Evaluating Reading Proficiency of Grade 4 Children in Rural Kerala

# An Exploratory Study

June 2025

Vakkom Moulavi Foundation Trust

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# Executive Summary

## Purpose of the Study and Coverage

The 'Reading Assessment Project' was an exploratory research study conducted by VMFT. The principal aim of the study was to develop a methodology for assessing the reading proficiency of students in English and Malayalam towards the end of Grade 4 in Kerala. The project also aimed to gain insights into students' attitudes towards reading, their socio-economic status (SES), their schooling history and the academic support they received outside of school in the form of tutoring and the availability of reading material at homes, to explain the assessment findings comprehensively.

The study was conducted in two government-run, rural co-educational schools in a panchayat located in the Kollam district. Both schools operated parallel English medium and Malayalam medium sections at the lower primary level. Of the 31 students who participated in the study, 26 were enrolled in English medium sections and 5 in Malayalam medium sections.

## Key Findings on Reading Proficiency

**Foundational Literacy Crisis:** The analysis of the reading proficiency levels of Grade 4 students in both schools revealed alarmingly low skill levels across both languages. Despite being in Grade 4, only 32% of students (10 out of 31) could fluently read a Grade 2-level text in Malayalam, and a mere 22% (7 out of 31) could do so in English. Although students of one school performed moderately better than the other, particularly in Malayalam, the majority of students in both schools remained below the Para level (Grade 1 text), well below grade-level expectations.

These results are particularly concerning as the levels of reading proficiency tested in this study represent very basic benchmarks. To be classified at the Story level, the highest level tested here, a child only needed to fluently read a Grade 2 level text. Therefore, even students classified at this highest level may still struggle to comprehend Grade 4-level reading material. These findings point to serious gaps in foundational literacy acquisition and call for urgent, targeted interventions in reading instruction and classroom support across both English and Malayalam.

It must be noted that most of the children had joined their current schools in Grade 2 following the COVID-19 school closures in Kerala from 2020 to 2022. However, the low reading proficiency observed in the study mirrors ASER 2018[1] findings of reading proficiency prior to the pandemic, indicating that foundational literacy challenges cannot be attributed solely to the disruptions caused by the pandemic.

**Proficiency in Malayalam and English are highly correlated:** Students with the highest proficiency in English also demonstrated comparatively high proficiency in Malayalam, and the students with the lowest proficiency in English had the lowest proficiency in Malayalam. This positive correlation indicates that fluency in one language may support fluency in another and indicates the potential of bilingual education in the early years of schooling.

**Story Level Reading Proficiency Does Not Translate to Comprehension in English:** A critical finding of the study was that students categorized at. the 'Story' level in English per ASER criteria could read a Grade 2 level story fluently but could not actually comprehend what they read. They particularly struggled with common function words such as "for" and "their" and used content words such as "school" and "sister" to infer the meaning of the text, leading to incorrect interpretation. Children also struggled with the meanings of common vocabulary such as "far" and "went". In contrast, fluent reading in Malayalam at the Story level translated into actual comprehension, which is likely due to their stronger linguistic foundation in their home language. This finding suggests that national-level assessments such as ASER may overstate student reading proficiency in English reading, as they primarily measure decoding skills. The ASER results in English, therefore, must be interpreted with caution.

[1] Annual Status of Education Report (Rural) 2018. Pages 52 (All India rural) and 135 (Kerala rural)

## Conclusions on Methodology

This exploratory study demonstrates that a comprehensive reading proficiency assessment for Grade 4 students in English and Malayalam is practical and feasible at the school level. The assessment methodology requires 1-2 hours for class familiarization, approximately 30 minutes per student for both reading evaluation and informal conversations, and 1 hour with the class teacher for inputs on teaching and student socio-economic status.

The study utilized readily available ASER tools for English and Malayalam at Letter, Word, Paragraph, and Story levels with adapted scoring procedures. These were supplemented by Reading Assessment Observation Checklists for documenting reading behaviors, Comprehension Assessment Forms, Student Information Forms for recording observations from student conversations, Reading Attitude Surveys using visual smiley-based scales, and Teacher Input Forms for classroom-based assessment validation. The methodology can be easily administered by teachers or literacy instructors in community-based projects with limited training.

## 1. Introduction

The 'Reading Assessment Project' was an exploratory research study conducted by the Vakkom Moulavi Foundation Trust (VMFT). The project aimed to develop a methodology for assessing the reading proficiency in English and Malayalam of students at the end of the primary cycle (Grade 4) in Kerala. The project also aimed to gain insights into student's attitudes towards reading, their socio-economic status (SES), their schooling history and the academic support they received outside of school in the form of tutoring and the availability of reading material at homes in order to be able to explain the assessment findings in a comprehensive manner.

## 2. Background

A report released by the VMFT titled *Separate and Unequal? Language, Curriculum and Management in Kerala's School Education System*[2] revealed that Kerala's school education system is highly segmented in terms of the language of instruction and the socio-economic status of students. The report was based on an analysis of (i) the census of schools in the Unified District Information System for Education Plus (UDISE+), (ii) the survey of households carried out by the National Sample Survey (NSS), and (iii) the Annual Status of Education Report (ASER) learning assessment for 2018. The report highlighted significant gaps in foundational literacy reflected in the reading proficiency of primary school students. For instance, analyses of the ASER results for the state indicated that two-thirds of Grade 2 students and half of Grade 3 students were unable to read a Grade 2-level passage. Even 33% of Grade 5 students (i.e. students in the first grade of the upper primary cycle) had difficulty reading the same passage. Moreover, students who opted to read in Malayalam had lower proficiency than those who chose to read in English, and students in government schools had lower reading proficiency than those in unaided schools. These results are for 2018, that is, before the prolonged closure of schools caused by the COVID-19 pandemic.

These findings raise concerns about literacy outcomes across different school types in Kerala's education system. While over 60% of primary students now study in schools offering English-medium instruction (EMI), poorer students are concentrated in Malayalam-medium government

[2] Separate and Unequal? Language, Curriculum and Management in Kerala's School Education System. Available at: https://vmft.org/wp-content/uploads/2025/02/VMFT-Separate-Unequal-Final-Web-Pages_compressed.pdf

schools. The segmentation in the education system and the gaps in foundational literacy highlighted by the macro-analyses necessitated a closer examination of the situation. A study that assessed the bilingual reading proficiency of students in both Malayalam (L1) and English (L2) at the primary level was considered necessary to understand the reading proficiency of children at the end of their primary schooling.

Although ASER surveys provide valuable inputs that shed light on the literacy outcomes of students in rural Kerala, they do not provide a complete picture of the reading proficiency of students in English and Malayalam, as ASER requires that students choose between reading passages in either English or their mother-tongue. While the choices made by students in ASER surveys could potentially provide insights into their level of comfort with English, it is essential to examine how students across different school systems at the primary level navigate reading in both English and Malayalam, considering the critical role played by early literacy in long-term academic success. Further, ASER being a home-based survey, could not provide insights into the potential impacts of particular school environments on children's reading abilities.

The reading assessment was originally conceptualised as part of a broader reading project to improve children's reading. The project aimed to provide guided reading instruction and self-reading using a set of levelled readers in English and Malayalam.[3] The reading assessment was envisaged to provide a baseline of children's reading levels using these graded readers and to measure progress after guided reading instruction. However, it proved difficult to develop a methodology for assessing reading fluency and comprehension using the graded readers. As a result, it was decided to use the ASER tools, using a modified approach, as described in the methodology section.[4]

[3] These were Pratham readers which covered four levels, in English and Malayalam. The Pratham readers were selected and procured by VMFT. The Malayalam translation of selected Pratham readers was also commissioned by VMFT and undertaken by Pratham.

[4] As a token of appreciation for participating in the study, each school was gifted a set of 40 Pratham readers, covering the four levels in English and Malayalam. Schools and teachers were encouraged to use them for reading instruction or self-reading by students, but no formal guidance was given to them.

## 3. Research Questions (RQ)

The project attempted to test and refine a methodology to answer five research questions, outlined below, under three thematic areas. RQ1 and RQ2 focus on evaluating the reading proficiency and comprehension skills of Grade 4 students in English and Malayalam. RQ3 and RQ4 examine factors outside the school setting that can impact their reading proficiency, such as socio-economic status, the availability of reading materials at home and supplementary academic support. RQ5 explores the schooling trajectories of the children up to Grade 4 to identify possible disruptions and transitions that could have affected their educational outcomes.

### 3.1 Reading Assessment: Decoding and Comprehension

**RQ 1** What is the reading proficiency of Grade 4 students in government-run schools in English and Malayalam?

**RQ 2** What are the difficulties experienced by children in reading and comprehending English and Malayalam at Grade 4?

### 3.2 House-hold Contexts and Learning Support

**RQ 3** What is the socio-economic status of the children in government-run schools and how does it relate to their reading performance?

**RQ 4** What is the extent of external academic support received by Grade 4 students, specifically in terms of tuition and availability of reading materials at home?

### 3.3 Schooling Trajectories

**RQ 5** What is the schooling trajectory of Grade 4 students in government-run schools in rural Kerala?

## 4. Research Design

The principal aim of the study was to develop a methodology for conducting reading assessments in English and Malayalam, using readily available tools that could be administered in an easy and efficient manner, which could eventually be used by teachers or literacy instructors in community-based projects with limited training. Two schools participated in this exploratory study. The study employed a mixed-methods research design that incorporated researcher-led reading assessments, informal conversations with students and teacher inputs on their language teaching practices and student reading abilities. No systematic classroom observation was undertaken. Based on the experience in the first school, the approach was s modified in the second school.

### 4.1 Participating Schools

The study was conducted in two government-run, rural co-educational schools in a panchayat located in Kollam district. Both schools offered instruction in English and Malayalam and were located within a distance of 1.5 kilometers from one another.

School A was a co-educational lower primary school (LPS) with classes from L.K.G to Grade 4. It had a total of four teachers handling Grades 1 to 4, of whom 3 held a Diploma or Certificate in basic teacher training and one held a B.Ed. degree. Based on information shared by teachers, the school had a total of 45 students enrolled from Grades 1 to 4.

School B was a co-educational school that had upper primary, secondary and higher secondary sections in addition to the lower primary section. A total of 4 teachers taught the lower primary section from Grades 1 to 4. Similar to School A, 3 of these held a Diploma or Certificate in basic teacher and one held a B.Ed. degree. Based on information from teachers, the school had a total of nearly 60 students enrolled across Grades 1 to 4.

Both schools operated parallel English medium and Malayalam medium sections even at the lower primary level. Parents enrolled students in the different sections at the time of registration. According to the Government of Kerala regulations, each government-run or government financed (i.e. aided) school must have a Malayalam medium section. Consequently, each school had a small

minority of students enrolled in the Malayalam medium section. It is not clear whether the school helped to decide which students should be enrolled in the Malayalam medium section.

## 4.2 Participants

In School A, all the 17 students enrolled in Grade 4 participated in the study. 15 students were being taught using English as medium of instruction (referred to henceforth as English medium students) and two were being taught using Malayalam as the medium of instruction (Malayalam medium students0.

In School B, 14 of the 17 students enrolled in Grade 4 participated in the study. One student suffered from cerebral palsy and could not be enrolled in the study due to his difficulty with speaking and two students were unavailable due to time constraints. Out of the 14 participants, 11 were English-medium students and three were Malayalam-medium students.

## 4.3 Instruments

The following instruments were employed in the study.

### 4.3.1 ***Invitation Letter (Appendix 1)*:**

The invitation letter from VMFT introducing the project, the researcher and requesting the HM's consent for participation in the project.

### ***4.3.2. Consent Form (Appendix 2)*:**

The consent form signed by the HM of the school giving consent for the study.

### ***4.3.3. Ice-breaker Activity Form (Appendix 3)*:**

This activity was employed during the familiarization phase to ensure that students feel comfortable with the researcher during the assessment phase. It provided insights into students' interests and aspirations and served as conversation starters that helped build rapport with them prior to the assessment. The researcher explained the activity to the children and engaged with

them in Malayalam. Students wrote their responses such as the names of their favorite cartoons and their dream jobs in English with help from the researcher.

#### *4.3.4. Reading Attitude Survey (Appendix 4)*:

The reading attitude survey used in the study was a student-friendly, visual smiley-based scale designed to capture students' self-reported attitudes toward reading in both English and Malayalam through an activity-based approach. Instead of employing a standardized questionnaire where children select responses, the activity was structured such that children chose one of the five smileys corresponding to their attitudes and recorded their responses on post-it notes. This approach ensured that the survey was amenable for quantitative analysis while being child friendly.

