child talk and wait time are more easily adopted at scale (e.g., Ingram & Elliott, 2016; Justice et al., 2018; Wasik & Hindman, 2018). We found partial confirmation about these practices being judged as easier to implement, with fresh insights into the micro-teaching skills that still need coaching and mentoring. While teachers reported confidence with providing more opportunities for child talk, confidence was lower regarding how to engage with the child talk after an open-ended question or during a longer narration. Our data also provide indications of how language privilege and sociolinguistic processes may unfold in the classroom. All of these issues will be important to acknowledge during teacher coaching and mentoring. Finally, a particular challenge was scaffolding children for retelling of event sequences.

Another difficult task reported in the literature is for teachers to change the grammatical complexity of their own language to ensure *appropriate* recasting and extension of child language (e.g., Justice et al., 2018). Teachers did not talk about responsively changing their language as an area of challenge, but if teachers need support to reflect on this line of enquiry, then the AQSR framework may allow for guided reflection on how to be a language model for children irrespective of the pattern of a teacher's own spontaneous language use.

Flexibility built into the four sections of AQSR

The AQSR framework allows choice in what may be prioritized. At the level of teacher support, for example, an area of least confidence may become the focus of coaching. It is also possible to pick an area with a relatively higher confidence rating, as working on this is likely to be less anxiety-provoking for the teacher. At the level of the oral language intervention, there is flexibility in

Step 1: Recognising Training Needs (Training needs are lower ratings need more attention.)	**Rate how confident you feel to...** (❶ low to ❸ OK to ❺ high)	Read to children ❺	Manage answers to direct questions ❺	Manage answers to open-ended questions ❸	Conduct activities with story vocabulary or topic vocabulary ❺	Bring focus on complex sentences	Guide child to try rich language ❶	Scaffold child retelling for event or idea sequence ❸
	Rate the children in your class (❶ low to ❸ OK to ❺ excellent)	Confidence to speak ❶	Make the effort to speak ❸	Engage with the lesson ❺	Express their thinking	Settled and listening ❺	Amount of teacher-child talk	Amount of peer-to-peer talk ❸
Step 2: Identifying Teaching Targets (All targets are important but select targets to improve low areas from Step 1.)	**Choose targets you want to focus on** (select one or more)	☐ Vocabulary	☐ Complex sentences	☑ Narrative expression	☐ Listening comprehension	☐ Communicative language	☐ Word recognition (Essential: exposure to print, practice with decoding)	☐ Summarise ideas
		☐ Positive classroom climate	☑ Child's self-confidence	☐ Concept learning	☐ Socio-emotional development	☐ The silent child	☐ Children who do not know the language	☐ Another purpose (add details)
Step 3: Identifying your Language-supporting Teaching Practices (Select practices that will support your targets from Step 2.)	**Language-supporting practices** Choose what you want to **Provide and Demonstrate**.	**Provide well-linked lessons**	**Demonstrate use of appropriately complex words and well-structured full sentences**	**Demonstrate longer narratives**	**Language-supporting practices** Choose what you want to **Provide and Guide**.	**Provide wait time**	**Guide comprehension for coherent narration**	**Guide narrative production**
		☐ Use the story as the core of the lesson. ☐ Before reading story or topic ask meanings of complex words and/or teach new vocabulary. ☐ Use question-answers soon after story reading or reading study topic. ☑ Use questions to guide group talk. ☐ Make lesson as consistently language rich as possible. ☐ Link lessons to daily life.	**When** ☑ After incomplete utterances by child. ☑ After answers gathered for each question. **How** ☑ Model rather than simply say child did not express well. ☑ Praise for approximately close language use.	☐ Model story retelling with story elements. ☐ Model how to talk more about own thinking about the story, a question, or a study topic. ☐ Model rather than simply say child did not express well. ☐ Model by using several different examples. ☐ Prompt by using open-ended questions. ☐ Model and prompt use of same target vocabulary or sentence structures over several days.		**When** ☑ During question-answer activities. ☐ During story retelling activity. ☐ During discussion on study topic. ☐ During presentations to an audience. **How** ☑ Give time for children to plan before they say. ☐ Give time for children to reconstruct what they want to say.	☑ Use questions to prompt thinking about story elements. ☐ Use questions to prompt thinking about idea units. ☐ Use questions to draw attention to target vocabulary. ☐ Use questions to draw attention to sentence structures. ☐ Use questions that prompt children to predict, summarise, clarify and further question.	☐ Give time for planning before child's narration, answer or retell. ☑ Use props to support recall. ☑ Use turn-taking routines so all children get the opportunity to talk. ☐ Use questions to extend thinking. ☐ Praise for approximately close language use. ☐ Accept narration in the language the child is most comfortable in.
Step 4: Planning Class Sessions	**Duration of the teaching plan** (Duration may be in days, weeks, months or academic terms.)	***For 2 weeks***						
	Lesson content (Lesson may be linked to story books, chapters from textbooks or other content.)	***Chapter 2 for week 1 and chapter 4 for week 2***						

