



Research Insights on  
Study of Early Literacy

# Literacy Research in Indian Languages (LiRIL)

## Executive Summary

The LiRIL project, jointly supported by the Tata Trusts and Azim Premji University, aimed to study how children learn to read and write in two Indian languages—Kannada and Marathi—and to document the challenges faced by marginalized learners in this process. The project was conducted in two socio-economically disadvantaged areas – Yadgir block (Yadgir district, Karnataka) and Wada block, (Palghar district, Maharashtra). It used a longitudinal design, and followed 360 students per site as they moved from Grades 1-3 (2013-2016). The schools in Karnataka followed the Nali Kali (Multi Grade Multi Level– MGML) curricular approach and the schools in Maharashtra used Bal Bharati textbooks for teaching language and literacy.

### RATIONALE

We have sufficient data in the public domain indicating that many Indian children cannot read and write well. But, beyond knowing that Indian children struggle with these tasks, we know little else. Why do they struggle? Which aspects of reading and writing do they struggle with? How are they taught to read and write? What role does curriculum play? What do the teachers know and believe about teaching children to read and write? How do different scripts contribute to the challenges?

Ideally, curricular, pedagogical and teacher education reforms should be based on a careful consideration of such factors. Given the dearth of empirical research into these areas, current reform efforts are based on prevalent ideas of how children learn (e.g., joyful learning, peer-based learning, etc.), but not on robust understandings specific to what helps/hinders children in learning to read and write in diverse Indian contexts. The LiRIL project endeavored to present some initial answers to these questions.

### METHOD

360 students at each of the two sites—Yadgir, Karnataka and Wada, Maharashtra—were assessed twice each year on a variety of early literacy skills—ranging from lower order skills (e.g., akshara recognition, word reading and passage reading) to higher order skills (comprehension and composition). A variety of qualitative data were also collected and analyzed, including classroom observations, teacher interviews, in-depth child studies, and curricular analyses.

The advantage of using such a design is that it not only tells us what we all know – that learning outcomes in reading and writing are poor in many Indian contexts – but, it also permits us to gain specific insights into why these outcomes are poor and what we could possibly do to address it. This brief report summarizes some of our findings from five years of study in these sites (2 years of piloting and 3 years of longitudinal work).

### FINDINGS

The LiRIL project confirms what is well known – children in both sites perform very poorly in a variety of reading and writing tasks. It is clear that children are not just unable to read words and passages at an appropriate level of difficulty, but that, even those who are able to read the script, are often unable to comprehend it. Higher order skills like comprehension and composition are alarmingly poor. Each of our specific findings related to poor learning outcomes and their probable causes are briefly summarized here.

**Finding 1. It can take several years for young children to fully learn the symbols associated with the Indian scripts.**

Many Indian scripts have a very large number of symbols associated with them. There are the

basic aksharas in the varnamala, which we will refer to here as “moolaksharas”. There are also the secondary vowel signs or maatras (gunitas) that are attached to moolaksharas, producing the barakhadi. In addition, there are samyuktaksharas (vattaksharas), or the conjunct consonant symbols. This is a fairly extensive set of symbols for young children to learn; and they also need to learn rules – for example – how to combine different maatras with different moolaksharas, or how to produce different samyuktaksharas (Nag, 2007).

It is not surprising, therefore, that our results indicate that young children take several years to master these tasks. By the end of Grade 3, many children at both sites had learned most of the moolaksharas that are in common use in their scripts. However, they had learned only about half the maatras and less than a third of the samyuktaksharas of their respective scripts.

The LiRIL pilot study (2011-2013), which studied students in Grades 1-5 noted that children in Grades 4 and 5 were still practicing and mastering certain aspects of the script.

Some of this can no doubt be attributed to ineffective curricular and pedagogical practices, student absenteeism, and the like, but one implication that can be taken away is that children need multiple opportunities throughout the early primary grades to revisit and practice script acquisition in these languages. At present, the curriculum does not provide for such opportunities beyond Grade 2.

**Table 1**

**What Makes Indian Scripts Challenging for Students to Learn?**

Many different symbols to learn – the basic varnamala has 45+ symbols

In addition, these scripts have maatras and samyuktaksharas – which can be very challenging for young learners. In scripts like Kannada, the gunitas (maatras) attach differently to different moolaksharas – so children have to not just learn the symbols for the moolaksharas and the gunitas, but also the rules for attaching them!

The scripts are visuo-spatially complex – the maatras can go above the line, below the line, to the left or right of the aksharas to which they are attached.