☺ I like reading a little.

😃 I like reading very much.

😐 I am okay.

☹ I am afraid of reading.

☹ I don't like reading at all.

Appendix 4 contains detailed instructions to conduct the survey.

#### *4.3.5. Student Information Form (Appendix 5)*:

To gather contextual information on students' backgrounds, a Student Information Form was used during one-on-one conversations. The form (see Appendix 5) recorded personal details of the child, their schooling trajectories, access to reading material in their home environment, tuition support and vehicle ownership. The researcher had informal individual conversations in Malayalam with the students and the responses were recorded in the Student Information Form simultaneously.

Changes were made to the student information form based on the experience in the first school, relating to two questions. In School A, where the study was first conducted, information concerning socio-economic status was limited to a single question where children were asked

about the number and kind of vehicles in their household. However, for School B, it was decided to include questions on the occupation of parents to supplement the information received on the number of vehicles. Similarly in School A, children were asked about the availability of reading material at home, but many were unable to respond clearly, often referring to old books or novels read by their parents. Hence, in School B a specific question was asked instead to students about whether they had read any stories at home in the previous month.

### *4.3.6. ASER Tools for Letter, Word, Paragraph and Story Level in English and Malayalam (Appendix 6)*:

In order to assess the decoding skills of the participants, the ASER tools for English and Malayalam were employed in the study. The tool consists of a series of tasks at various levels:

**Letter:** A chart with individual letters in random order, used to determine if students could recognize and identify letters accurately.

**Word:** A list of commonly used words, designed to assess whether students could read and recognize words in isolation.

**Paragraph (Grade 1 Text):** A short paragraph, aligned with Grade 1 reading level

**Story :(Grade 2 Text):** A simple story, aligned with Grade 2 reading level.

It is important to stress that although the students were in Grade 4, the tools used were for reading levels expected in early primary grades.

### *4.3.7. Adapted ASER Assessment Flow chart (Appendix 7)*:

Although this study employed the standard ASER testing tools at the Letter, Word, Paragraph and Story levels, modifications were made to the scoring procedure (See flowchart in Appendix 7)
a) to address a few concerns identified with the fluency descriptors used by ASER and b) to ensure that the criteria are appropriate to evaluate students of the 4th grade.

## Key Modifications

**Fluency criteria revision:** The construct of fluency primarily pertains to the speed or rate of production of words. The original ASER criterion (see fig. 1 for Paragraph level criterion) stated that a child should be classified at the Paragraph or Story level if he or she reads the paragraph or story "fluently and with ease, even if she is reading slowly". As fluency implies reading speed, this criterion was found to be self-contradictory. It was modified to eliminate the contradiction between reading slowly and reading with speed within the same descriptor.

**Grade-Appropriate Word and Letter Test Criteria:** As participants of the current study were in the 4th grade, scoring criteria more tailored to 4th grade expectations were employed in comparison to ASER for the Word and Letter tests. The modifications in the scoring criteria listed below were made because ASER Word lists contain a set of two-letter words at the Grade 1 level[5]and the Letter lists include a set of commonly used letters[6]. Considering that 4th graders should demonstrate proficiency beyond Grade 1 level expectations, the assessment criteria were adjusted accordingly.

**Standard ASER Word test:** The child reads any 5 words from the ASER word list of 10 words of which 4 should be correct for the child to be classified at the Word level. If a child does not meet that criteria, they are then given the Letter test.

**Modified Word test criteria for Grade 4:** The child reads all 10 words from the ASER word list, of which 8 should be correct for the child to be classified at the Word level. If a child does not meet that criteria, they are then given the Letter test.

**Standard ASER Letter test:** The ASER Letter list contains a set of 10 letters. The child chooses any 5 letters of which 4 should be correct for the child to be classified at the Letter level. Students who cannot read 4 letters are placed at the Beginner level.

[5] ASER Assessment and Survey framework https://img.asercentre.org/docs/Bottom%20Panel/Key%20Docs/aserassessmentframeworkdocument.pdf, Page 27

[6] ASER Assessment and Survey framework https://img.asercentre.org/docs/Bottom%20Panel/Key%20Docs/aserassessmentframeworkdocument.pdf, Page 27

**Modified criteria for Grade 4 labelled as "Insufficient Word Proficiency":** A child who reads fewer than 8 words is given the letter test. If the child reads 8 out of 10 letters correctly, the child is classified as having "Insufficient Word Proficiency".

**Modified criteria for Grade 4 labelled as "Insufficient Letter Proficiency":** Students who could read fewer than 8 letters were categorised as having "Insufficient Letter Proficiency".

**Modified descriptors:** It was also observed during the study that children who are less fluent tend to spell out or silently mouth individual letters or phonemes before attempting to read any word. Therefore, these features were included in the modified scoring descriptors. If a child spelled out or mouthed letters, he or she was not classified under the Paragraph level. Another ASER descriptor stated that a child at the paragraph level should read the paragraph like "she is reading sentences rather than a string of words." However, it was observed that some children who read with speed and accuracy also read sentences like a string of words or meaningful units where they lengthen the final phoneme longer than required. This form of hyper articulation could be attributed to their classroom training where teachers instruct them to articulate and enunciate every word clearly. For this reason, it was observed that if we strictly adhere to these ASER descriptors, a child could potentially be misclassified at a lower level. However, as these children, despite hyper-articulation, show an ease of reading and do not have long apuses between words, the modified descriptors stated that the child should be able to read a paragraph a) without long pauses between words , b) with ease and c) not like a string of words, as reflected in the flowchart (see Figure 2).

| The child is not at 'Paragraph Level' if the child: | The child is at 'Paragraph level' if the child: |
|---|---|
| • Reads the paragraph like a string of words, rather than sentences.<br>• Reads the paragraph haltingly and stops very often.<br>• Reads the paragraph fluently but with more than 3 mistakes. | • Reads the paragraph like she is reading sentences, rather than a string of words.<br>• Reads the paragraph fluently and with ease, even if she is reading slowly.<br>• Reads the full paragraph with 3 or less than 3 mistakes. |
| If the child is not at 'Paragraph Level' then ask the child to read words. | If the child can read a paragraph, then ask the child to read the story. |

**Figure 1: ASER descriptors for classification at the Grade 1 Paragraph Level**

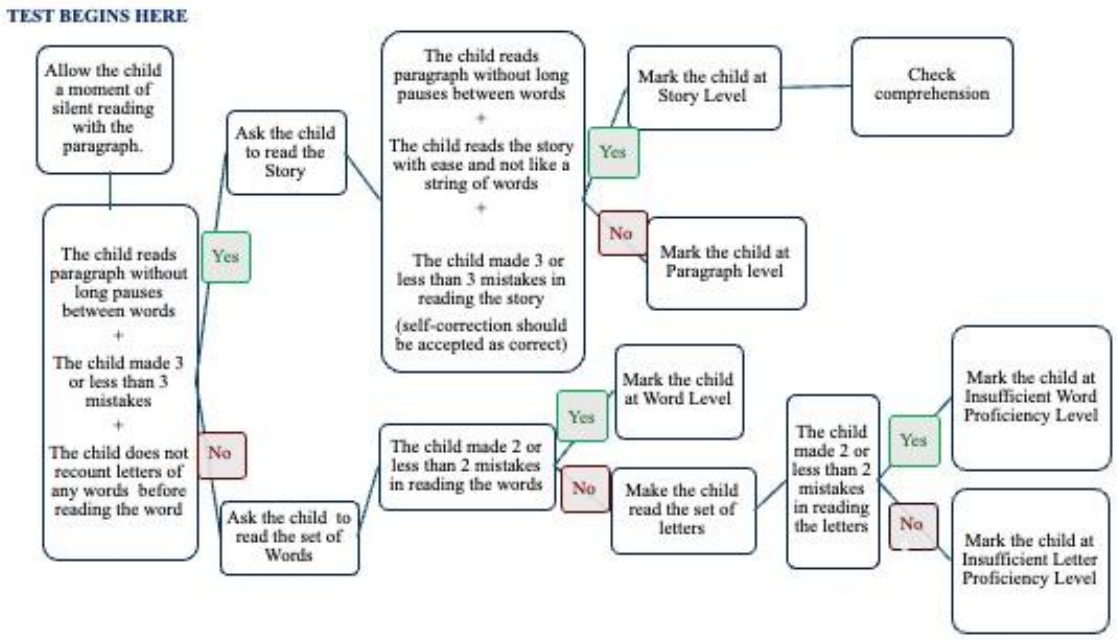



**Figure 2: Adapted descriptors and flowchart for assessment**

### *4.3.8 Reading Assessment Observation Checklist (Appendix 8)*

The Reading Assessment Observation Checklist was developed over the course of the study to make a note of the reasons for classifying a child at a certain level. It is also expected that this document would serve as a useful point of discussion between multiple raters where discrepancies are observed during reliability analyses in future replications of the study.

### *4.3.9 Comprehension Assessments for Story Level Readers in English and Malayalam (Appendix 9)*

The ASER surveys primarily test the decoding ability of the participants. Reading skills, however, according to the Simple View of Reading (Hoover & Gough, 1990), is believed to encompass two skills: decoding and linguistic comprehension which are considered disparate yet equally essential skills for successful reading. As the ASER tools do not evaluate comprehension, study questions were added to the tool to check the students' comprehension of English and Malayalam texts in the present study.

We used a simple yes/no question to get the student's opinion on whether they understood the text. This was followed by a set of open-ended comprehension questions including direct and inferential questions (see Appendix 9) for students categorized at the Story Level in Malayalam. For students categorized at the Story level in English, a retelling task was employed where children explained the meaning of each sentence in the story in their mother-tongue. The rationale for inclusion of this task was that children, when asked the meaning of an English sentence, naturally proceeded to read sentence by sentence and explain the meaning to the researcher. Observations were recorded at the sentence-level for English.

### *4.3.10 Teacher Input Form (Appendix 10)*

The ASER tools for assessing students at the Letter, Word, Paragraph and Story level and scoring sheet Reading Assessment Scoring sheet were explained to the teacher so that the teacher can categorize the students into varying levels of proficiency based on classroom observations. The teacher's observations were recorded in the Teacher Input Form (Appendix 10).

### 4.4 Procedure of Data Collection

Data collection was conducted over a period of several days in each school and was divided into two broad phases: (1) Familiarization and (2) Individual Reading Assessments and Conversations

**Phase 1:** Familiarization

During this phase, the researcher spent time in the Grade 4 classroom to build rapport with the students and introduce the purpose of the study in an age-appropriate and informal manner. This phase included:

a) A class-wide ice-breaker activity to help children engage with the researcher (Appendix 3)

b) A reading attitude survey using a visual smiley scale, conducted as a child-friendly activity to capture students' comfort and interest in reading. Children selected from five smiley faces representing different attitudes toward reading. Students wrote "E" (English) and "M" (Malayalam) on post-it notes and drew the corresponding smiley that represented their feelings about reading in each language. The activity was conducted in both Malayalam and English to ensure comprehension, and responses were collected individually on post-it notes.
(See Appendix 4)

c) Distribution of Pratham reading materials, which students were encouraged to explore informally by reading or browsing through the illustrations.

This phase spanned approximately two hours spread over two days and was conducted within the classroom setting in School A. As School B was able to allocate only one hour for the researcher to spend with the class, it was dedicated to the ice-breaker activity alone for familiarization. The reading attitude survey could not be conducted in School B.

**Phase 2:** Individual Conversations and Reading Assessments (30 minutes approx. per student)
In the second phase, each child was assessed individually in a quiet space designated by the school, with sessions lasting about 30 minutes per student. The process included:

- An informal conversation in Malayalam with students to understand the learning support available to them outside the school environment, their socio-economic status and schooling trajectories (RQ3, RQ4 and RQ5)

- A reading assessment following a stepwise protocol adapted from the ASER tool (Appendices 6–8), which included decoding tasks at the letter, word, paragraph, and story levels in both English and Malayalam to evaluate students' reading proficiency and the difficulties they experience in decoding (RQ1 and RQ2)

- A comprehension assessment (Appendix 9) for students who were categorized at the Story Level, through a combination of direct and inferential questions (Malayalam) or sentence-by-sentence retelling (English) to evaluate students' reading proficiency and the difficulties they experience in comprehending English and Malayalam texts. (RQ1 and RQ2)

All student responses and reading behaviors were documented on structured observation forms.