Figure 2. Example of a completed Adopting Quality for School Readiness (AQSR[1]): a framework for coaching, mentoring, or self-reflection. [1]Language-supporting teaching practices (from Step 3) are to be applied in conjunction with three enabling conditions for multilingual contexts: (a) accept code-switching, code-mixing and translanguaging in communications, (b) reject the monolingual rule that states that child and teacher talk must be in no language other than the school language, and (c) reject shaming and humiliating the child when their talk is in a variety other than the privileged variety.

the content and materials chosen for lessons, and in what will be provided for quality language exposure and child language production in class. Such implementation flexibility is essential because contexts vary, for example, in class size, material resources, and what is valued and by whom. However, several ethnographies describe teachers as not having the mental space or time to make implementation decisions in daily practice (e.g., Sriprakash, 2009). Teachers implementing our nine-week program (Study 1b) also spoke about constraints because of multiple roles and competing demands on their time (SDC, Figure 3 http://links.lww.com/TLD/A134). Thus, a potential challenge for AQSR is for teachers to have the space to pick, practice, and update priorities. Further challenges are linked to teachers knowing (a) what-links-to-what (e.g., what is needed to scaffold child retelling), (b) what quality implementation looks like (for entries in the *provide and demonstrate* and *provide and guide* sections), and (c) what is age-appropriate when introducing complex words and sentences. It will therefore be important to develop teacher resources (e.g., video samples and suggested word lists) and a coaching and mentoring cadre who can explain what-links-to-what, demonstrate quality implementation, and guide the selection of materials and activities.

Future Research

The two teacher studies and our mapping exercise suggest areas for future research. For example, many open questions remain about barriers to uptake. At the individual level, some barriers may be more difficult to address than others (e.g., rejecting subtle shaming compared to introducing wait time), and there may also be lower uptake of recommended practices among some groups (e.g., novice versus experienced teachers, native speakers of the school language versus multilingual teachers with knowledge of children's languages). At the system level, a key question is related to entrenched beliefs and social-cognitive environments. To examine beliefs, we demonstrate the value of listening to teacher explanations. These might differ across educational and multilingual contexts, and other factors such as types of pre- and in-service programs, language statuses, and value of child talk. While we chose a particular approach to evidence synthesis and documenting teacher preferences, a topic for future research is to fine-tune both methods. Also related to future research is the broader question of how else to value teacher insight. We propose that practitioners' professional insight and experience are essential to inform and shape what is researched. Future research would benefit from such a bidirectional link between researcher and teacher insight.