**Finding 2. “Lower-order” skills (e.g., reading and writing aksharas, words and passages) occupy much of the language learning time in classrooms. However, they are taught inadequately, contributing to poor learning outcomes.**

Classroom observations and curricular analyses conducted by the LiRIL team revealed that there is an overwhelming focus on teaching lower-order skills like akshara recognition and the reading of isolated words and sentences in the early grades at both the sites we researched (two-thirds to three-fourths of the language learning time is spent in this).

Despite this, students perform very poorly on these lower order skills. As described in Finding 1, at the end of Grade 3, the chief accomplishment appears to be the learning of a large set of moolaksharas; even maatras (gunitas) and samyuktaksharas (vattaksharas) are not mastered by the end of Grade 3. Not being able to recognize maatras keeps children from being successful at word and passage reading. Hence, 70% of students in Yadgir were not able to read even a 30-word passage with very simple 2- and 3-akshara words by the end of Grade 3. 90% of them could not read a more difficult passage at their own Grade Level. The results were only a little better in Wada. 27% of students could not read the simple passage; while 75% could not read a Grade Level passage.

More worryingly, the bottom 60% of students in Yadgir; and the bottom 40% of students in Wada, made very slow progress over time over the three years studied.

In fact, at the end of three years of schooling, the bottom 20% at each site end up knowing approximately as much as the top 20% of students came into Grade 1 knowing – which is very little.

A common assumption amongst many Indian educators and even the lay public, is that since symbols and sounds have a one-on-one match in several Indian scripts, the process of learning to read words is simpler in these scripts as compared to English. The LiRIL project concluded that this is not so; and identified several problems with curricular and pedagogical approaches to teaching children these skills (see Table 2).

**Table 2**

<b>How is the Script Typically Taught in Indian Classrooms?</b>	<b>What difficulties does this create?</b>
The script is taught with more stress on learning the symbols (aksharas), than their sounds. Children spend a lot of time tracing and copywriting aksharas and words, but not enough time trying to match the symbols and sounds together.	Learning the script involves understanding that symbols and sounds are associated. When we look at symbols and can remember their sounds, we can read, or “decode” the script; when we think of sounds and can find the right symbols to match them, we can spell, or “encode” the script. Activities that require children to go back-and-forth between symbol and sounds are required for strong script acquisition.
Rote and repetition are the only strategies used to help students learn.	When children learn the script only through rote and repetition, they do not get a chance to practice their new skills, or to try to read (“solve”) unknown words on their own. This contributes to children not being able to decode individual words, or read passages for themselves. They can only “read” words that have been learnt by rote.
Children are not taught to blend aksharas into words.	Students end up reading akshara-by-akshara, and do not know when a word has been read, or where the next word begins. They end up calling out a meaningless series of syllables that do not make sense to them (or others).
Maatras are not introduced early or taught effectively.	Most everyday/common words in Marathi and especially in Kannada, have maatras in them. When maatras are introduced late (e.g., 6 months into Grade 1), students end up reading rare/difficult words in the early part of Grade 1, which are difficult for them to understand. When the maatras are introduced, as mentioned earlier, there is more emphasis on learning the symbols, than the sound, making the maatra learning process long and tedious for most students in our sample.
Children are not given opportunities to read passages at an appropriate level of difficulty.	Children spend most of their time in Grades 1 and 2 reading and copy-writing aksharas, words and sentences. They have very few opportunities to read meaningful passages at a level of difficulty that they can manage with

some support. As a result, their passage reading skills are very poor, and speed (pace) of reading is very slow. Very slow and effortful reading disturbs the meaning-making process.

Meaning is not used as a foundation to teach children the script.

The script is taught in way that completely separates it from the child's life. Words formed from the taught aksharas are not words that the child is likely to understand; nor, is copy-writing an engaging or meaningful activity. As a result, children fail to see the relevance of reading and writing to their lives.

The implication of this finding is that children need access to a well-thought out phonics/word-solving curriculum that goes beyond copy-writing.

**Finding 3. Comprehension and composition are neglected aspects of the early language and literacy curriculum.**

The situation described with lower order skills is even worse with higher order skills, such as, reading a passage with comprehension, or writing in response to a picture-prompt. Even students who performed well on script-reading tasks, performed poorly on tasks assessing their understanding of what was read, and their ability

to communicate ideas through writing. 60% of students in Yadgir, and 30% of students in Wada, could not answer a single comprehension question correctly on a Grade Level passage. The students also scored very poorly on a prompted writing task, showing difficulties with describing a picture through writing.