**Teacher Inputs**

The final stage of data collection involved a brief session with the Grade 4 teacher. The ASER tools were explained, and the teacher was asked to categorize the students' reading levels based on their own classroom interactions. The teacher was also requested to provide information on the socio-economic status of children such as whether they were classified "Below Poverty Level" (BPL), an official classification that is used by the government. This session typically lasted about an hour.

As noted earlier, systematic classroom observation was not part of the research design, due to various practical factors. During the course of the study, the researcher observed that the English-medium and Malayalam-medium students were taught simultaneously by the same teacher. Some information was also collected about how a single teacher taught language and other subjects to the English-medium and Malayalam medium students, how the textbooks were used and how assessment was done for the two groups of students in different subjects.

## 5. Data Analysis

As this exploratory study involved a small sample of 17 students in School A and 14 participants in School B, descriptive statistics and cross tabulations were primarily employed for analysis.

In order to estimate the reading proficiency of students in English and Malayalam, descriptive statistics were used to analyse reading proficiency levels in both languages. Reading levels were converted into ordinal scores (Insufficient Letter Proficiency = 1, Insufficient Word Proficiency = 2, Word = 3, Para = 4, Story = 5). The analysis included the calculation of mean, median, mode, and standard deviation to understand the distribution of reading proficiency levels across students.

To examine the relationship between Malayalam and English reading proficiency, a Spearman's Rank Correlation test was conducted. This test was chosen because reading levels are ordinal in nature, which is that they follow a ranked order but do not have equal intervals between levels. In addition, a cross-tabulation analysis was performed to explore how students at each Malayalam reading level performed in English.

For School A, to estimate the socio-economic status of the children and its relationship to their reading performance, the SES of the participants was estimated using the number and type of vehicles owned by each participant's household. The scoring system shown in Table 1 was designed to assign students into economic categories based on their vehicle ownership as reported by them. Therefore, if Student A's family owns two scooters and a bike, her SES score would be computed as 2*2 + 3*1= 5. Based on the SES score, candidates were categorized into a particular SES category based on as indicated in Table 2.

**Table 1: SES score allocated to Vehicle Type**

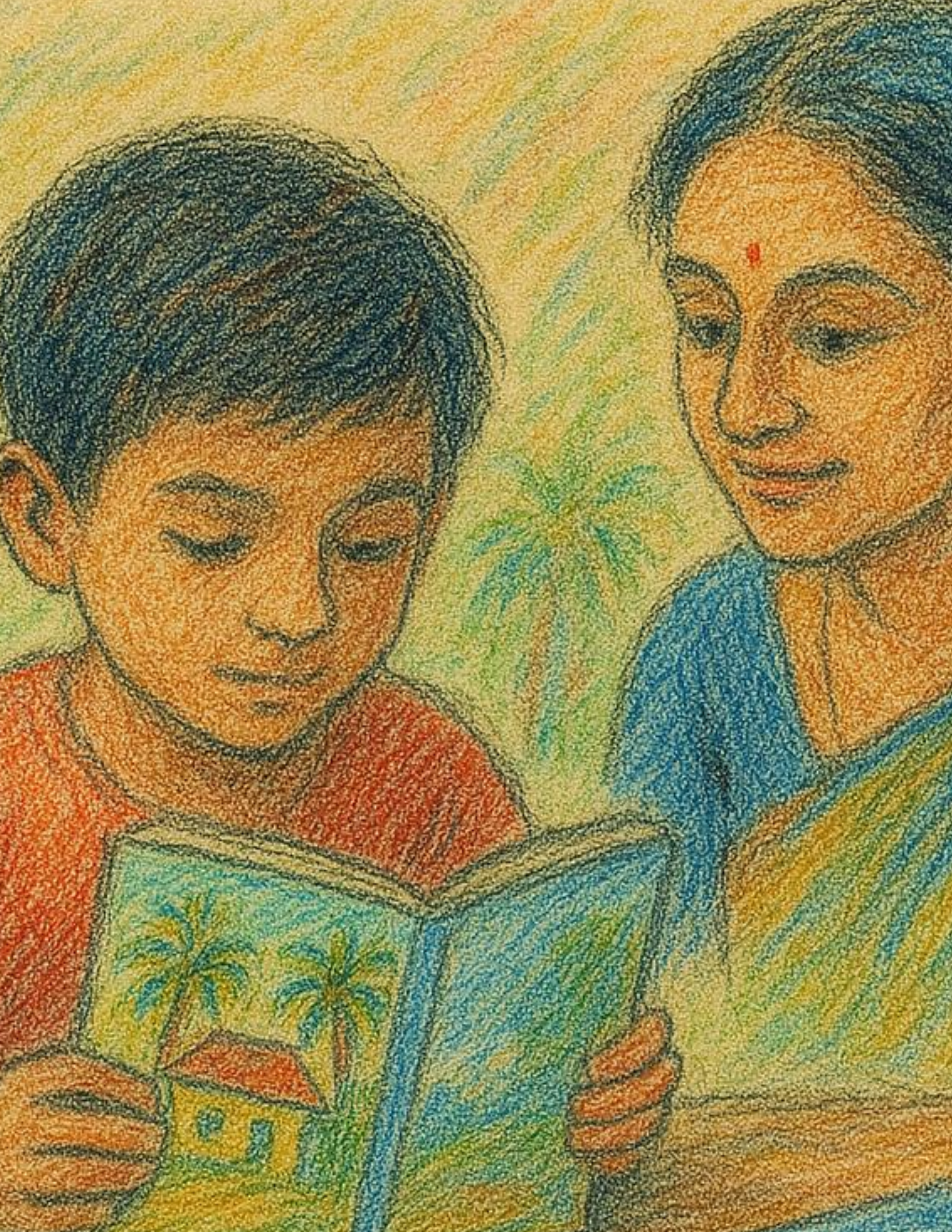
| Vehicle Type | SES score (Per Vehicle) |
|---|---|
| Bicycle | 1 |
| Scooter | 2 |
| Motorbike | 3 |
| Auto-rickshaw | 3 |
| Car | 5 |

**Table 2: SES scores and SES Categories**

| SES Score | SES Category |
|---|---|
| 0-2 | Low SES |
| 3-5 | Lower-Middle SES |
| 6-8 | Middle SES |
| 9+ | Upper-Middle/High SES |

## 6. Findings

The findings have been grouped under three different sections based on the overarching themes of the research questions that guided the investigation. Section 6.1 titled "Reading Proficiency Assessment: Decoding and Comprehension" discusses the findings of the reading proficiency assessments using the adapted ASER framework. It also outlines the difficulties encountered by students in decoding and comprehending English and Malayalam texts. Section 6.2 titled "Household-Contexts and Learning Support" discusses the findings that provide insights into factors outside the school environment that impact students' reading abilities such as their children's socio-economic contexts which would in turn determine the additional learning support available to them such as reading materials and tuitions. Section 6.3 titled "Schooling Trajectories" presents the findings on the schooling trajectories of the students leading to the current school to gain a holistic understanding of other factors such as breaks in education or frequent school transitions that could have impacted their reading outcomes.



# Findings: Reading Proficiency Assessment

## 6.1 Reading Proficiency Assessment: Decoding and Comprehension

This section presents the findings of students' reading abilities in both English and Malayalam. Section 6.1.1 discusses the findings of RQ1 based on the adapted ASER reading assessment framework. Section 6.1.2 presents the findings of RQ2 and discusses the specific difficulties students experienced in decoding and comprehending English and Malayalam texts, based on the researcher's observations during the assessment process.

### *6.1.1 What is the reading proficiency of Grade 4 students in government-runs schools in English and Malayalam? (RQ1)*

#### School A

The reading assessment results from School A (Table 3A) indicate that Grade 4 students demonstrated stronger proficiency in Malayalam than in English. The mean or average reading level in Malayalam was 3.35. This indicates that most students were placed between the Word and Para (Grade 1) levels. On the other hand, the mean reading level in English was slightly lower at 2.88, positioning students between the Insufficient Word Proficiency and Word levels. The median reading level, representing the middle-performing student, was Word level in both languages, indicating that at least half of the students could read common words in both languages.

However, a clearer difference is observed in the mode, which represents the most common reading level (Table 3 A). While the Word level was the most common in Malayalam, the level categorised as "Insufficient Word Proficiency" was the most frequent level among students in English, indicating the difficulty experienced by children in reading many commonly used English words even in Grade 4. As mentioned earlier, the "Insufficient Word Proficiency" level implies that they can read fewer than 8 out of 10 English words (at the Grade 2 level) correctly. Students categorized as having "Insufficient Word Proficiency" are not likely to be able to comfortably read their Grade 4 textbooks. This pattern in School A suggests that a significant number of students were still

developing the ability to read fluently in Malayalam and to decode common English words, despite being in Grade 4.

Additionally, the standard deviation, which measures the variation in student performance, was lower in Malayalam (0.99) and higher in English (1.22). This indicates that Malayalam reading abilities are fairly uniform among students, whereas English reading proficiency varies more widely, with some students performing significantly lower or higher than the average. The greater uniformity in Malayalam literacy development and consistently better performance in Malayalam probably is the result of regular use of Malayalam in home environments. The wider gap in English reading skills is possibly due to the exposure to the English language among the students.

Spearman's Rank correlation analysis was conducted to identify the relationship between Malayalam and English proficiency levels of the students. For School A, the analysis indicated a strong positive correlation between proficiency in Malayalam and proficiency in English. The Spearman's rank correlation coefficient ($\rho$) was 0.82285 with a p-value of $4.99 \times 10^{-5}$, indicating a statistically significant relationship that is unlikely to have occurred by chance. Similarly, the cross-tabulation analysis shown in Table 5A also indicates how students' reading levels in Malayalam align with their English reading levels. It can be observed that students who attained Story level in Malayalam also achieved the Story level in English.

### Performance of students in the regional medium- School A

Apart from comparing bilingual proficiency of students across languages, it was considered pertinent to evaluate students' performance in relation to their medium of education. When analyzing the proficiency levels of students who had opted for Malayalam as the medium of instruction, it was observed that the two children enrolled in Malayalam-medium instruction in School A demonstrated only basic literacy skills. These children reached only the Insufficient Word Proficiency Level and the Word levels in Malayalam and the Insufficient Letter Proficiency and Insufficient Word Proficiency levels in English. It is particularly concerning that the students enrolled in Malayalam medium instruction have the lowest proficiency in Malayalam. In contrast, the students who achieved the Story level, which is the highest level of proficiency in both Malayalam and English, were all enrolled in English medium. This raises important questions

about instructional approaches and how teachers allocate time to students of various mediums of instruction in these mixed-medium classrooms.

### School B

The results of the reading assessment in School B indicate that Grade 4 students demonstrate stronger reading proficiency in Malayalam than in English. The mean reading score in Malayalam was 4.07, placing the average student between the Para and Story levels. In contrast, the mean score in English was 3.36, positioning students between the Word and Para levels. The median reading level, reflecting the performance of the middle student in the group, was Story in Malayalam and Para in English. This shows that at least half the students could read paragraphs or full stories in Malayalam, while in English, they were mostly comfortable reading paragraphs.

The mode, which represents the most frequently occurring reading level, further highlights the difference. For Malayalam, the Story level was the most frequently observed level. This indicated that in this school, many students had the proficiency to read a Grade 2 story in Malayalam. However, for English, the distribution in English was bimodal with many students found at both the Insufficient Word Proficiency and Story levels. The standard deviation was also slightly higher in English (1.39) than in Malayalam (1.07), suggesting more variability in English reading proficiency among students. To recall what was said earlier, the "Insufficient Word Proficiency" signifies that the student had insufficient proficiency in reading Grade 2 level words, and not that she or he could not read any word at all.

When comparing the relationship between Malayalam and English proficiency levels of children, for School B as well, Spearman's rank correlation coefficient ($\rho$) of 0.704 indicated a strong positive correlation, suggesting that students who performed well in Malayalam also performed well in English. The statistically significant p-value of 0.005 ($< 0.01$) further confirms that this correlation is unlikely due to chance. This finding points to a possible interdependence between the development of literacy skills in the two languages. However, the Spearman correlation results should not be interpreted to mean that the reading levels in the two languages are always equal. Rather, it means that a student who is at the Story level in Malayalam is more likely to be at Para

or Story level in English than at a lower level. Similarly, students categorised at the Insufficient Word Proficiency level or Word level in Malayalam tend to be at similarly low levels in English.