Our evidence synthesis is based on the literature that, though current, covers only a small selection of language contexts. A wider evidence-base, especially from the linguistic and social-cognitive contexts of the Global South, is needed to evaluate recommended practices. Further, our proof-of-concept intervention used stories with a particular problem-resolution narrative structure. Future research may look at other narrative structures and expository texts and apply the proposed framework to other parts of the school day. This proposal to research language-related teacher practices across the curriculum and a wider application of the AQSR framework is based on evidence that language-supporting practices facilitate language development whenever used during the school day (e.g., math, science classes: Bowne et al., 2016; free play: Dickinson & Porche, 2011).

Altogether, our paper contributes to the literature on oral language interventions for multilingual classrooms. We linked recommended practice from specialized literature and distillations of professional knowledge to inform communities of practice. The approach we describe has the potential to

strengthen all child-centered interventions, but particularly those that aim to raise literacy attainments by strengthening oral language precursor skills for reading comprehension. We do this by focussing on how teachers may be well-supported.

REFERENCES

Alcott, B., Banerji, M., Bhattacharjea, S., Nanda, M., & Ramanujan, P. (2020). One step forward, two steps back: Transitions between home, pre-primary and primary education in rural India. *Compare: A Journal of Comparative and International Education*, *50*(4), 482–499. https://doi.org/10.1080/03057925.2018.1527214

Ambridge, B., Lieven, E. V. M. (2015). A constructivist account of child language acquisition. In MacWhinney, B., & O'Grady, W. (Eds.), *Handbook of language emergence* (pp. 478–510). Wiley Blackwell.

Arbib, M. A., & Hesse, M. B. (1986). *The construction of reality*. Cambridge University Press. https://doi.org/10.1017/CBO9780511527234

Arulmani, G., Kumar, S., Shrestha, S., Viray, M., & Aravind, S. (2020). The cultural preparedness perspective of career development. In Robertson, P. J., Hooley, T., & McCash, P. (Eds.), *The Oxford handbook of career development* (pp. 213–224). Oxford University Press.

Asfaha, Y. M., & Nag, S. (2023). Sensitivity to contextual factors in literacy interventions in the Global South. In Verhoeven, L., Nag, S., Perfetti, C., & Pugh, K. (Eds.), *Global variation in literacy development* (pp. 353–373). Cambridge University Press.

Aslin, R. N., & Newport, E. L. (2012). Statistical learning: From acquiring specific items to forming general rules. *Current Directions in Psychological Science*, *21*(3), 170–176. https://doi.org/10.1177/0963721412436806

Attia, M., & Edge, J. (2017). Be(com)ing a reflexive researcher: a developmental approach to research methodology. *Open Review of Educational Research*, *4*(1), 33–45. https://doi.org/10.1080/23265507.2017.1300068

Azuara, P. (2009). Literacy practices in a changing cultural context: the literacy development of two emergent Mayan-Spanish bilingual children. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, *70*(6-A), 1885.

Biesta, G. J. J. (2007). Bridging the gap between educational research and educational practice: The need for critical distance. *Educational Research and Evaluation*, *13*(3), 295–301. https://doi.org/10.1080/13803610701640227

Bowne, J. B., Yoshikawa, H., & Snow, C. E. (2016). Experimental impacts of a teacher professional development program in early childhood on explicit vocabulary instruction across the curriculum. *Early Childhood Research Quarterly*, *34*, 27–39. https://doi.org/10.1016/j.ecresq.2015.08.002

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brinkmann, S. (2015). Learner-centred education reforms in India: The missing piece of teachers' beliefs. *Policy Futures in Education*, *13*(3), 342–359. https://doi.org/10.1177/1478210315569038

Brinkmann, S. (2020). The invisible barriers to India's educational reforms. *Economic and Political Weekly*, *55*(4), 50–57. https://doi.org/10.1177/1478210315569038

Burn, K., Mutton, T., & Thompson, I. (2023). *Practical theorising in teacher education: Holding theory and practice together*. Routledge.

