



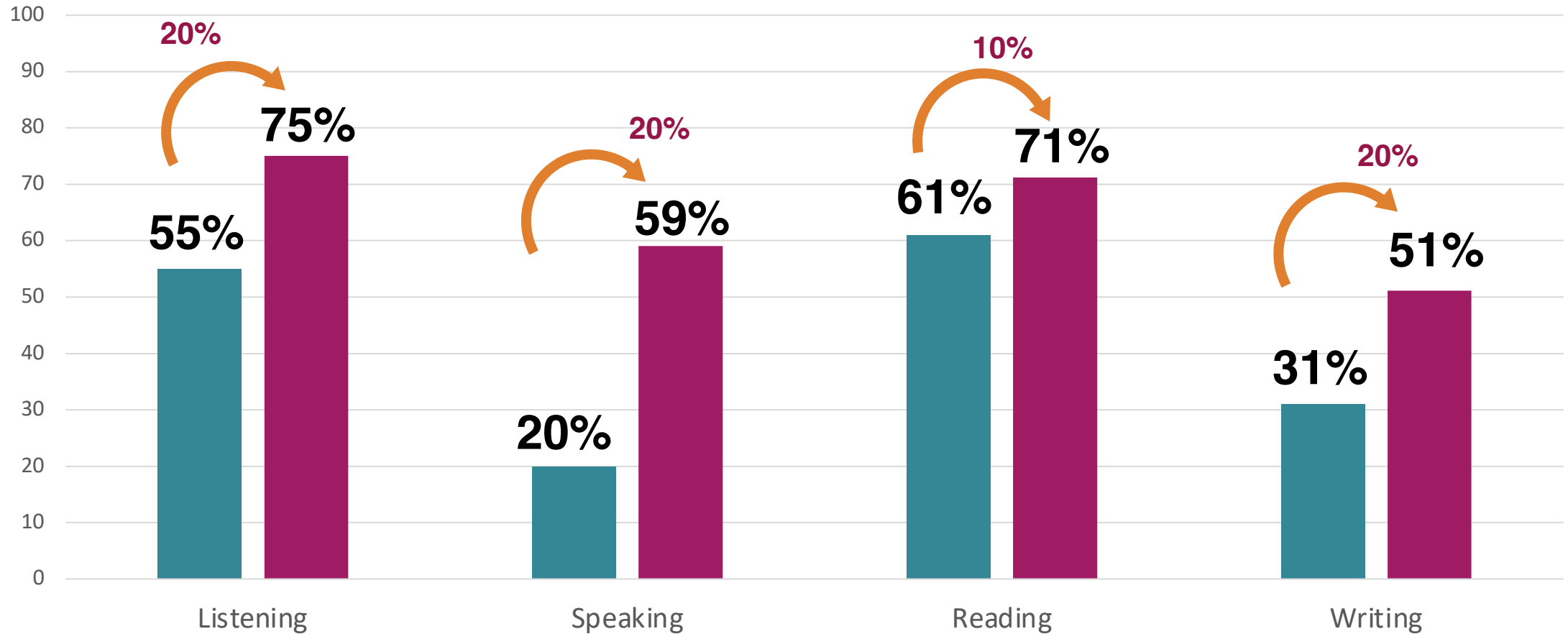
Impact Evaluation

Education Program 2022-2023

Presented by Faiza Ruksar Arif
Lead - Program Design, M&E & Stakeholder Partnerships