Table 3 summarizes qualitative understandings about children's comprehension processes and difficulties.

**Table 3**

Comprehension Processes	Children's Difficulties
Vocabulary	Children often did not understand key words to understanding the story; and did not pause to ask for the meaning of words they did not understand while reading a story.
Understanding basic plot, ideas about story/passage	Many children can broadly understand what a story is "about" (e.g., a cat and a rat; girl and boy; etc.), but they cannot always retell the story with an accurate sequence of events, or important details. The understanding is typically at a broad level of identifying characters in the story. Some children read the story "picture-by-picture" and don't see any connection between the pictures on one page and the next. Hence, even though they can also identify the characters, they are not able to even recognize a general flow or narrative to the story.

Inferring/Understanding implicit ideas

Most children cannot understand ideas that are not stated clearly or explicitly in text. Inferring is a serious problem.

Making connections

Children often connect characters from the text with their own lives. For example, cats and rats they've seen, or games they have played. But, without adequate guidance, these connections become what they remember about the text, and not what the text/story itself was about. We noticed that children's personal connections often overshadowed meaning making about/from the text.

Predicting

Most children are not able to make meaningful predictions based on what has happened thus far in the story; or based on the title of the story. When they do make predictions, they do not go back and correct their predictions as they read along and find that they were wrong. This means that children are not *metacognitive* in their reading.

How are children taught to comprehend passages? We saw teachers using the following strategies:

1. Word-meanings: The meanings of difficult words are written down on the board, and sentences with each word are written on the board. Children copy these down and learn by rote.
2. "Samjhana" method: Teacher pauses frequently while reading passages and explains the text line-by-line to children. Children are not encouraged or taught ways to make sense of the text through discussions or thinking, but are "told" the meaning.
3. Connections: Teacher tries to connect the text to children's lives by drawing comparisons. Sometimes, this is done quite well, but at other times, the connections are unnecessary or trivial. Importantly, students are not shown how to use these connections to make better sense of the text.
4. Question-and-answer: Teacher writes down questions from the back of the passage and writes answers down. Children copy these down and learn by rote. This usually happens only in Grade 3.

The main problem with these approaches is that the teacher holds the key to making meaning of

the text; children's thinking and meaning-making processes are not seen as relevant. The teacher also does not model any strategies that the child could use on their own while reading, or teach children to pause and check their own comprehension.

The situation with compositional writing is even worse – children in Yadgir did not receive any space or opportunities to write for communicating/expressing thoughts. In Wada, children were sometimes given time to "free write", but this writing was rarely responded to meaningfully by the teachers, and did not appear to have any specific goals or purposes.

**Finding 4. Curricular approaches matter. While both curricula result in poor outcomes, MGML poses certain unique difficulties and challenges to language and literacy learning.**

The two sites in our sample used very different curricular approaches to the teaching and learning of early language and literacy. Children at both sites performed poorly on lower order and higher order tasks. However, on all tasks, children in Yadgir, Karnataka, performed more poorly than did children in Wada. Both children came from similarly socio-economically disadvantaged districts; teachers were comparably qualified; and time spent on early language learning was roughly at par.

The traditional, text-book based curriculum used in Maharashtra is not ideal, nor was the implementation of this curriculum by the teachers we observed. So, the “source” of the differences perhaps does not lie in Maharashtra having a good curriculum. Rather, a part of it can be explained by the Multi Grade Multi Level (MGML) curriculum used in Karnataka (Nali Kali) that restricts opportunities for meaningful language and literacy learning (see Table 4).

**Table 4**

<b>MGML Curricula and Early Language/Literacy Learning</b>
Self-paced nature of curriculum makes it difficult to have meaningful whole-class and small group language experiences. Even in teacher-led groups, the teacher is attending to several different activity cards within the same group, instead of taking up a small group activity that is relevant to all the children in that group.
Format of MGML severely restricts opportunities for oral language activities, such as conversations, discussions, storytelling, and teacher read alouds of good children’s literature.
Materials are largely focused on lower-order skills; lack of meaningful texts in curriculum.
Opportunities to write for expression and communication are missing.
Disconnects between children’s everyday vocabulary and vocabulary of curriculum.
Complex grouping arrangements give students less direct attention from teacher, who is attending to many different children working on many different activity cards.