Castles, A., Rastle, K., & Nation, K. (2018). Ending the reading wars: Reading acquisition from novice to expert. *Psychological Science in the Public Interest*, *19*(1), 5–51. https://doi.org/10.1177/1529100618772271

Caravolas, M., Lervåg, A., Mikulajová, M., Defior, S., Seidlová-Málková, G., & Hulme, C. (2019). A Cross-Linguistic, Longitudinal Study of the Foundations of Decoding and Reading Comprehension Ability. *Scientific Studies of Reading*, *23*(5), 386–402. https://doi.org/10.1080/10888438.2019.1580284

Chang, F., Dell, G. S., & Bock, J. K. (2006). Becoming syntactic. *Psychological Review*, *113*(2), 234–272. https://psycnet.apa.org/doi/10.1037/0033-295X.113.2.234

Crawford, M., & Marin, S. V., & the World Bank. (2021). *Loud and clear: Effective language of instruction policies for learning. A World Bank Policy Approach Paper*. Washington, DC: World Bank Publications.

Crawford, M., Raheel, N., Korochkina, M., & Rastle, K. (2025). Inadequate foundational decoding skills constrain global literacy goals for pupils in low- and middle-income countries. *Nature Human Behaviour*, *9*, 74–83. https://doi.org/10.1038/s41562-024-02028-x

Dickinson, D. K. (2001). Putting the pieces together: Impact of preschool on children's language and literacy development in kindergarten. In Dickinson, D. K., & Tabors, P. O. (Eds.), *Beginning literacy with language: Young children learning at home and school* (pp. 257–287). Paul H. Brookes Publishing Co.

Dickinson, D. K., Connor, C., & Hadley, E. B. (2023). How teachers contribute to children's literacy. In Verhoeven, L., Nag, S., Perfetti, C., & Pugh, K.

(Eds.), *Global variations in literacy* (pp. 374–401). Cambridge University Press.

Dickinson, D. K., & Porche, M. V. (2011). Relationship between language experiences in preschool classrooms and children's kindergarten and fourth grade language and reading abilities. *Child Development*, *82*, 870–886. https://doi.org/10.1111/j.1467-8624.2011.01576.x

Dlamini, S. M. (2009). *Early language and literacy learning in a peripheral African setting: A study of children's participation in home and school communicative and literacy practices in and around Manzini, Swaziland*. Unpublished doctoral thesis. South Africa, University of Cape Town.

Drummond, T., & Nakamura, P. R. (2021). An examination of early grade reading assessments in Central Asia: Using factor analysis to determine the latent data structure in Kyrgyz, Russian, and Tajik. *Reading & Writing*, *34*, 1343–1366. https://doi.org/10.1007/s11145-020-10110-9

Dubeck, M. M., Jukes, M. C. H., Brooker, S. J., Drake, T. L., & Inyega, H. N. (2015). Designing a program of teacher professional development to support beginning reading acquisition in coastal Kenya. *International Journal of Educational Development*, *41*, 88–96. https://doi.org/10.1016/j.ijedudev.2014.11.022

Ehm, J.-H., Schmitterer, A. M. A., Nagler, T., & Lervåg, A. (2023). The underlying components of growth in decoding and reading comprehension: Findings from a 5-year longitudinal study of German-speaking children. *Scientific Studies of Reading*, *27*(4), 311–333. https://doi.org/10.1080/10888438.2022.2164199

Elek, C., & Page, J. (2019). Critical features of effective coaching for early childhood educators: A review of empirical research literature. *Professional Development in Education*, *45*(4), 567–585. https://doi.org/10.1080/19415257.2018.1452781

Hamre, B., & Pianta, R. (2007). Learning opportunities in preschool and early elementary classrooms. In Pianta, R., Cox, M., & Snow, C. (Eds.), *School readiness & the transition to kindergarten in the era of accountability* (pp. 49–84). Paul H. Brookes Publishing Co..