Baseline & Expected Endline Outcome

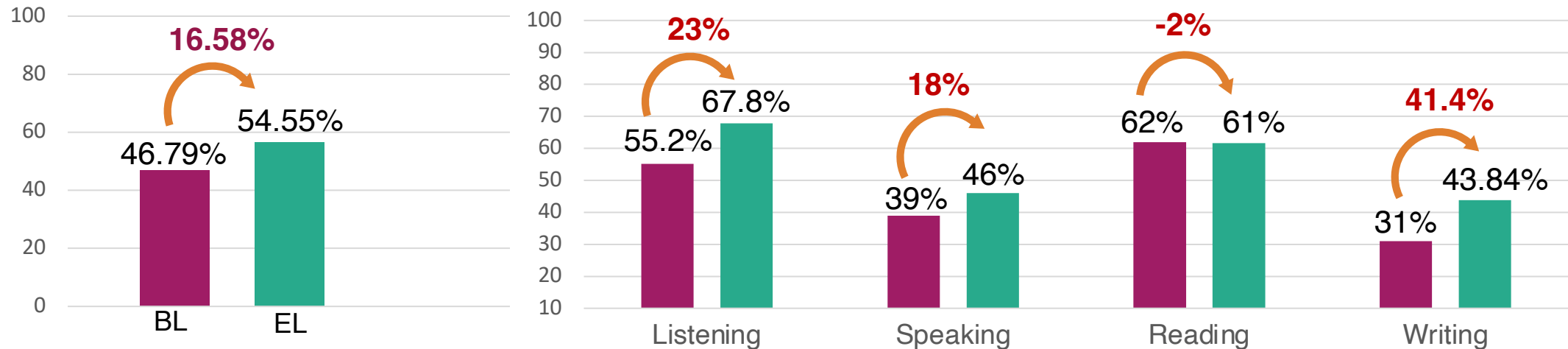
Overall Baseline Score: **31.4%**



Executive Summary

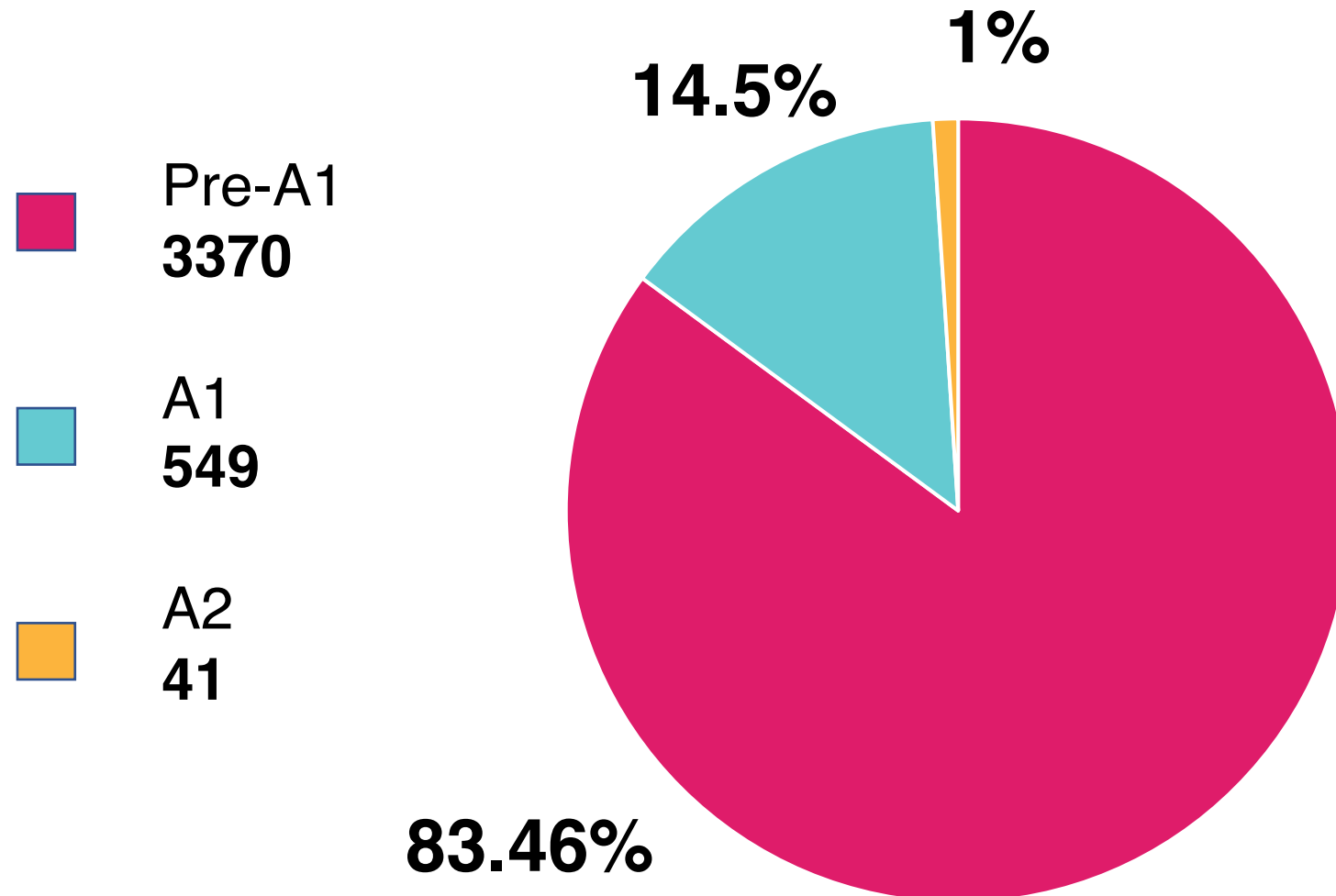
N=3990

- Our hypothesis of driving a combination of **learner-centric models of curriculum**, and **investing deeply in teacher proficiency** has been validated, with a significant upward shift in student proficiency by **16.5%**.