**Finding 5. Teachers are prepared generally and not specifically to teach language and literacy teaching.**

Teachers at both sites were unprepared or under-prepared to teach early language and literacy. We separated classrooms where students who were performing “better”, from classrooms where students were performing “worse” within our sample, and we observed these classrooms to see what the teachers were doing differently. We found that classrooms

where students perform better had teachers who were better at classroom management, and who provided individualized attention and feedback to their students. These teachers did not know more about the teaching of early language and literacy, as compared to the other group.

Teacher interviews revealed that during pre- and in-service trainings, they had received general ideas about “constructivism”, child-centered”, or “joyful” learning, but had not received any specific information about how children learn language, or how to teach it. Most teachers in our sample did not possess clear understandings about the aims and purposes of early language curricula, approaches to teaching early language and literacy, or ways to address specific student difficulties.

**Implications: What Should be Done?**

Results from the LiRIL project have important implications for curricular and pedagogic reforms and for teacher education curricula. A few of these are summarized here:

- 1. Establishing relevance of reading and writing in children’s minds.**  
Establishing a culture that expects reading and writing to be meaningful and useful is central to the success of any early language and literacy classroom. This is especially critical for children who are first generation literates.
- 2. Comprehensive Language and Literacy Classrooms.**  
Curricula must focus simultaneously on a variety of language and literacy skills from the very earliest grades. Listening, speaking, reading and writing need to be taught in inter-related ways and used for communication, expression, analysis and discussion. Both higher order and lower order skills need to be nurtured together, from the very beginning.
- 3. Children’s Literature and Read Alouds in the Classroom.**  
Higher order meaning making can be supported by the presence of children’s literature in every school/classroom. Read Alouds of good books by teachers have been established in more literate societies as one of the most powerful formats for early language and literacy learning. Read alouds

are opportunities for listening and developing oral language; and if interspersed with discussions, become an opportunity to engage in meaning-making.

**4. Word Solving Activities.**

As noted earlier, Indian scripts have many symbols and it may take children 4-5 years to learn all of them. Rather than spending the first 5 years of schooling only on script acquisition, we recommend that approximately 20-30 minutes/day of focused attention be spent on becoming fluent with the script. This time should be spent on establishing robust sound-symbol relationships through a variety of engaging word-solving activities (as opposed to copy-writing activities). For example, children can be given akshara cards with and without gunitas, and encouraged to make and break words, and play a variety of word games that build their word reading and writing capabilities. Encouraging children to use “invented spellings” based on the sounds they hear in words also helps build interest, confidence and skills.

**5. Teaching for Comprehension and Composition.**

Comprehension has to be taught, it is not automatically “caught”. Predicting, inferring, summarizing, clarifying, connecting, etc., are all useful strategies to teach young children to monitor their own meaning making. These can be modeled during read alouds by the teacher, and practiced during guided and independent reading. Opportunities for writing also need to be provided in guided formats. Language Experience Approach (that involves the creation of shared texts by the class) is an excellent way to guide young children into conventions and composition.

**6. Time and Organization.**

MHRD’s Padhe Bharat Badhe Bharat document recommends that approximately 2.5 hours per day be spent on language and literacy learning during the first three years of school. We recommend that this time be organized into “blocks”. At a minimum, 4 blocks of time are necessary to adequately support different aspects of early reading and writing – Read Aloud Block; Phonics & Word Work; Guided Reading (where students practice reading passages/books at an appropriate level of

difficulty); and Guided Writing (for compositional efforts). If sufficient time is not available for all four blocks each day, weekly time can be scheduled for the same (say – 2-3 times a week). Whole class, small group and individual activities are important.

**7. Teacher Education.**

Teachers should be provided with domain specific expertise in teaching early language and literacy. Currently, they are taught more about how to handle materials and groupings, than about the underlying principles of language teaching and learning. Teachers should also be encouraged to develop themselves as readers and writers if they are to teach reading and writing in rich and meaningful ways to children. Supportive formats should be created for examining strong beliefs that many teachers hold about the capabilities of marginalized children and communities; and about the nature of language teaching and learning.

**8. Early Intervention.**

Children who are not progressing adequately should be supported in an early and comprehensive manner through well designed intervention programmes. In certain Western countries, “three tiers” of responsive teaching are provided – good first teaching for all; small group interventions for 15-20% of students who are not progressing adequately; and intensive individualized interventions for the bottom 4-5% who do not respond even to the small group interventions. At a minimum, we should be able to provide the first two of these three tiers – i.e., good first teaching for all, and well-designed small group interventions for those who struggle.



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