Hamre, B., Hatfield, B., Pianta, R., and Jamil, F. (2014), Evidence for general and domain-specific elements of teacher–child interactions: Associations with preschool children's development. *Child Development*, *85*, 1257-1274. https://doi.org/10.1111/cdev.12184

Hamre, B. K., Pianta, R. C., Burchinal, M., Field, S., LoCasale-Crouch, J. L., Downer, J. T., Howes, C., LaParo, K., & Scott-Little, C. (2012). A course on effective teacher-child interactions: Effects on teacher beliefs, knowledge, and observed practice. *American Educational Research Journal*, *49*, 88–123. https://doi.org/10.3102/0002831211434596

Hesketh, A., Serratrice, L., & Ashworth, R. (2016). Encouraging use of subordination in children's narratives: A classroom-based priming study. *Language Learning and Development*, *12*(4), 413–428. https://doi.org/10.1080/15475441.2016.1162721

Higgins, C. (2011). *The good life of teaching: An ethics of professional practice*. Wiley Blackwell.

Hirsh-Pasek, K., Adamson, L. B., Bakeman, R., Owen, M. T., Golinkoff, R. M., Pace, A., Yust, P. K., & Suma, K. (2015). The contribution of early communication quality to low-income children's language success. *Psychological Science.*, *26*(7), 1071–1083. https://doi.org/10.1177/0956797615581493

Hjetland, H. N., Brinchmann, E. I., Scherer, R., Hulme, C., & Melby-Lervåg, M. (2020). Preschool pathways to reading comprehension: A systematic meta-analytic review. *Educational Research Review*, *30*, 100323. https://doi.org/10.1016/j.edurev.2020.100323

Hoff, E. (2006). How social contexts support and shape language development. *Developmental Review*, *26* (1), 55–88. https://doi.org/10.1016/j.dr.2005.11.002

Hoff, E., Core, C., Place, S., Rumiche, R., Señor, M., & Parra, M. (2012). Dual language exposure and early bilingual development. *Journal of Child Language*, *39*(1), 1–27. https://doi.org/10.1017/S0305000910000759

Hopman, E. W. M., & MacDonald, M. C. (2018). Production practice during language learning improves comprehension. *Psychological Science*, *29*(6), 961-971. https://doi.org/10.1177/0956797618754486

Hulme, C., Nash, H. M., Gooch, D., Lervåg, A., & Snowling, M. J. (2015). The foundations of literacy development in children at familial risk of dyslexia. *Psychological Science.*, *26*(12), 1877–1886. https://doi.org/10.1177/0956797615603702

Huttenlocher, J., Vasilyeva, M., Cymerman, E., & Levine, S. (2002). Language input and child syntax. *Cognitive Psychology*, *45*(3), 337–374. https://doi.org/10.1016/S0010-0285(02)00500-5

Huttenlocher, J., Waterfall, H., Vasilyeva, M., Vevea, J., & Hedges, L. V. (2010). Sources of variability in children's language growth. *Cognitive Psychology*, *61*(4), 343–365. https://doi.org/10.1016/j.cogpsych.2010.08.002

Ingram, J., & Elliott, V. (2016). A critical analysis of the role of wait time in classroom interactions and the effects on student and teacher interactional behaviours. *Cambridge Journal of Education*, *46* (1), 37–53. https://doi.org/10.1080/0305764X.2015.1009365

Jhingran, D. (2019). *Early literacy and multilingual education in South Asia*. United Nations Children's Fund (UNICEF) Regional Office for South Asia. https://www.unicef.org/rosa/reports/early-literacy-and-multilingual-education-south-asia

Jhingran, D. (2023). Conversations/interview with Dhir Jhingran. *Contemporary Education Dialogue*, *20*(2), 236–255. https://doi.org/10.1177/09731849231185824

Jukes, M. C. H., Mgonda, N. L., Tibenda, J. L., & Sitabkhan, Y. (2023). The role of teachers' implicit social goals in pedagogical reforms in Tanzania. *Oxford Review of Education*, *49*(1), 10–28. https://doi.org/10.1080/03054985.2022.2093178

Justice, L. M., Jiang, H., & Strasser, K. (2018). Linguistic environment of preschool classrooms: What dimensions support children's language growth? *Early Childhood Research Quarterly*, *42*, 79–92. https://doi.org/10.1016/j.ecresq.2017.09.003

Kasturia, K. (2015). The Red Raincoat. Pratham Books: StoryWeaver™. Released under CC BY 4.0 license. Hindi re-levelling by Mathur, C., Kapoor, N., Tyagi, A., Pydah, A., Kala, B., & Nag, S. *The Promise Foundation and University of Oxford*.