- **Complementing Classroom Learning** with highly contextualized learning activities **using Educational Tech** (Tablets/Gamified Content) drives learning acceleration.
- CEFR level-wise scores demonstrate a clear increase in learner proficiency across skills [L-S-R-W] as they move up the CEFR levels.
- External research indicates learning outcomes are influenced by multiple factors: Teacher Proficiency, Learning Infrastructure, TSR, and attendance amongst others. OBLF's data gathering needs to get more sophisticated to measure these outcomes.
- Increasing investment in teacher capability/proficiency continues to be critical to advance learner outcomes.

Student Population



N=3990

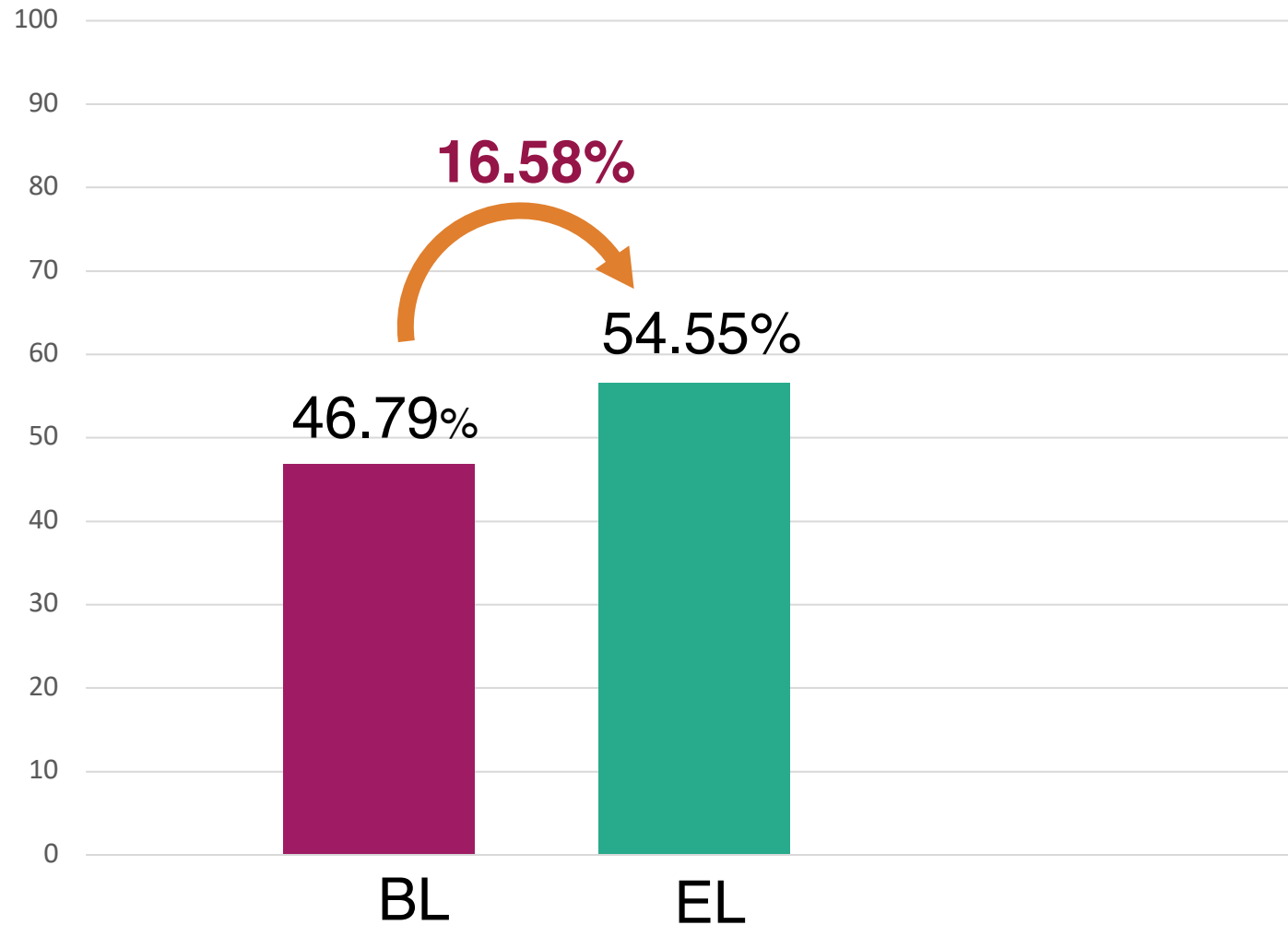
This represents learners who were covered under both B/L and E/L. (i.e. excludes drop-outs, late-joiners, etc.)

Inconsistent scores have not been considered.

As is to be expected, the bulk of our learners are in Pre-A1.

Underscores the drop in learning levels that was seen post-pandemic.