### Performance of students in Malayalam medium - School B

Although the numbers are few, it would be pertinent to separately consider the Malayalam medium students who participated in the study in School B and their proficiency in Malayalam. The 3 Malayalam medium students were at the Insufficient Word Proficiency, Para and Story levels. That some students in Grade 4 remain at the Insufficient Word Proficiency and Para (Grade 1) level in Malayalam, despite it being both their mother tongue and medium of instruction, raises serious concerns about how foundational literacy is being supported.

To summarise, the analysis of the reading proficiency levels of Grade 4 students in both schools revealed alarmingly low skill levels, in both languages. School B performed moderately better than School A, particularly in Malayalam, with more students attaining the Story Level. However, in English, the majority of students in both schools remained below the Para level (Grade 1 text).

It is important to recognise that the levels of reading proficiency tested in this study represent very basic benchmarks, especially considering that participants are in Grade 4. To be classified at the Story level, the highest level tested in this assessment, a child only needed to fluently read a Grade 2 level text. Therefore, even students classified at this highest level may still struggle to comprehend Grade 4-level reading material. Despite these modest expectations, only 32.3% (10 out of 31) of students across both schools reached the highest level in Malayalam, and just 22.6% (7 out of 31) did so in English. A significant proportion of students remain at Word level ,“Insufficient Word Proficiency” level and even “Insufficient Letter Proficiency” level, well below grade expectations. These findings point to serious gaps in foundational literacy acquisition and call for urgent, targeted interventions in reading instruction and classroom support across both English and Malayalam.

Teacher assessments in School A showed strong agreement with researcher assessments at higher reading levels, with both identifying the same 3 students at the Story Level in Malayalam and English. However, comparisons at the Word and Letter levels were not feasible due to the modified scoring criteria for these levels employed in this study. As mentioned earlier, the study used stricter thresholds than standard ASER criteria, requiring students to read at least 8 out of 10 words correctly to be classified at the Word level. Students reading fewer than 8 words were classified as having "Insufficient Word Proficiency" rather than being placed at the traditional ASER Letter level. As the modified scoring criteria was not feasible to be employed by the teacher, the teacher was shown the ASER tools at the Letter, Word, Paragraph and Story levels and was asked to note where they would place the student based on their ability to read at these levels. Therefore, the teacher is likely to have interpreted the Word level more broadly, focusing on students' general ability to decode letters into words rather than meeting the specific accuracy thresholds employed by the researcher.

Teacher assessments of students in School B could not be obtained due to time constraints, and this limited the scope of analysis of teacher-researcher observations and agreements in the study.

**Table 3A: Reading Levels of Grade 4 Students in School A**

| | Mean | Median | Mode | Standard Deviation |
|---|---|---|---|---|
| **Malayalam Score** | 3.35(Word-Para) | 3 (Word) | 3 (Word) | 0.99 |
| **English Score** | 2.88 3 (Insufficient Word Proficiency-Word) | 2 (Insufficient Word Proficiency) | 2 (Insufficient Word Proficiency) | 1.21 |

**Table 3B: Reading Levels of Grade 4 Students in School B**

| | Mean | Median | Mode | Standard Deviation |
|---|---|---|---|---|
| **Malayalam Score** | 4.07 (Grade 1Para - Grade 2 Story) | 4.5 (Grade 1 Para - Grade 2 Story) | 5 (Grade 2 Story) | 1.39 |
| **English Score** | 3.36 (Word-Para) | 3.5 (Word-Para) | 2 and 5 (Insufficient Word Proficiency and Grade 2 Story) | 1.07 |

**Table 4A: Reading Levels and Medium of Education for School A**

| Number of Students | English Assessment | Malayalam Assessment |
|---|---|---|
| Reads at Story Level | 3 (0 in Mal medium) | 3 (0 in Mal medium) |
| Reads at Para Level | 1(0 in Mal medium) | 4 (0 in Mal medium) |
| Reads 8-10 Words | 5(0 in Mal medium) | 8 (1 in Mal medium) |
| Reads Fewer than 8 words | 7 (1 in Mal medium) | 2 (1 in Mal medium) |
| Reads fewer than 8 letters | 1 (1 in Mal medium) | 0 |
| | 17 | 17 |

**Table 4B: Reading Levels and Medium of Education for School B**

| | English Assessment | Malayalam Assessment |
|---|---|---|
| Reads at Story Level | 4 (0 in Mal medium) | 7 (1 in Mal medium) |
| Reads at Para Level | 3 (1 in Mal medium) | 2 (1 in Mal medium) |
| Reads 8 -10 Words | 2 (0 in Mal medium) | 4 (0 in Mal medium) |
| Reads Fewer than 8 words | 4 (1 in Mal medium) | 1 (1 in Mal medium) |
| Reads fewer than 8 letters | 1 (1 in Mal medium) | |
| | 14 | 14 |

**Table 5A: Cross Tabulation Analysis for School A**

| English Level→ | Reads fewer than 8 letters) | Reads 8-10 Letters | Reads (8/10) Words | Reads Grade 1Para | Reads Grade 2 Story |
|---|---|---|---|---|---|
| Malayalam Level↓ | | | | | |
| | | | | | |
| Reads fewer than 8 letters | 0 | 0 | 0 | 0 | 0 |
| Reads 8-10 Letters | 1 | 2 | 0 | 0 | 0 |
| Reads 8 -10Words | 0 | 5 | 2 | 1 | 0 |
| Reads Para | 0 | 0 | 3 | 0 | 0 |
| Reads Story | 0 | 0 | 0 | 0 | 3 |

fewer

**Table 5 B: Cross Tabulation Analysis for School B**

| English Level→ | Reads fewer than 8 letters) | Letter* Reads 8-10 Letters | Word* Reads 8-10 Words | Reads Grade 1 Para* | Reads Grade 2 Story* |
|---|---|---|---|---|---|
| Malayalam Level↓ | | | | | |
| Reads fewer than 8 letters | 0 | 0 | 0 | 0 | 0 |
| Reads 8-10 Letters | 1 | 0 | 0 | 0 | 0 |
| Reads 8-10 Words | 0 | 2 | 1 | 1 | 0 |
| Reads Para | 0 | 1 | 1 | 0 | 0 |
| Reads Story | 0 | 1 | 0 | 2 | 4 |

### *6.1.2 What are the difficulties experienced by children in reading English and Malayalam at Grade 4? (RQ 2)*

The difficulties in decoding and comprehension noted in this section are based on the notes made by the researcher during the reading assessment. The comprehension assessment was conducted only for those learners who qualified at the Story level in the reading assessment.

#### *6.1.2.1 Decoding difficulties in Malayalam*

The students at the Insufficient Word Proficiency level in Malayalam struggled with diacritical symbols which prevented them from decoding 8 out of 10 common words. In Malayalam, diacritics (e.g. (ാ, (ി)) represent vowel sounds and they combine with consonants to form syllables.

Students at the Word and Para level experienced difficulties with decoding conjunct consonants such as "ഷ്ട" in the word "ഇഷ്ടമായിരുന്നു" *(liked)* and "സ്ത" in the word പുസ്തകങ്ങൾ *(books)*. Some students relied on partial phonetic cues and attempted to guess words based on initial or familiar sounds and misread them. For instance, when the s *"swanthamaayi" (by oneself)* was shown to a child, he recognised the initial /s/ sound and arrived at the word *"soundaryam" (beauty)*.

Students at the Story level had difficulty with reading constructions uncommon in everyday speech. For instance, they paused before uttering the formal word "*suhruthukkal"* (friends), possibly because they are more familiar with its informal equivalent *"koottukar"*.

#### *6.1.2.2 Comprehension difficulties in Malayalam*

In both School A and School B, none of the students who reached the Story level indicated comprehension difficulties in Malayalam. All of them correctly answered the three comprehension questions based on the story.

#### *6.1.2.3 Decoding difficulties in English*

Students in both School A and B demonstrated multiple difficulties when decoding English. The proficiency levels of students in English were lower in average than their proficiency in Malayalam. They struggled even with commonly used words in the English language and errors

involving minimal pairs, where students replaced one word with another valid English word that sounded similar, were common. Some of the errors made by students are given below:

ball → bell (ball pronounced as bell)

father → feather (father pronounced as feather)

every → very (every pronounced as very)

big → bag (big pronounced as bag)

In addition to replacing words with other valid English words, students also produced nonexistent words. For instance, some pronounced the "u" in *cup* like the "u" in the word *put*, and mispronounced *face* by using the /a/ sound as in *fat*. Apart from these difficulties, students also showed considerable influence of Malayalam in their articulation of English words. However, these were not penalized in the current study.

#### *6.1.2.4 Comprehension difficulties in English*

The assessment of the reading comprehension of students at the Story level highlighted that the ability to read fluently does not necessarily translate into comprehension. This contrasts with the observations from the Malayalam assessment, where fluency corresponds to understanding.

In School A, among the three students who reached the Story Level in English, one explicitly stated that she did not understand the passage. The other two students said they understood the story and were then given a sentence-by-sentence comprehension check to assess the extent of their understanding. Of these, one demonstrated complete comprehension of the story; although he said he did not understand the meaning of the word "went" (which he interpreted it as "along with someone"), he was able to infer the meaning of the sentence *"She went to school with her sister"* from the context. The other student struggled with two sentences containing the words "went", "far" and "their" and asked for their meaning. Once these were explained, she was able to interpret the sentences accurately.

In School B, four students had attained the Story level in English. Here too, the students struggled with similar functional words such as "their" and "for". All four students failed to understand the sentence *"Their mother also went with them"* which contained more functional words than other sentences in the story. One student interpreted it as the mother waiting for the children. On the other hand, all of them were able to guess the meaning of sentences such as "On Monday, Alia went to school for the first time", relying on the words such as "Monday", "Alia" and "first time".

These findings suggest that while fluency in Malayalam often translates into comprehension, fluent reading of English does not imply comprehension. This is likely because children have adequate linguistic repertoire in Malayalam, enabling them to cognitively process the words as they read. On the other hand, in English, their inability to understand function words such as "their" and "for" forced them to rely on often exclusively guessing from the context, based on lexical words, leading to incorrect understanding. Therefore, national-level assessments such as ASER may overstate student reading proficiency in English reading, as they are effectively measuring only decoding skills. The ASER results, therefore, must be treated with caution.

#### *6.1.2.5. Simultaneous Teaching in English and Malayalam mediums*

As noted earlier, systematic classroom observation could not be conducted for this study. However, the researcher noted that students in the English and Malayalam medium streams were being taught together in a single group by the Grade 4 teacher. Further discussion with the teachers showed that this was the norm in both schools.

Teachers in School A reported that although instruction was delivered in both languages simultaneously (although it is not exactly clear how this was done), assessment was conducted separately in different languages. However, in most cases, "assessment" involves the teacher writing questions in English and Malayalam on the blackboard, and students writing down the answers in their books. In School B, teachers reported that printed copies of questions in Malayalam and English are separately given to children enrolled in two sections within the same classroom. When asked about how students practise reading in class, she mentioned that students read textbooks corresponding to their medium of instruction. It is essential to note here that the two students with the lowest proficiency in Malayalam in both School A and B were studying in

Malayalam-medium. Taking both schools together, only one student who was in Malayalam medium had attained Story level proficiency in Malayalam. Although teachers in both schools mentioned low attendance issues for the low performance of these Malayalam medium students, it is also likely that the mixed language environment, the possibility of greater time being devoted to instruction in English (since the majority of students are in this medium) and the lack of targeted support for Malayalam medium students further impacts their learning outcomes. In school environments where English medium is perceived to be superior to Malayalam, studying with English medium students may also have a negative emotional impact on these students.

# Findings - House-hold Contexts and Learning Support

## 6.2 House-hold Contexts and Learning Support

This section of the report presents the findings of the study that offer insights into factors outside the school environment of the children that can influence their learning outcomes, such as their house-hold contexts and the nature of learning support available to them including reading material and tuitions. The SES of students can play a significant role in their reading development as it can determine their access to reading materials and the ability of parents to invest time and resources in their children's education.

***What is the socio-economic status of the children and how does it relate to their reading performance? (RQ 3)***

To answer this question, participants were categorized into four socio-economic status (SES) groups based on vehicle ownership scores for both schools. Vehicles that were described as non-functional or damaged were excluded from the scoring.

### School A

Based on analysis of vehicle ownership (see Figure 4A), the majority of students in School A belonged to the Lower-Middle SES category (52.9%, n=9), followed by Low SES (29.4%, n=5). A smaller proportion of children were categorized as Upper-Middle/High SES (11.8%, n=2), and only one child was classified as Middle SES (5.9%, n=1). The mean SES score was 2.87 (SD = 2.87), indicating moderate variability among the participants. The median SES score of 3, which represents the midpoint score, also aligned closely with the lower-middle SES category.