Ke, S., Miller, R. T., Zhang, D., & Koda, K. (2021). Crosslinguistic sharing of morphological awareness in biliteracy development: A systematic review and meta-analysis of correlation coefficients. *Language Learning*, *71*, 8–54. https://doi.org/10.1111/lang.12429

Kidd, E. (2012). Implicit statistical learning is directly associated with the acquisition of syntax. *Developmental Psychology*, *48*(1), 171.

Kieffer, M. J., & Lesaux, N. K. (2012). Direct and indirect roles of morphological awareness in the English reading comprehension of native English, Spanish, Filipino, and Vietnamese speakers. *Language Learning*, *62*(4), 1170–1204. https://doi.org/10.1111/j.1467-9922.2012.00722.x

Language and Learning Foundation (2016). *Praarambhik saaksharthaa ke buniyaadii koushal: Module 5*. Language and Learning Foundation, New Delhi: India.

Language and Learning Foundation (2021). *LLF Annual Report 2020-2021*. Retrieved January 19, 2025, from https://languageandlearningfoundation.org/wp-content/uploads/2021/09/LLF-Annual-Report-2020-2021.pdf

Liu, Y., Groen, M. A., & Cain, K. (2024). The association between morphological awareness and reading comprehension in children: A systematic review and meta-analysis. *Education Research Review*, *42*, 100571. https://doi.org/10.1016/j.edurev.2023.100571

MacDonald, M. (2013). How language production shapes language form and comprehension. *Frontiers in Psychology*, *4*. https://doi.org/10.3389/fpsyg.2013.00226

Melby-Lervåg, M., & Lervåg, A. (2014). Reading comprehension and its underlying components in second-language learners: A meta-analysis of studies comparing first-and second-language learners. *Psychological Bulletin*, *140*(2), 409–433. https://doi.org/10.1037/a0033890

Mercer, N., Dawes, L., Wegerif, R., & Sams, C. (2004). Reasoning as a scientist: ways of helping children to use language to learn science. *British Educational Research Journal*, *30*(3), 359–377. https://doi.org/10.1080/0141192041000168968 9

Nag, S. (2010). *A Handbook about Early Learning for Teachers*. Bangalore: IBM India Ltd and The Promise Foundation, Bangalore: India.

Nag, S. (2013). Low literacy attainments in school and approaches to diagnosis: An exploratory study. *Contemporary Education Dialogue*, *10*(2), 197–221. https://doi.org/10.1177/0973184913484997

Nag, S. (2023). Socioeconomic status, sociocultural factors, and literacy development. In Verhoeven, L., Nag, S., Perfetti, C., & Pugh, K. (Eds.), *Global variation in literacy development* (pp. 333–352). Cambridge University Press.

Nag, S., & Arulmani, G. (2015). *Needs analysis of eight schools under the Bruhat Bengaluru Mahanagara Palike (the Bangalore City Corporation): Final report*. The Promise Foundation.

Nag, S., Snowling, M., Quinlan, P., & Hulme, C. (2014). Child and symbol factors in learning to read a visually complex writing system. *Scientific Studies of Reading*, *18*, 1–16. https://doi.org/10.1080/10888438.2014.892489

Nag, S., Snowling, M. J., & Asfaha, Y. (2016). Classroom literacy practices in low- and middle-income countries: An interpretative synthesis of ethnographic studies. *Oxford Education Review*, *42*(1), 36–54. https://doi.org/10.1080/03054985.2015.1135115

Nag, S., Menon, L., & the Emergent Literacy Working Group in Karnataka (2020). Karnataka's new Chili Pili Curriculum brings focus on supporting children's oral language and emergent literacy. *Submission to the National Council for Educational Research and Training*, New Delhi, India.