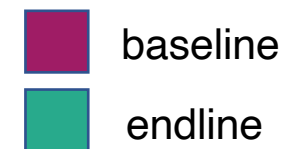
1. Overall Student Performance



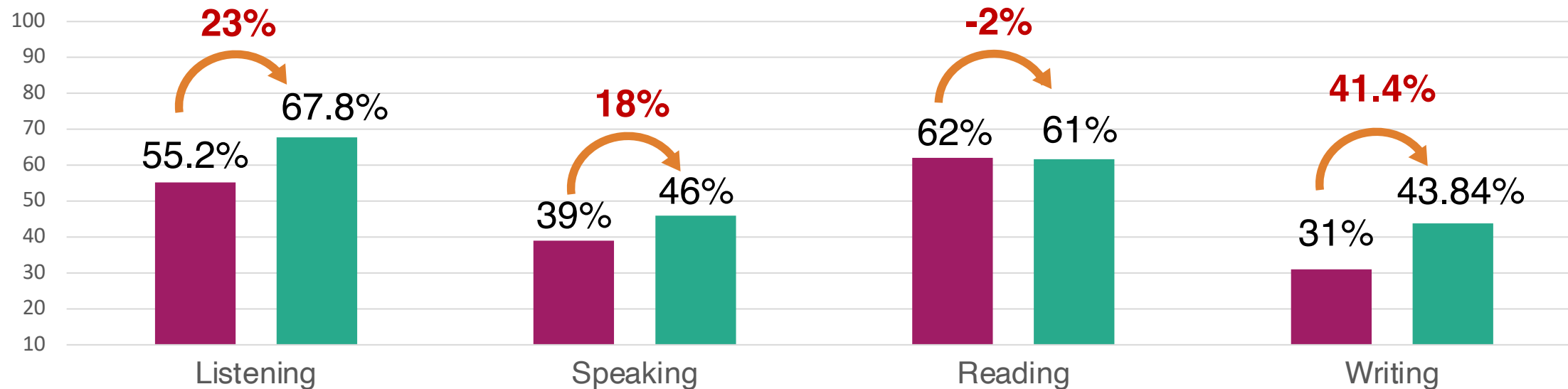
- The overall baseline score for students across levels is **47%** and the overall endline score was **55%**.
- Student performance improved by **16.5%** this academic year.

Insight & Inference

- The baseline scores are relatively high. There is a possible skew because of higher number of repeat learners at this level.



2. Overall Student Performance across Learning Skills

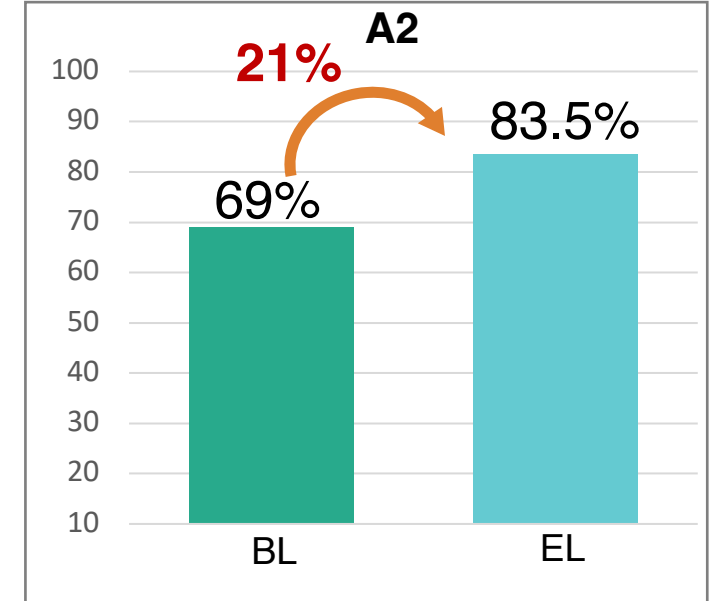
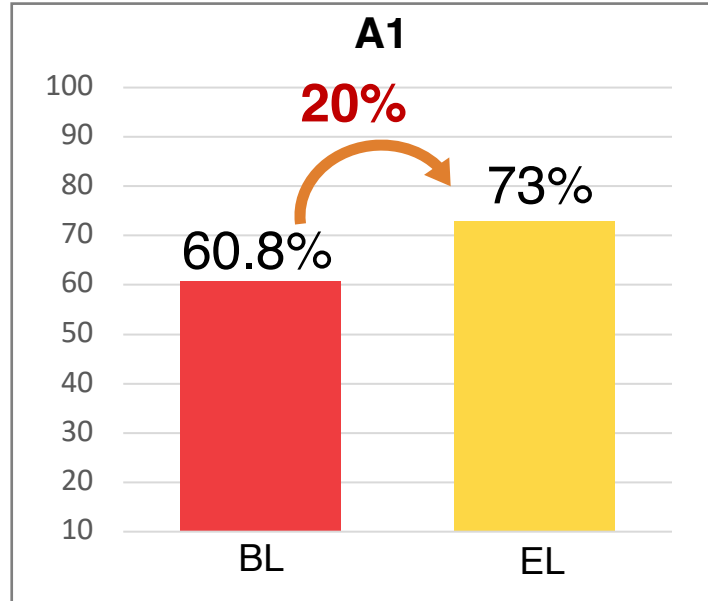
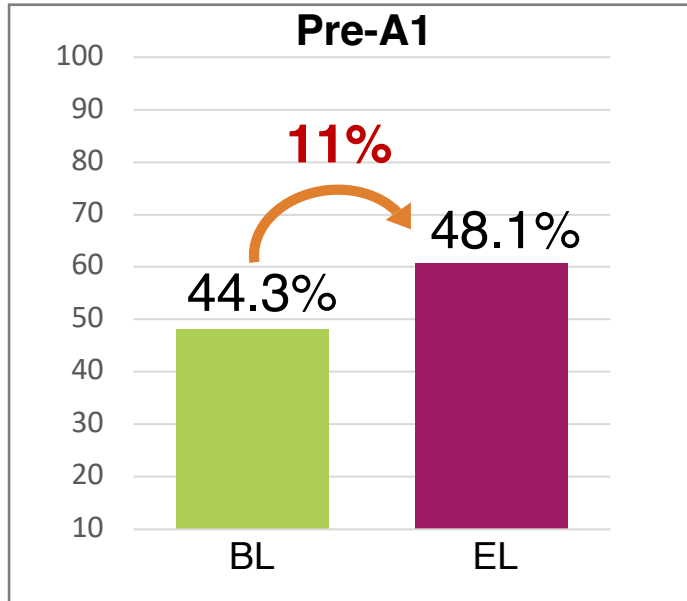