### School B

SES data of School B was available for 13 out of 14 students. One participant's vehicle ownership information could not be collected due to time constraints. 53.8% (7 out of 13 students) belonged to the Low SES category whereas 46.2% (6 out of 13 students) belonged to Low-Middle SES categories. As can be observed in Figure 4 B, none of the students belonged to middle or high SES categories. For school B, however, to supplement the information received on the basis of vehicle

ownership, children were asked about their family members and their parental occupations. Teacher reports were also taken on the BPL status of students. When the researcher enquired about family members, several children in School B did not mention their father as part of their household and therefore, they were not asked about their father's occupation. However, the occupations mentioned were primarily in informal, low-income sectors. Fathers, for instance, were employed in sawmills, in construction painting and scrap picking jobs whereas mothers who were not housewives were employed in small-scale retail, grocery stores, and textiles, corroborating the teacher’s report that all the students who participated in the study were from BPL families. The only APL student was a cerebral palsy patient who could not be included in the study

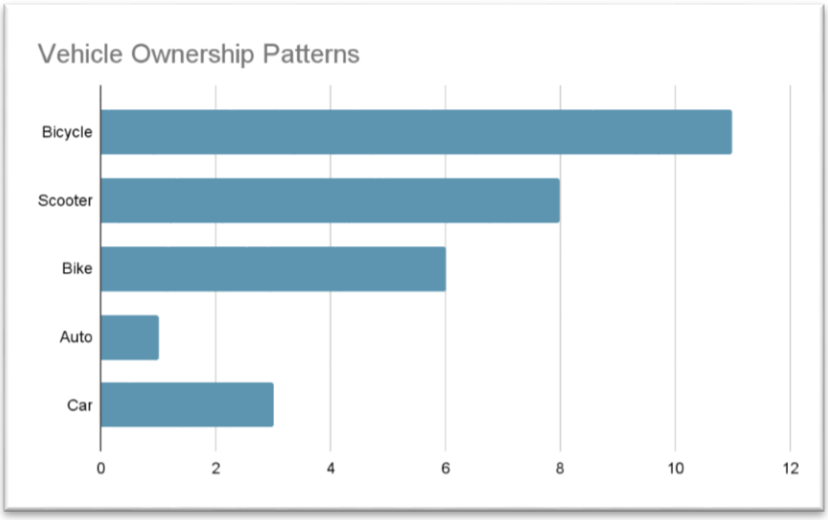



**Figure 3A: Vehicle Ownership Patterns of School A Students**

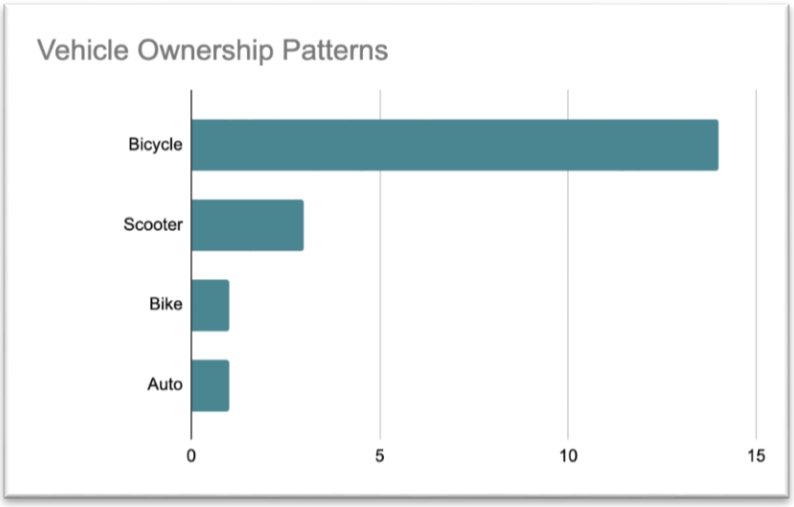



**Figure 3B: Vehicle Ownership Patterns of School A Students**

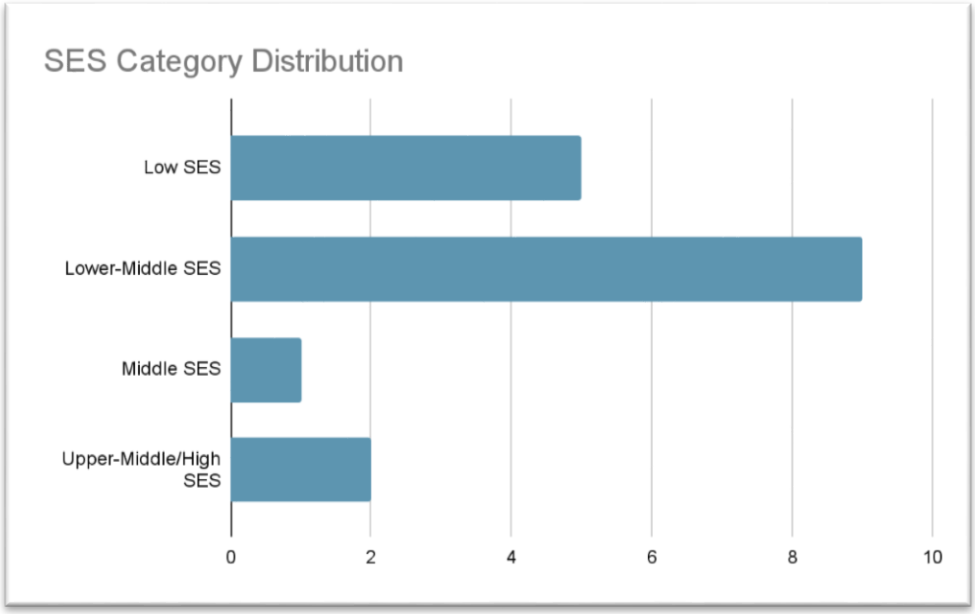



**Figure 4A: SES Categories of Students in School A**

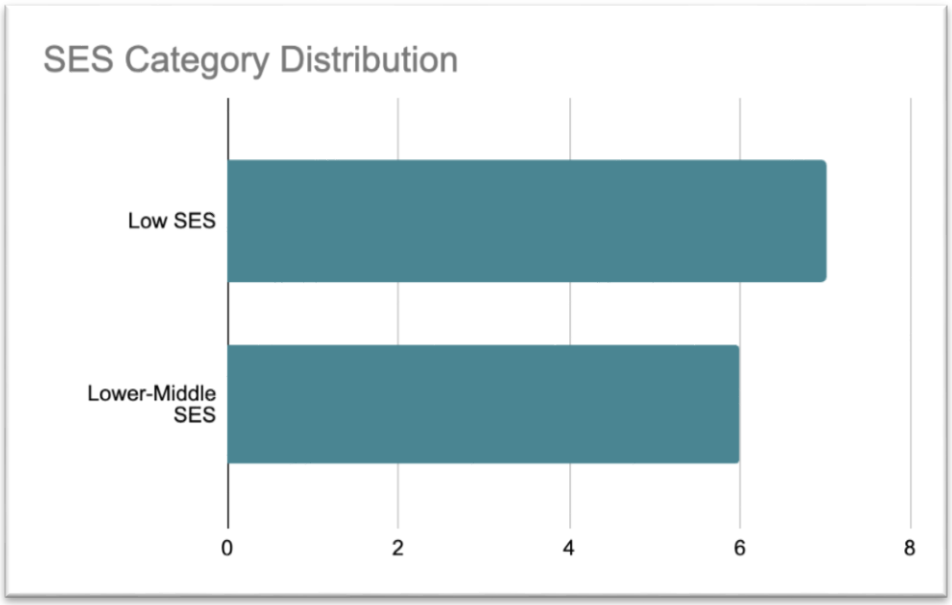



**Figure 4B: SES Categories of Students in School B**

### School A

In order to identify the relationship between SES levels and Reading Proficiency, a cross-tabulation analysis was done. Table 6A reveals the distribution of Malayalam reading proficiency levels across different SES categories for School A. It can be observed that the majority of the Low SES students are at the Word level and one student is at the Insufficient Word Proficiency level. There is a more balanced distribution of reading levels among Lower-Middle SES students suggesting that students in this category show better reading proficiency progression. While the Middle SES student is at the Para level, both the Upper-Middle/High SES students are at the Story Level. High SES students are not in the lower levels of reading at all indicating that they are more likely to reach higher reading proficiency levels (Story level).

Similar observations were made following the crosstab analysis of the English reading proficiency levels and different SES categories. The results of the analysis can be observed in Table 7A. It can be observed that no students from the Low SES category reached the Para, Story, or Word levels, indicating weaker English reading proficiency. Students in the Lower-Middle SES category showed greater variation in English reading proficiency. As there is limited data for middle SES students, strong conclusions could not be established. However, students in the Upper-Middle/high SES category showed very high proficiency levels indicating a potentially strong relationship between high economic status and reading proficiency.

**Table 6 A: Malayalam Proficiency Level Across SES Categories for School A**

| Category | Reads fewer than 8/10 words | Reads 8/10 words | Reads Grade 1 Para | Reads Grade 2 Story |
|---|---|---|---|---|
| Low SES | 1 | 4 | 0 | 0 |
| Lower-Middle SES | 2 | 4 | 2 | 1 |
| Middle SES | 0 | 0 | 1 | 0 |
| Upper-Middle/High SES | 0 | 0 | 0 | 2 |

**Table 6 B: Malayalam Proficiency Level Across SES Categories for School B**

| Category | (Reads fewer than 8 letters) | (Reads 8-10 letters) | (Reads 8-10 words) | (Reads Grade 1 Para) | (Reads Grade 2 Story) |
|---|---|---|---|---|---|
| Low SES | 0 | 1 | 2 | 0 | 4 |
| Lower-Middle SES | 0 | 0 | 2 | 1 | 3 |

**Table 7A: English Proficiency Level Across SES Categories for School A**

| Category | (Reads fewer than 8 letters) | (Reads fewer than 8 words) | (Reads 8 -10 words) | Reads Grade 1 Para | Reads Grade 2 Story |
|---|---|---|---|---|---|
| Low SES | 1 | 4 | 0 | 0 | 0 |
| Lower-Middle SES | 0 | 3 | 4 | 1 | 1 |
| Middle SES | 0 | 0 | 1 | 0 | 0 |
| Upper-Middle/High SES | 0 | 0 | 0 | 0 | 2 |

**Table 7 B: English Proficiency Level Across SES Categories for School B**

| Category | (Reads fewer than 8 letters) | (Reads fewer than 8 words) | Reads 8-10 Words | Reads Grade 1 Para | Reads Grade 2 Story |
|---|---|---|---|---|---|
| Low SES | 1 | 2 | 1 | 2 | 1 |
| Lower-Middle SES | 0 | 2 | 0 | 1 | 3 |

### School B

Although there wasn't much variation in the SES status of children in School B, a cross-tabulation analysis was conducted to understand the relationship between SES status and reading proficiency.

For Malayalam, the cross-tabulation results of SES status and reading proficiency in Malayalam for students in School B (see Table 6 B) indicated that even among Low SES students, the majority reached the "Story" level (4 out of 7 students), achieving high proficiency despite lower economic status. However, the weakest students in the class at the "Insufficient Word Proficiency" levels belonged to the low SES group. On the other hand, the students with Lower-Middle SES status were distributed across Word, Para and Story Levels. It must be noted here that with regard to the student with the lowest proficiency, the teachers had informed the researcher that the student is very irregular in terms of attendance. This particular student is in the Malayalam medium but still has the lowest proficiency in Malayalam. The pattern of the lowest performing student being a Malayalam medium student was also observed in School A.

For English (see Table 7B), the Low SES students show a wide range of proficiency levels from Insufficient Letter Proficiency (1 student) to Story level (1 student). Lower-Middle SES students had no students at the Insufficient Letter Proficiency level and 2 at the Insufficient Word Proficiency level but half of them (3 of 6) had attained Story Level, indicating a moderately better performance even within this small sample.