Nag, S., Vagh, S. B., Dulay, K. M., Snowling, M., Donolato, E., & Melby-Lervåg, M. (2024). Home learning environments and children's language and literacy skills: A meta-analytic review of studies conducted in low- and middle-income countries. *Psychological Bulletin*, *150*(2), 132–153. https://doi.org/10.1037/bul0000417

National Curriculum Framework for Foundational Stage (2022). Retrieved on 15.09.2023 from https://ncert.nic.in/flipbook/NCF/National_Curriculum_Framework_for_Foundational_Stage_2022/files/basic-html/page121.html

National Educational Policy. (2020). *Ministry of Human Resource Development*. Government of India.

National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN BHARAT). A National Mission on Foundational Literacy and Numeracy. (2022). *National curriculum framework*

for foundational stage. Department of School Education & Literacy, Ministry of Education, Government of India.

Newbury, D. F., Mesa, C., Puglisi, M., Nash, M., Nag, S., Hulme, C., & Snowling, M. J. (2023). Challenges for implementation in diverse settings: reflections on two randomised controlled trials of educational interventions in South American communities. *Research Papers in Education*, *38*(6), 966–986. https://doi.org/10.1080/02671522.2022.2065526

Oancea, A. (2018). The practice of educational research. In Smeyers, P. (Ed.), *International handbook of philosophy of education* (pp. 1045–1059). Springer International Handbooks of Education. https://doi.org/10.1007/978-3-319-72761-5_73

Oancea, A., & Furlong, J. (2007). Expressions of excellence and the assessment of applied and practice-based research. *Research Papers in Education*, *22*(2), 119–137. https://doi.org/10.1080/02671520701296056

Romberg, A. R., & Saffran, J. R. (2010). Statistical learning and language acquisition. *Wiley Interdisciplinary Reviews: Cognitive Science*, *1*(6), 906–914. https://doi.org/10.1002/wcs.78

Rowe, M. L. (2012). A longitudinal investigation of the role of quantity and quality of child-directed speech in vocabulary development. *Child Development*, *83*(5), 1762–1774. https://doi.org/10.1111/j.1467-8624.2012.01805.x

Rubin, H. J., & Rubin, I. (2012). *Qualitative interviewing: The art of hearing data* (3rd ed.). SAGE.

Savage, C., Lieven, E., Theakston, A., & Tomasello, M. (2006). Structural priming as implicit learning in language acquisition: The persistence of lexical and structural priming in 4-year-olds. *Language Learning and Development*, *2*(1), 27–49. https://doi.org/10.1207/s15473341lld0201_2

Seidenberg, M. S., & MacDonald, M. C. (2018). The impact of language experience on language and reading: A statistical learning approach. *Topics in Language Disorders*, *38*(1), 66–83. https://doi.org/10.1097/TLD.0000000000000144

Siegelman, N., Elgort, I., Brysbaert, M., Agrawal, N., Amenta, S., Arsenijevic Mijalkovic, J., Chang, C.S., Chernova, D., Chetail, F., Clarke, A.J.B., Content, A., Crepaldi, D., Davaabold, N., Delgersuren, S., Deutsch, A., Dibrova, V., Drieghe, D., Filipovic Đurdevic, D., Finch, B., … Kuperman, V. (2024), Rethinking First Language–Second Language Similarities and Differences in English Proficiency: Insights From the ENglish Reading Online (ENRO) Project. *Language Learning*, *74*, 249-294. https://doi.org/10.1111/lang.12586