Insights & Inference

Skill	Achieved	Hypothesis
L	23%	15%
S	18%	15%
R	-2%	10%
W	41.4%	10%

- Listening & Speaking has significantly improved. This is in line with our expected outcomes.
- Language learning requires Listening & Speaking to receive predominant focus. **Introduction of and Emphasis on Phonics as an approach to foundational speaking.**
- The baseline score of Reading is high – which is a reason for scores to remain largely stagnant. But improvement is low. Teaching ‘Reading’ as a skill in Teachers - needs to be strengthened.
- Writing had the lowest baseline – and has shown the most significant increase.

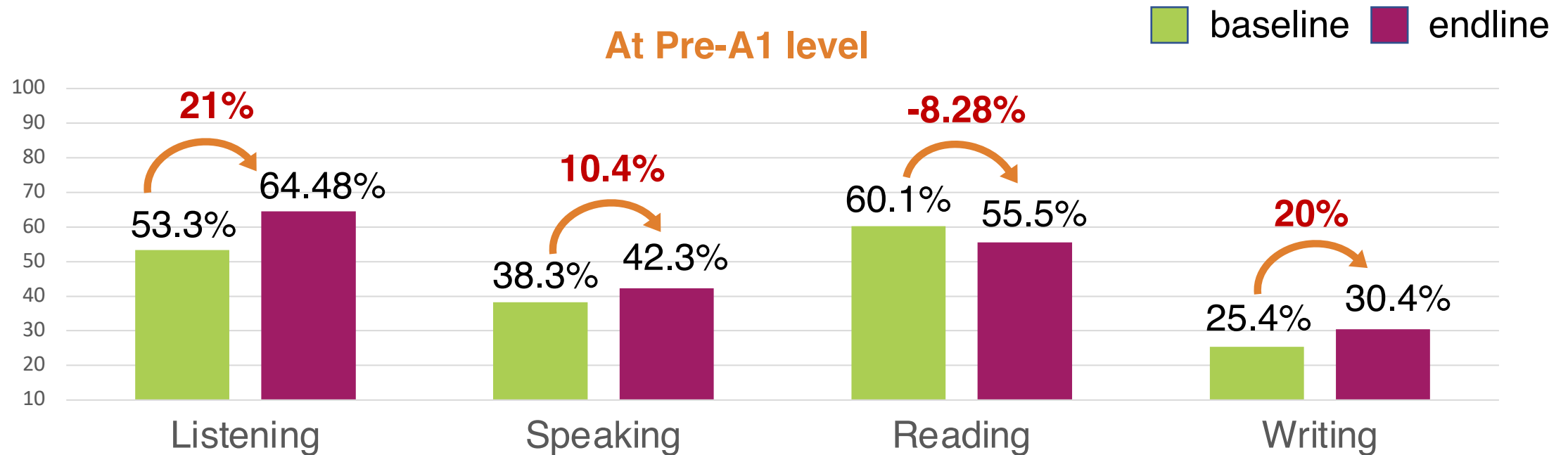
3. Level Wise Break up of Student Scores