***What is the extent of external academic support received by Grade 4 students, specifically in terms of tuition and availability of reading materials at home? (RQ 4)***

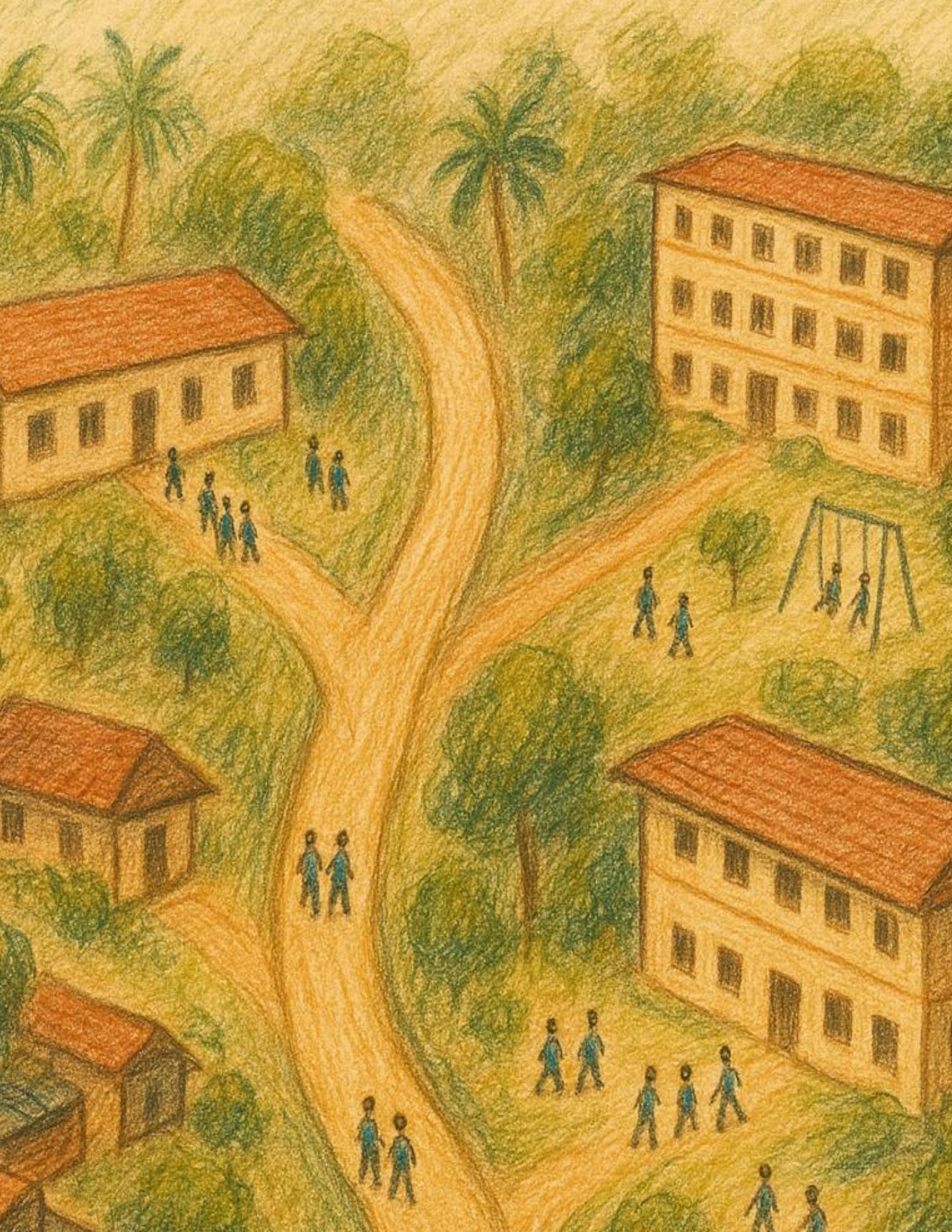
When exploring the extent of external academic support available to children, particularly in the form of reading materials at home, we faced several challenges when we first conducted the study in School A. When asked about reading materials at home, many students were unclear about the nature and kind of reading materials. Some mentioned novels read by adults, while others could not remember specific details about storybooks. Even when prompted about popular comics and children's storybooks, some students confirmed their presence but could not mention information related to subscriptions or other details. Others would mention books in relatives' homes making it difficult to assess the actual availability and use of such materials. This is likely because many children do not have access to stories and other children's books. Therefore, a more specific question, such as whether students have read a storybook in the last month was added to get a more focused response in School B All children in School B responded in the negative to the question. However, one child responded that her mother buys story books for her in Malayalam and two children said that they read school textbooks.

Regarding tuition support, 46 % of the students in School A and 35 % in School B reported attending tuition classes outside school. 21 percent of children in School B mentioned that they used to have tuitions previously. As tuition is focused on getting homework done or preparation for upcoming class tests, it does not provide opportunities for enhancing reading. Both the students who go for tuition and those who do not are, therefore, engaged in meaningful reading practice outside school.

The relationship between the socio-economic status of their students and their reading capabilities and the lack of reading material at homes point to the fact that reading interventions need to be primarily addressed at the school level. The researcher observed that a few students who read fluently, despite their low SES status mentioned that their parents make them read their school text books at home. Children in low SES families whose parents cannot provide them reading materials or support for reading are entirely dependent on the school environment and teacher support. For Malayalam, many parents can support children to help them understand what they read, whereas this is not the case with English. The teachers also mentioned that many parents cannot support

their children academically and particularly after long vacations, they are often required to start with the alphabet systems again to support the children. The teachers also mentioned that in many tuition classes, students who study in other boards of education are also taught together, and therefore “tuition” does not provide required additional support to struggling readers.

The warm-up activity conducted by the researcher to capture children’s attitudes to reading indicated that children in general have positive attitudes towards reading. In School A, where the researcher distributed Pratham reading material to children and tried a choral reading activity as part of one of the books, children were very enthusiastic about reading. In the attitude assessment captured as smiley responses in School A as part of familiarization, none of the children chose the sad smiley option for reading, although two of them in School A indicated that they were afraid of English. The low levels of reading proficiency in English-medium schools and the fact that reading does not translate to comprehension point to the need for an effective bilingual approach that effectively employs the mother-tongue to help children understand English.



# Findings: Schooling Trajectories

### 6.3 Schooling Trajectories

Apart from factors in the school and home environment, the reading proficiency of children is also likely to be impacted by their schooling trajectories. Frequent transitions across schools and breaks in instruction can negatively impact children's reading proficiency. This section of the report discusses the findings pertaining to the learning trajectories of students prior to their joining the current school to understand possible disruptions and transitions in their education up to Grade 4.

***What is the schooling trajectory of Grade 4 students in government-run schools in rural Kerala? (RQ5)***

The findings discussed in this section draws on informal conversations during the assessment process to understand student's schooling trajectories. Students were asked about:

a) the grade at which they joined their current school,

b) any schools they have attended earlier, and

c) whether they had attended preschool (such as LKG, UKG, or Anganwadi).

Most students were able to say when they joined the current school and whether they had attended preschool. However, details of previous schools were often unclear as some of them mentioned that the previous school was "near their home" and not the exact names or locations.

The bar charts in Figure 5A and Figure 5B below indicate the entry points of students into School A and B at various grades. As schools in Kerala were closed down due to the COVID-19 pandemic in the academic years 2020-21 and 2021-22, most children had joined schools in Grade 2.

In School A, 58.8% (10/17) of students joined the current school in Grade 2 (see Figure 6A). Transitions across primary schools were also observed as 23.5 % (4/17) of students joined in Grade 3 or 4. 17.6 % (3 of 17) of students remained in the same school from preschool onwards. In School B as well, 50% (7 out of 14 students) joined in Grade 2(see Figure 6B), making it the most common entry point following preschool. 21.4% (3 out of 14) entered in Grade 3, and 14.3% (2

out of 14) in Grade 4, again reflecting transitions during mid-primary schooling. Only 14.3% (2 out of 14) had been enrolled from the preschool level (LKG or UKG) onwards.