Silva, M., & Cain, K. (2015). The relations between lower- and higher-level comprehension skills and their role in prediction of early reading comprehension. *Journal of Educational Psychology*, *107*(2), 321–331. https://doi.org/10.1037/a0037769

Silva, M., & Cain, K. (2019). The use of questions to scaffold narrative coherence and cohesion. *Journal of Research in Reading*, *42*(1), 1–17. https://doi.org/10.1111/1467-9817.12129

Silva, M., Strasser, K., & Cain, K. (2014). Early narrative skills in Chilean preschool: Questions scaffold the production of coherent narratives. *Early Childhood Research Quarterly*, *29*, 205–213. https://doi.org/10.1016/j.ecresq.2014.02.002

Smeyers, P., & Depaepe, M. (Eds.). (2006). *Educational research: Why "what works" doesn't work*. Springer.

Snow, C., & the RAND Group (2002). *Reading for understanding: toward a research and development program in reading comprehension*. Santa Monica CA: Rand Corporation.

Snowling, M. J., West, G., Fricke, S., Bowyer-Crane, C., Dilnot, J., Cripps, D., Nash, M., & Hulme, C. (2022). Delivering language intervention at scale: Promises and pitfalls. *Journal of Research in Reading*, *45*(3), 342–366. https://doi.org/10.1111/1467-9817.12391

Sriprakash, A. (2009). "Joyful Learning" in rural Indian primary schools: An analysis of social control in the context of child-centred discourses. *Compare*, *39*(5), 629–641. https://doi.org/10.1080/03057920903125677

Sriprakash, A., Maithreyi, R., Kumar, A., Sinha, P., & Prabha, K. (2023). Normative development in rural India: "School readiness" and early childhood care and education. In Proctor, H., Roch, A., Breidenstein, G., & Forsey, M. Eds., *Parents, schools and the state: Global perspectives* (pp. 15–32). Routledge.

Stern, J., Dubeck, M., Piper, B., & Jukes, M. (2022). *Instructional support for effective large-scale reading interventions*. RTI International.

Tambawalla, Z. (2015). *Images for The Red Raincoat*. Kasthuria, K., Pratham Books: StoryWeaver™. Released under CC BY 4.0 license.

The Promise Foundation (2016). Annual Report. The Promise Foundation, Bangalore: India.

Torppa, M., Georgiou, G. K., Lerkkanen, M.-K., Niemi, P., Poikkeus, A.-M., & Nurmi, J.- E. (2016). Examining the Simple View of Reading in a Transparent Orthography: A Longitudinal Study From Kindergarten to Grade 3. *Merrill-Palmer Quarterly*, *62*, 179-206.

Treffers-Daller, J. (2024). Code-switching and translanguaging: Why they have a lot in common. *ELT Journal*, *78*(1), 82–87. https://doi.org/10.1093/elt/ccad059

Tyagi, A., Roque-Gutierrez, E., Prabhu, D., & Nag, S. (2024). *Teacher survey at endline. Internal report*. The Promise Foundation and the TalkTogether Project.

Vasilyeva, M., Huttenlocher, J., & Waterfall, H. (2006). Effects of language intervention on syntactic skill

levels in preschoolers. *Developmental Psychology*, *42*, 164–174. https://doi.org/10.1037/0012-1649.42.1.164

Verhoeven, L., Nag, S., Perfetti, C., & Pugh, K., Eds. (2023). *Global Variation in Literacy Development*. Cambridge University Press.

Wasik, B. A., & Hindman, A. H. (2018). Why wait? The importance of wait time in developing young students' language and vocabulary skills. *The Reading Teacher*, *72*(3), 369–378. https://doi.org/10.1002/trtr.1730

Wawire, B. A., Piper, B., & Liang, X. (2021). Examining the simple view of reading in Kiswahili: Longitudinal evidence from Kenya. *Learning and Individual Differences*, *90*, 1–11. https://doi.org/10.1016/j.lindif.2021.102044