Inference

1. The Baseline of Pre-A1 is considerably higher than would be expected – possibly because of a significant number of learners repeating/staying at the same level. That may explain the reason behind the quantum of improvement being lower.
 - **Extension of our program to learners in Classes 1 & 2. Skew in scores between new learners and repeat learners.**
 - **Operational constraints** – select students at A1 have also been taught Pre-A1 across schools thus skewing the baseline scores.
2. John (2008) describes the plateau effect in language literacy – where students experience little to no growth during the upper elementary (4th-6th grade). **Our A1 & A2 scores dispute this effect.** (Attributed to learner-specific approach, engaging curriculum, and teacher proficiency competency).

4. Level-wise & Learning Skill specific Student Scores

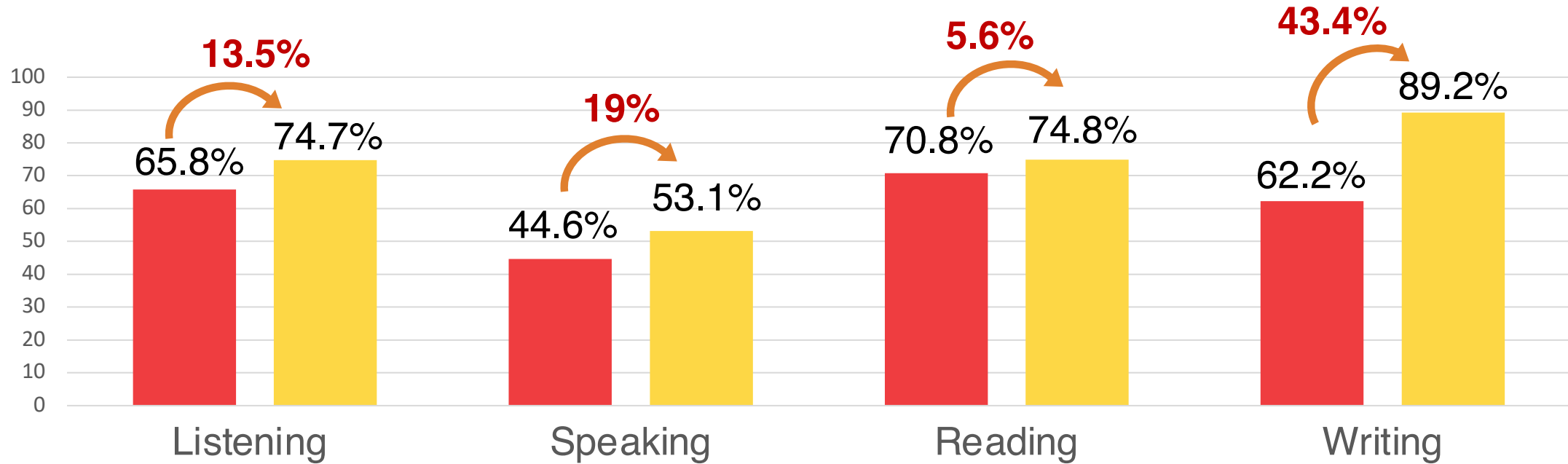


Skill	Achieved	Hypothesis
L	21%	25%
S	10.3%	15%
R	-8.28%	20%
W	20%	10%

Insights & Inference

1. Listening & Speaking skills have improved in accordance with **curriculum intent & skill-specific focus**. Listening may be higher due to the use of audio-visual aids while speaking as a skill is more reliant on teacher proficiency.
2. Reading as a skill still has a high score – at 55%. On par or higher than other skill areas. The drop may represent the teacher capability to teach ‘reading’?