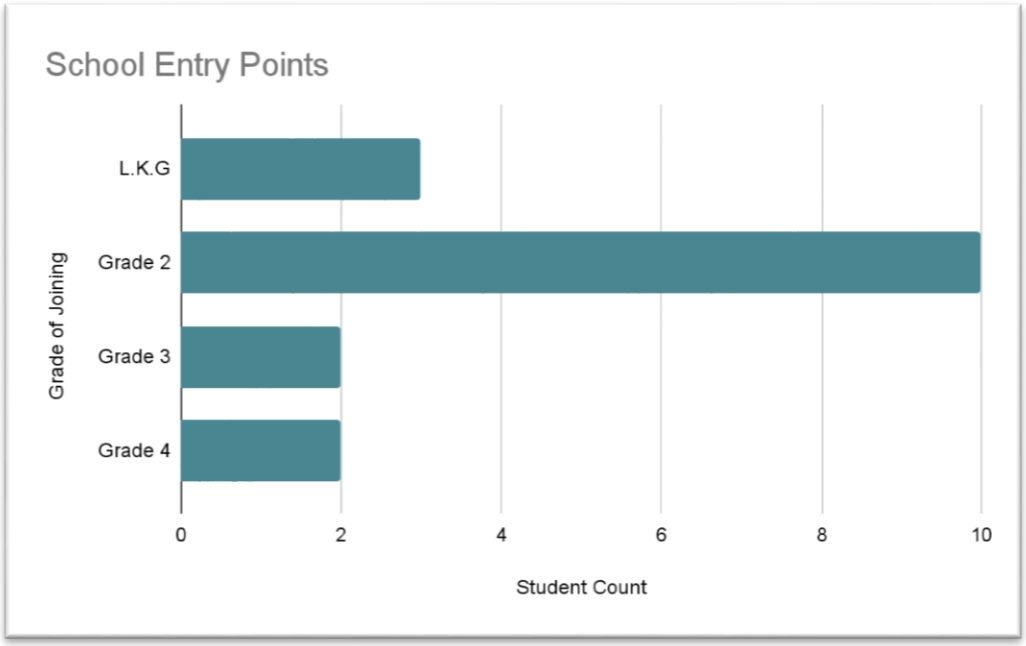



**Figure 5A: Entry Points for School A**

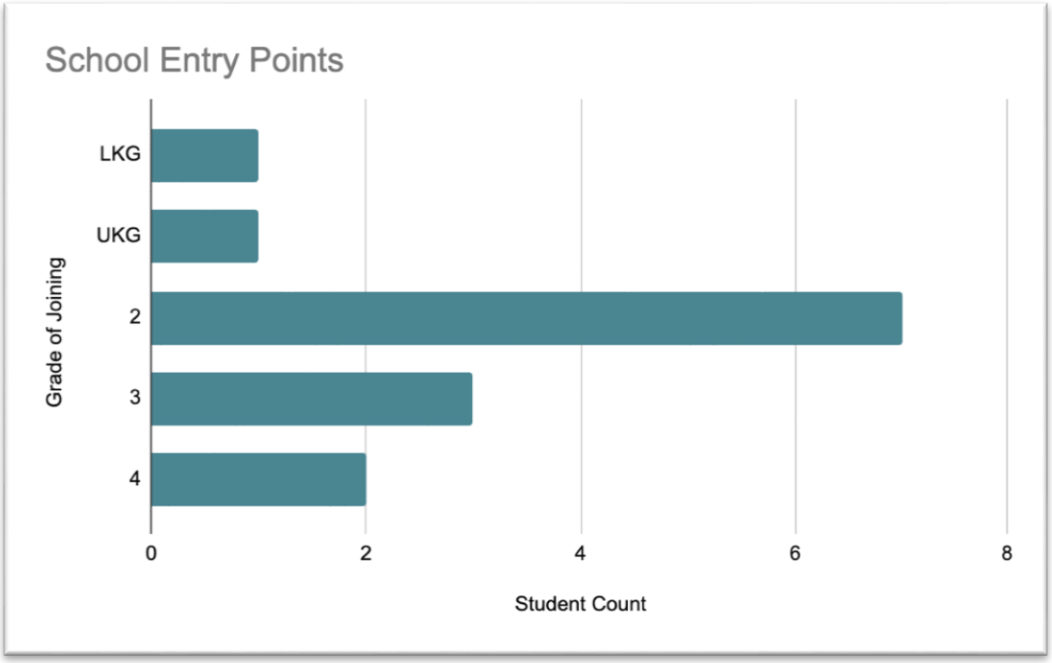



**Figure 5B: Entry Points for School B**

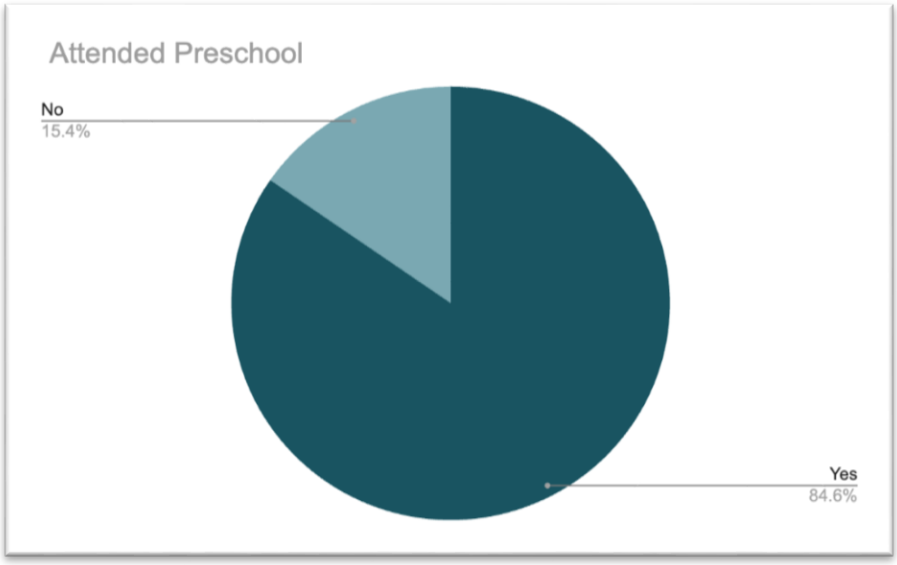



**Figure 6A: Preschool Enrollment in School A students**

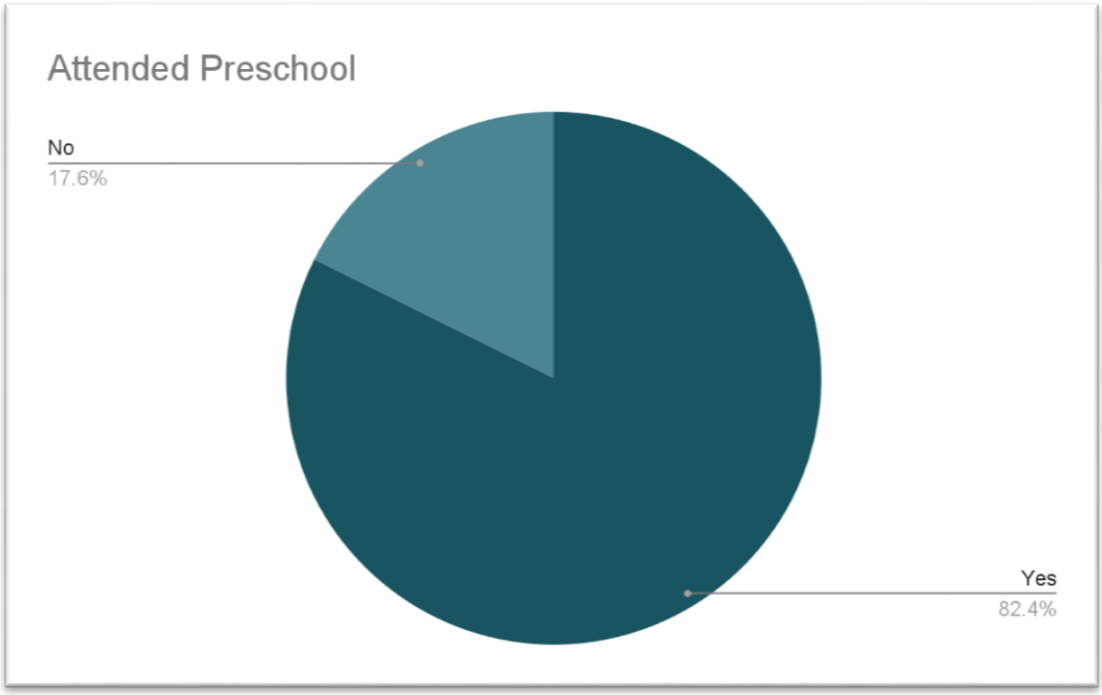



**Figure 6B: Preschool Enrollment in School B students**

## 7. Limitations

As the present study was exploratory in nature, it was designed with a focused scope: it was conducted in two schools with 31participants, and all assessments were conducted by a single researcher to maintain consistency in administration and data collection methods including assessment. Although teacher assessments of student reading ability largely corroborated the observations of the researcher, formal statistical reliability analysis such as inter-rater reliability analysis could not be conducted because of the single-researcher model.

Given the small sample size, the findings are not generalizable across the state or to other school types. However, the study provides valuable methodological insights and empirical evidence that can inform the design of larger bilingual literacy assessment studies in the future.

## 8. Conclusion

This exploratory study, conducted in two government-run schools in a panchayat in Kollam district, developed a methodology to assess the reading proficiency of Grade 4 children, and examine the various factors that could potentially affect their learning outcomes.

The findings of the study raise significant concerns about foundational literacy. While Malayalam proficiency varied across schools, English proficiency was considerably low in both schools. Many children struggled with fundamental skills such as decoding basic sounds and comprehending commonly used English words, despite attending preschool and three years of English medium schooling (excluding the first year of online education during the COVID-19 pandemic) and attending preschool. Even students who could read fluently often failed to comprehend what they were reading. Common English words, including functional words such as “in” and “was”, were unfamiliar and children resorted to guess the meaning of sentences based solely on the content words such as “school” or “go”.

Achieving the ‘Story’ level in English did not translate into comprehension of texts. This indicates that national assessments such as ASER, which primarily assess decoding skills may overstate the reading proficiency of children. Students categorized at the ASER Story level may not actually comprehend the text they read.

Interestingly, students with the highest proficiency in English also demonstrated comparatively high proficiency in Malayalam, whereas the students with the lowest proficiency in English also had the lowest proficiency in Malayalam. This correlation may be due to underlying cognitive abilities common to reading in both languages, general academic proficiency that transfers across subjects, or any shared environmental factors that support educational achievement. These patterns, which indicate that fluency in one language may support fluency in another also indicate the potential of bilingual education in the early years of schooling.

A particularly concerning observation made during the course of this study was that students of Malayalam and English medium were taught simultaneously in the same classroom by the same Grade 4 teacher. What strategies are used for this kind of teaching are not clear, and most likely do not follow a structured or systematic pedagogical approach to teach both languages. It is very likely that most of the instruction prioritises English in some way, as the majority of students are in English medium. However, given the background of the students, teachers use a mixture of English and Malayalam, and probably focus on decoding and teaching individual words, rather than reading. Malayalam medium students are further disadvantaged in this process, as they may suffer from lack of adequate instructional time in Malayalam. Further, since English medium is perceived to confer higher "social status", there could also be a negative emotional impact on Malayalam medium students when they study together with English medium students. It also raises ethical questions about teaching the two groups together when one language is clearly considered of lower status in the education system. Student schooling histories revealed significant disruption and transition. While most students had attended preschool, many joined their current school only in Grade 2 or later, following COVID-19 school closures. This disrupted learning continuity is also likely to have impacted reading development.

Socio-economic status was also shown to affect reading performance. Only 1 child from a low SES background was able to attain Story level in English, further emphasizing the need for equal access to quality education and resources, particularly for children from disadvantaged backgrounds. Regarding academic support outside of the school, the majority of the children did not have access to reading materials at home other than school textbooks. Less than 50 percent of students took tuition, but even this is unlikely to be focused on improving reading and language abilities.

Interestingly, despite these challenges, most children showed positive attitudes toward reading in general, with only a few indicating they were afraid of English. During classroom sessions, the researcher observed children's enthusiasm to read stories and look at illustrations together. The problem, clearly, is not that children lack motivation, but the lack of sufficient support and learning resources.

In higher classes, as teachers work towards "completing portions", students who do not have foundational literacy skills are likely to fall behind and develop the belief that they are incapable of understanding the English language. Majority of the students in these schools come from low socio-economic backgrounds. Although the literacy levels of their parents could not be ascertained within the scope of the study, their professions suggest that they may be unable to academically support these children. Targeted bilingual interventions at the school level and community-led reading initiatives are the need of the hour. If designed and conducted well, such studies and activities can help bridge this crucial learning gap in primary education. Only when children acquire foundational literacy in Malayalam and English these schools can be a pathway to socio-economic progress, which many families aspire to, as they enroll their children in English medium schools.

This exploratory study demonstrates that a comprehensive reading proficiency assessment evaluating both decoding and comprehension skills in English and Malayalam for Grade 4 students is both practical and feasible at the school level. The methodology requires approximately 30 minutes per student for assessment and conversations, 1-2 hours for class familiarization, and 1 hour with teachers for validation inputs. Using readily available ASER tools with adapted scoring procedures, supplemented by observation checklists and comprehension assessments, the approach can be easily administered by teachers or literacy instructors in community-based projects. It offers a framework that can be scaled across the state to gain crucial information on foundational literacy skills and can aid the design of interventions tailored to student reading levels.

# Appendices

## Appendix 1

**Invitation Letter**

To

_____

_____

Subject: Request for Participation in Reading Assessment and Literacy Project for Grade 4 Students

Respected Sir/Madam,

We are happy to introduce an educational initiative by the Vakkom Moulavi Foundation Trust, aimed at enhancing literacy skills among Grade 4 students. As a non-governmental organization committed to promoting equitable learning opportunities for young learners in Kerala, we are reaching out to request your school's collaboration in this meaningful project.

This project, led by _____an Education Research Resource Person with our organisation, is designed to support the reading development of your students through structured assessments followed by reading sessions. The primary goals of this project are to assess each student's reading level and provide them with reading material that nurture their interest and their proficiency in reading.

As part of this project, our team will:

• **Conduct Individual Reading Assessments**: Each student will be given a reading test in English and Malayalam approximately 30 minutes in duration, to estimate their reading level. They would be asked questions to understand their background, schooling histories and reading habits.

• **Provide Reading Materials**: Engaging reading materials appropriate to the reading levels of the students will be provided to the school.

Through the use of engaging reading materials, we hope to foster a lifelong love for reading among students. Thank you for considering this opportunity to work with us in fostering literacy.

We assure you that all aspects of this research project, including the publication of its findings will adhere to strict ethical standards. Data collected from individual students will be used solely to inform the research, with all student details remaining anonymous in any presentations at research seminars and/or publications.

To proceed, we request your school's consent to participate in this literacy initiative. Kindly sign the consent form to indicate your permission. We look forward to the possibility of working together to support your students' reading journey.

Warm regards,
Dr. Sajitha Bashir
Executive Vice-Chairperson, VMFT

## Appendix 2

**Consent Form for Participation in the Reading Assessment and Literacy Project**

**Project Title: Reading Assessment and Literacy Project**
**Project Lead: _____, Education Research Resource Person**

**Purpose of the Project:**
This project aims to assess and enhance literacy skills among Grade 4 students by evaluating their reading proficiency and providing tailored reading activities. This initiative seeks to foster an interest in reading and improve literacy outcomes for young learners.

**Project Activities:**
Conduct individual reading assessments, approximately 10 minutes per student. Provide customized reading activities totaling around 10 hours, conducted over several days.

**Confidentiality and Ethical Standards:**
All data collected from students will be used solely to inform the research. Student identities will be kept confidential, and individual student details will remain anonymous in any published results. The project adheres strictly to ethical standards to protect the privacy of all participants.

**Consent Statement**
I, the undersigned, hereby grant permission for _____to participate in the Reading Assessment and Literacy Project conducted by the Vakkom Moulavi Foundation Trust. I understand that the project will include reading assessments and reading activities to support literacy development in Grade 4 students.

I acknowledge that the project team will maintain confidentiality, and individual student details will remain anonymous if the results are presented in research seminars and/or publications.

**School Name: _____**

**School Representative Name and Signature (Headmistress)**

_____

**Date: _____**

## Appendix 3

### Ice-Breaker Activity: Getting to Know Each Other (1 hour)

The purpose of the activity is to help students feel comfortable with the researcher and to encourage self-expression in a low-pressure environment. It would also provide insights into students' interests and aspirations, which can help build rapport and function as a conversation starter during the interview.

*Materials Required*

- Post-it notes
- Markers or pens
- Board and markers/chalk pieces (for demonstration)

*Guidelines*

1. Distribute a Post-it to each student.
2. Ask students to write their names on the top right-hand corner of the Post-it note.
3. Demonstrate the activity by drawing a heart and a cloud on the board and on a sample Post-it note.
4. Instructions for students:
    - Next to the heart, write the name of a character or person they love (e.g., a cartoon character, superhero, or family member).
    - Next to the cloud, write about who they want to be when they grow up**.**

*Supporting the Students*

- Assist with spelling and grammar, if needed.
- If a student writes “army,” guide them to specify “army officer.”
- If they struggle with words like “collector,” help them write it correctly.
- Do not focus on mistakes—the goal is to understand their interests and dreams.