At A1 level



■ baseline ■ endline

Skill	Achieved	Hypothesis
L	13.5%	15%
S	19%	20%
R	5.6%	20%
W	43.4%	10%

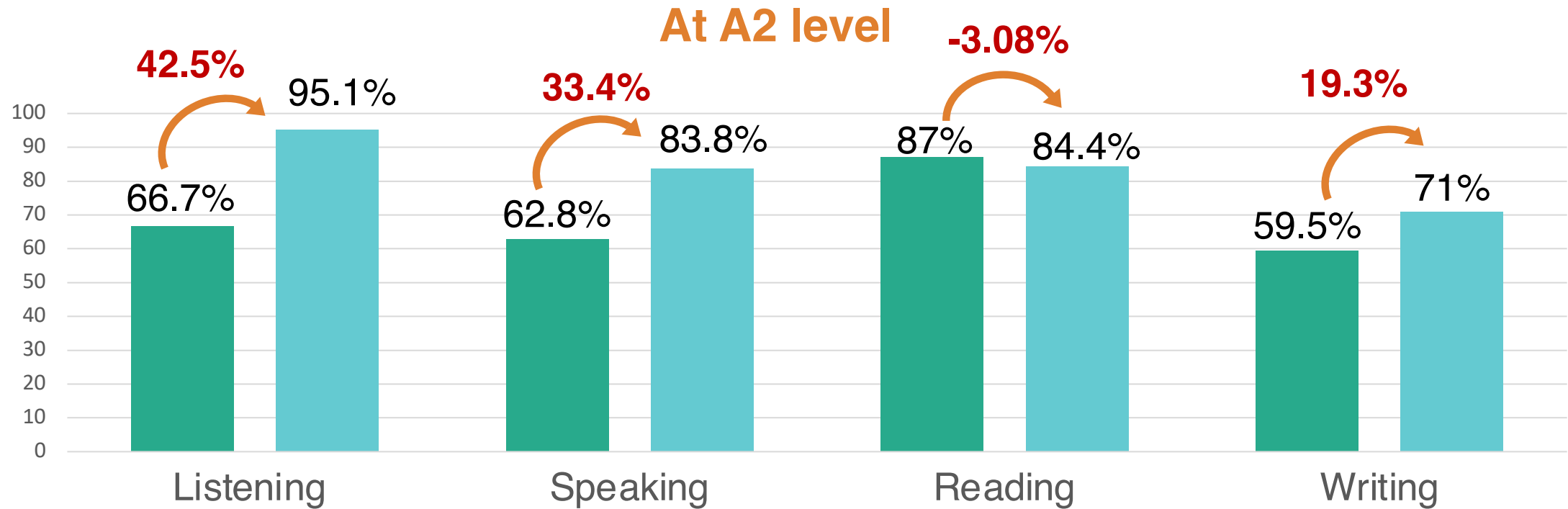
Insight & Inference

1. What is the cause for such a vast improvement in writing?

Possible Causes: Solve education gamified content, teachers make students write words down as per traditional teaching methods. (dictating, copying off the board, our method of testing for writing)