### *Activity Flow*

1. Pair Up: Once students complete their Post-it notes, ask them to form pairs.
2. Introduce a Friend: Each student introduces their partner based on their post-it note.
3. Encourage Participation: After every introduction, give a round of applause to encourage participation.
4. Find Common Themes: As students present their dreams, highlight patterns:
    - Example: *"Wow! We have so many future army officers in this class!"*
5. Collect and File: Gather all Post-it notes and file them for future reference.

## Appendix 4

### Reading Attitude Survey and Introduction to Pratham Books (1 hour)

**Objective:**

This activity aims to understand children's attitudes towards reading in English and Malayalam, create a positive reading experience, and introduce them to accessible reading materials.

**Materials Required:**

- Post-it notes
- Pratham books (Grade 1, 2, and 3 levels)

**Guidelines:**

1. **Initiating the Discussion**
    - Ask the whole class the following questions:
        - Do you like reading in English?
        - Do you like reading in Malayalam?
        - Are you afraid of reading in English?
    - Observe and listen to their responses. Typically, only the most active children will initially respond.

2. **Visual Representation of Reading Attitude**
    - Draw five smiley faces on the board and explain their meanings in both **Malayalam and English**:
        - 🙂 **I like reading a little.**
        - 😀 **I like reading very much.**
        - 😐 **I am okay.**
        - 😟 **I am afraid of reading.**
        - ☹️ **I don't like reading at all.**

3. **Recording Responses**
    - Distribute post-it notes to all children.
    - Ask them to write their names on the **top-right corner** of the note.
    - Instruct them to write **E (for English) and M (for Malayalam)** on the note.
    - Next to each letter, they should draw the **smiley** that best represents their attitude towards reading in that language.

4. **Introducing Pratham Books**
    - Distribute **Grade 1, 2, and 3 books** (one book for every two children).
    - Allow them to explore the books, encouraging them to **pass the books along** when they finish reading.
    - If the children show interest in listening to a story, you can read aloud one of the stories. **Ammachi's Amazing Machines is recommended.**

## Appendix 5

**Student Information Form**

**(All questions are to be asked in Malayalam)**

**Personal Information**

- **Name: _____**
- **Age: _____**
- **Gender: _____**

---

**Educational Details**

**Have you been at this school since Grade 1?**

**If No**

a) **In which grade did you join? _____**

**b) Which other schools have you attended before this one?**

- **If Yes, list the names and classes attended:**
  - School Name: _____ | Classes: _____
  - School Name: _____ | Classes: _____

---

**Home Facilities**

4. **Members of the family**

   _____

5. **Occupation of Parents** (Ask only about the parent mentioned by the child in case the child does not mention both parents as living together)

   _____

6. **Languages Spoken at Home:**

   _____

7. **Have you read any story books in the last month?** Yes/No

   If yes, which book did you read?

   Language of the book_____

8. **Do you attend tuition classes?** Yes/No

---

**Transportation Details**

9. **Vehicles Owned at Home (Enter quantity for each):**

   - **Cycle: _____**
   - **Scooter: _____**
   - **Bike: _____**
   - **Car: _____**

   **Total Number of Vehicles: _____**

## Appendix 6

**ASER Tools for Letter, Word, Paragraph (Grade 1) and Story Level (Grade 2)**

**READING TEST SAMPLE (2)**

Annual Status of Education Report असर ASER 2018 RURAL Facilitated by PRATHAM

**കഥ**

ഉണ്ണിയുടെ പൂന്തോട്ടത്തിൽ ഒരു മാവുണ്ടായിരുന്നു. ആ മാവിൽ നിറയെ മാമ്പഴം പൂത്തു വന്നു. ഉണ്ണിയും കൂട്ടുകാരും ഒരു ദിവസം മരത്തിന്റെ ചുവട്ടിൽ നിന്നും അവ പറിക്കാൻ ശ്രമിച്ചു. അമ്മ അവർക്ക് ഫലങ്ങൾ പറിക്കാൻ ഒരു നീളമുള്ള വടി കൊണ്ടുവന്നു. മഞ്ഞയും ഓറഞ്ചും ചേർന്ന് തുടുത്ത മാമ്പഴം.
വീണ മാമ്പഴം എല്ലാവരും ചേർന്ന് പങ്കുവെച്ചു. അമ്മയും ഉണ്ണിയും തണലിലിരുന്ന് മാങ്ങ കഴിച്ചു രസിച്ചു. മുത്തശ്ശിക്ക് വേണ്ടി അതിൽ ഒന്ന് മാറ്റി വച്ചു. സുഹൃത്തുക്കൾ സന്തോഷത്തോടെ വീട്ടിലേക്ക് മടങ്ങി.

**ഖണ്ഡിക**

വിമലയ്ക്ക് പുസ്തകങ്ങൾ വായിക്കാൻ വലിയ ഇഷ്ടമായിരുന്നു. അവൾക്ക് വീട്ടിൽ സ്വന്തമായി ചെറിയൊരു മുറിയുണ്ടായിരുന്നു. മുറിയിലെ മേശ നിറയെ പുസ്തകങ്ങൾ അടുക്കി വച്ചിരുന്നു.

**ഖണ്ഡിക**

കമലയുടെ വീട്ടിൽ ഒരു കോഴിയുണ്ടായിരുന്നു. അവൾ എന്നും അതിന് ധാന്യങ്ങൾ കൊടുക്കുമായിരുന്നു. ആ കോഴി കുറെ മുട്ടയിടുമായിരുന്നു. കമലയ്ക്ക് അത് പൊരിച്ചു കഴിക്കാൻ ഇഷ്ടമായിരുന്നു.

## READING TEST SAMPLE (2)

ASER 2018 KERALA
Facilitated by PRATHAM

**അക്ഷരം**

മ  ര  ക

ന  പ

ട  ട്ട  ഉ

ബ  ല

**വാക്ക്**

മേശ  മുറി

മുട്ട

കോഴി  വീണ

വീട്  രസം

നിറം

മാങ്ങ  മരം

## READING TEST SAMPLE (2)

ASER 2018 Facilitated by PRATHAM

**Story**

On Monday, Alia was very happy. She went to school for the first time. She had a new school bag for her books. She put a red flower on the bag. Alia went to school with her sister. Their mother also went with them. The school was not far from their house. Alia made many new friends in school.

**Para**

Ramu has a new ball.
His father gave him the ball.
Ramu plays with it every day.
He loves his new ball.

**Para**

Rima likes to read.
Her school has many books.
Rima also has books at home.
She likes to read every day

## READING TEST SAMPLE (2)

ASER 2018 Facilitated by PRATHAM

**Letter**

r f m

b y

z e g

q v

**Word**

ball hat

nose

day sing

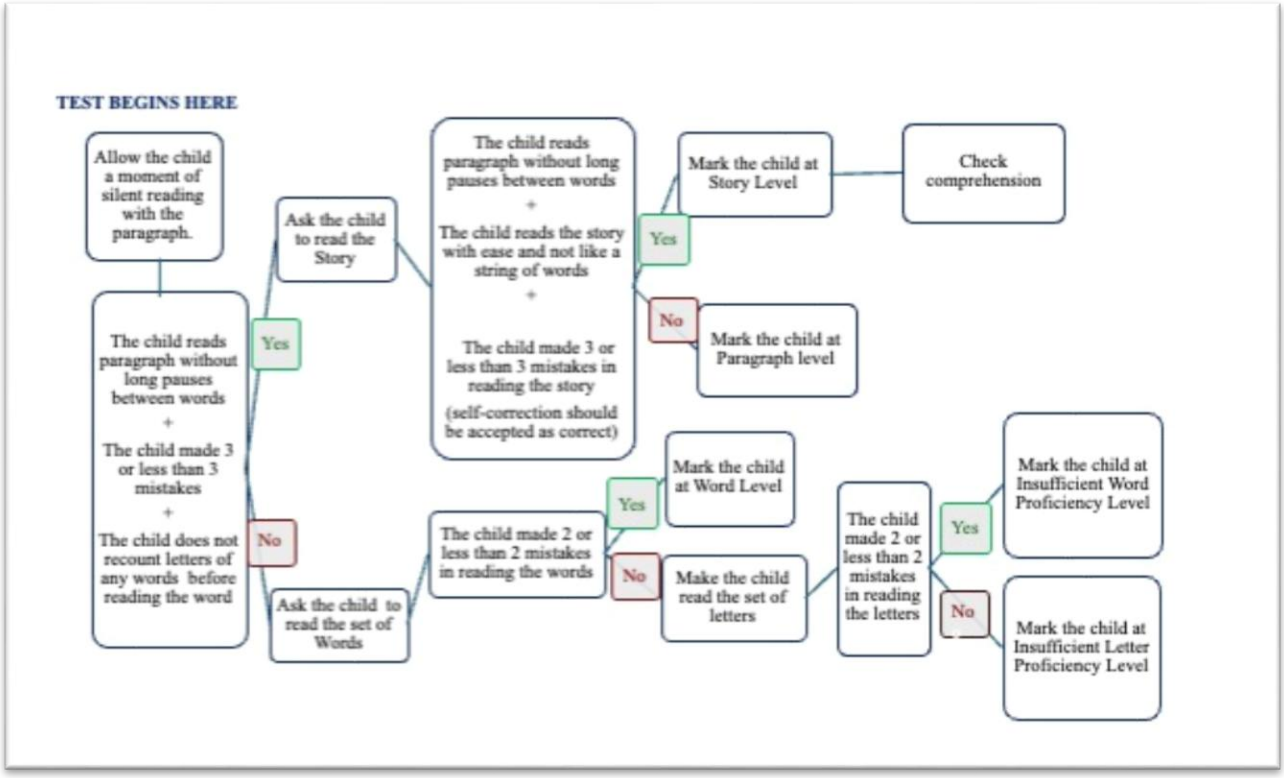
cup wish

red

face hot

## Appendix 7

**Adapted ASER Assessment Flow chart**



## Appendix 8

**Reading Assessment Observation Checklist**

**Child's Name:_____**

**Reading Level_Malayalam _____**

**Difficult Words _____**

**Observations_____**

**Appendix 8 (cont.)**

**Child's Name:_____**

**Reading Level_English_____**

**Difficult Words _____**

**Observations_____**

## Appendix 9

### Comprehension Assessment Form for Story-Level Readers in Malayalam

**To check comprehension for students who reached Story Level in Malayalam ask these questions in Malayalam:**

General Question: Did you understand the story? (Yes/No)

If they respond **Yes,** ask the following questions in Malayalam.

1. How did they pick the mangoes?
   Malayalam: അവർ എങ്ങനെയാണ് മാമ്പഴം പറിച്ചത്?
   ■ Correct ■ Incorrect
2. What was the colour of the mangoes?
   Malayalam: മാമ്പഴങ്ങളുടെ നിറമെന്തായിരുന്നു?
   ■ Correct ■ Incorrect
3. Did they eat all the mangoes?
   Malayalam: അമ്മയും ഉണ്ണിയും കൂട്ടുകാരും പറിച്ചെടുത്ത മാമ്പഴമെല്ലാം കഴിച്ചോ?
   ■ Correct ■ Incorrect

## Appendix 9 (cont...)

### Comprehension Assessment Form for Story-Level Readers in English

**To check comprehension for students who reached Story Level in English, ask these questions in Malayalam:**

General Question: Did you understand the story? (Yes/No)

If they respond **Yes**, ask them to go through the paragraph and retell the meaning of each sentence in English.

Sentence-by-Sentence Comprehension Check
(Mark each sentence based on the child's ability to explain in Malayalam.)

| Sentence from the Story | Correctly Understood | Partially understood | Misunderstood |
|---|---|---|---|
| On Monday, Alia was very happy. | | | |
| She went to school for the first time. | | | |
| She had a new school bag for her books. | | | |
| She put a red flower on the bag. | | | |
| Alia went to school with her sister. | | | |
| Their mother also went with them. | | | |
| The school was not far from their house. | | | |
| Alia made many new friends in school. | | | |

Words difficult to comprehend:_____

## Appendix 10

### Teacher Input Form

| | Reading Level (Malayalam) | | | | | Reading Level (English) | | | | | BPL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Name | Beginner | Letter | Word | Para (Std 1 level) | Story | Beginner | Letter | Word | Para (Std 1 level) | Story (Std 2) | |
| Student | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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