We also need to validate our methodology for testing 'Writing' as a skill

2. Listening & Speaking can be attributed to the phonics program.



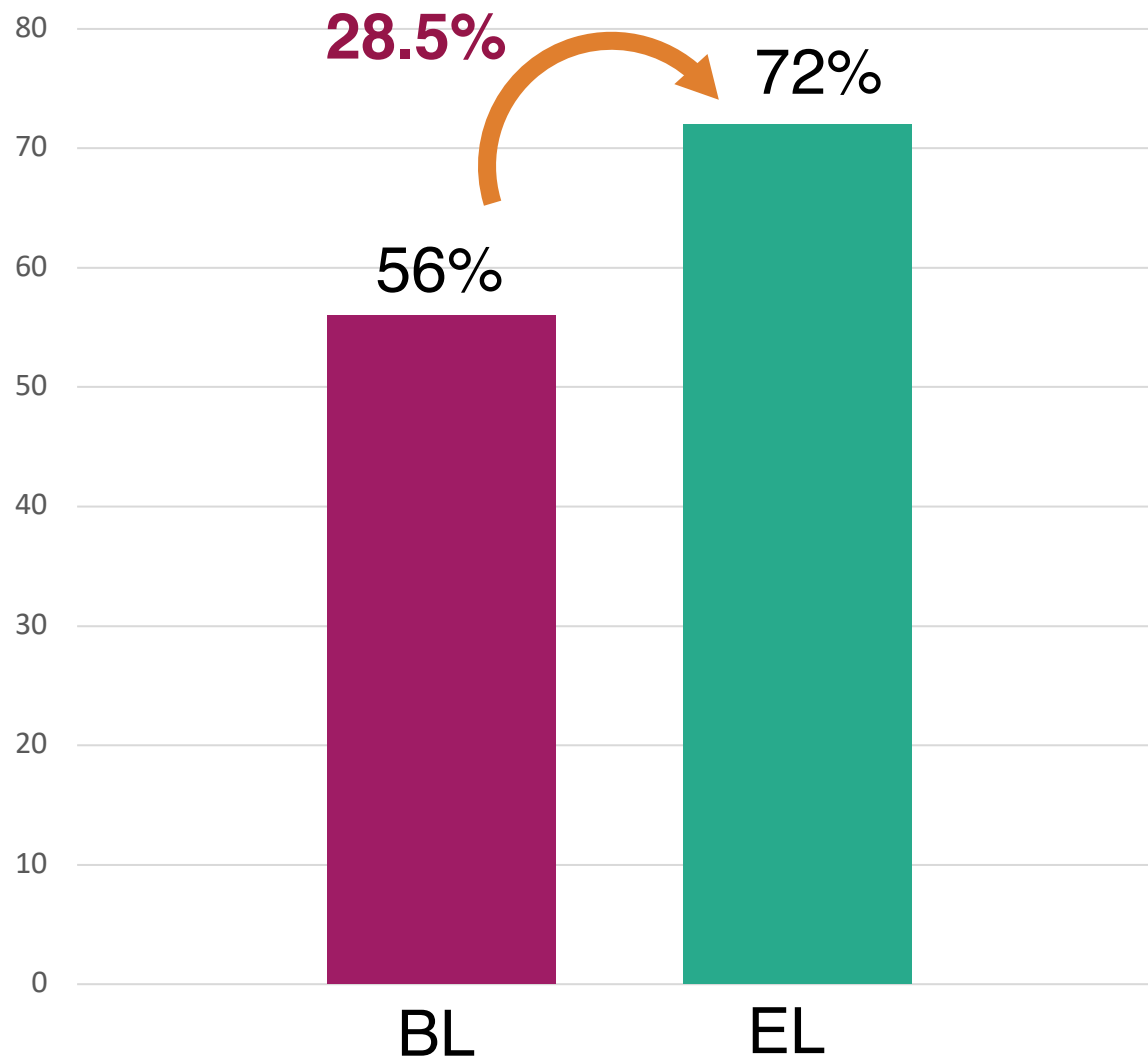
■ baseline ■ endline

Skill	Achieved	Hypothesis
L	42.5%	15%
S	33.4%	20%
R	-3.08%	20%
W	19.3%	15%

Insight & Inference

1. Teachers with the highest proficiency teach at this level.
2. Teaching 'reading' as a skill is a limited capability in our teachers.
3. Relatively high baseline scores – are indicative of increased proficiency of learners as they moved up the CEFR levels.

5. Solve Education Program & Performance

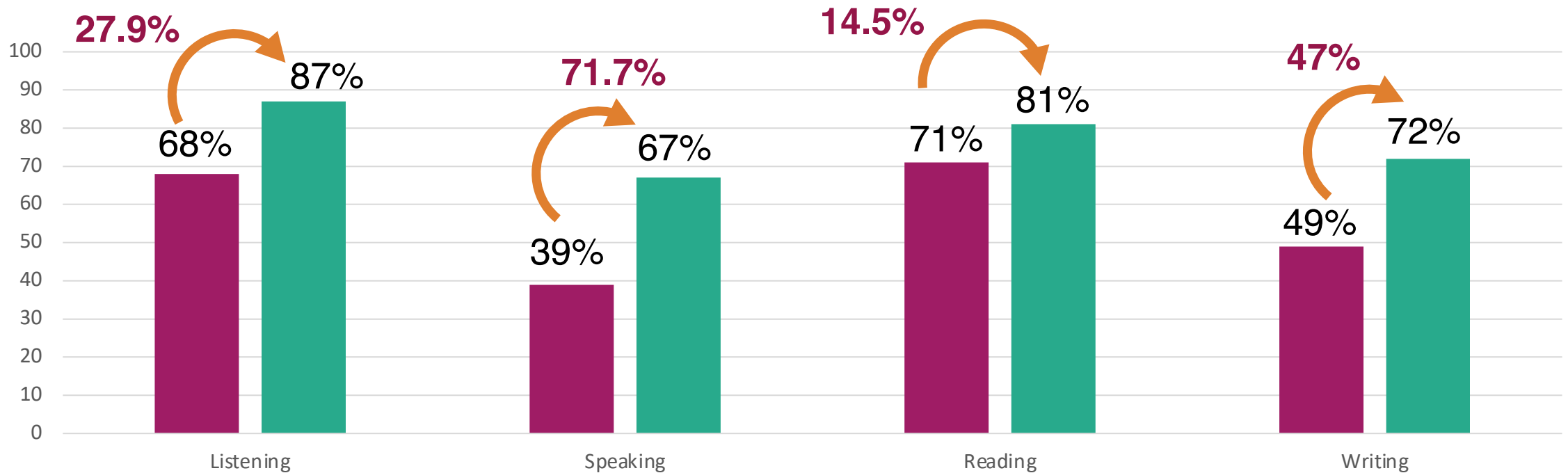


■ baseline ■ endline

U= 770, N=250

- A purposive sample of 250 students based on their longevity under the program was selected.
- The overall baseline score for the sample student population is **56%** and the overall endline score was **72%**.
- Student performance improved by **28.5%** for the solve program students this academic year.

A skill-wise break up of SOLVE student scores

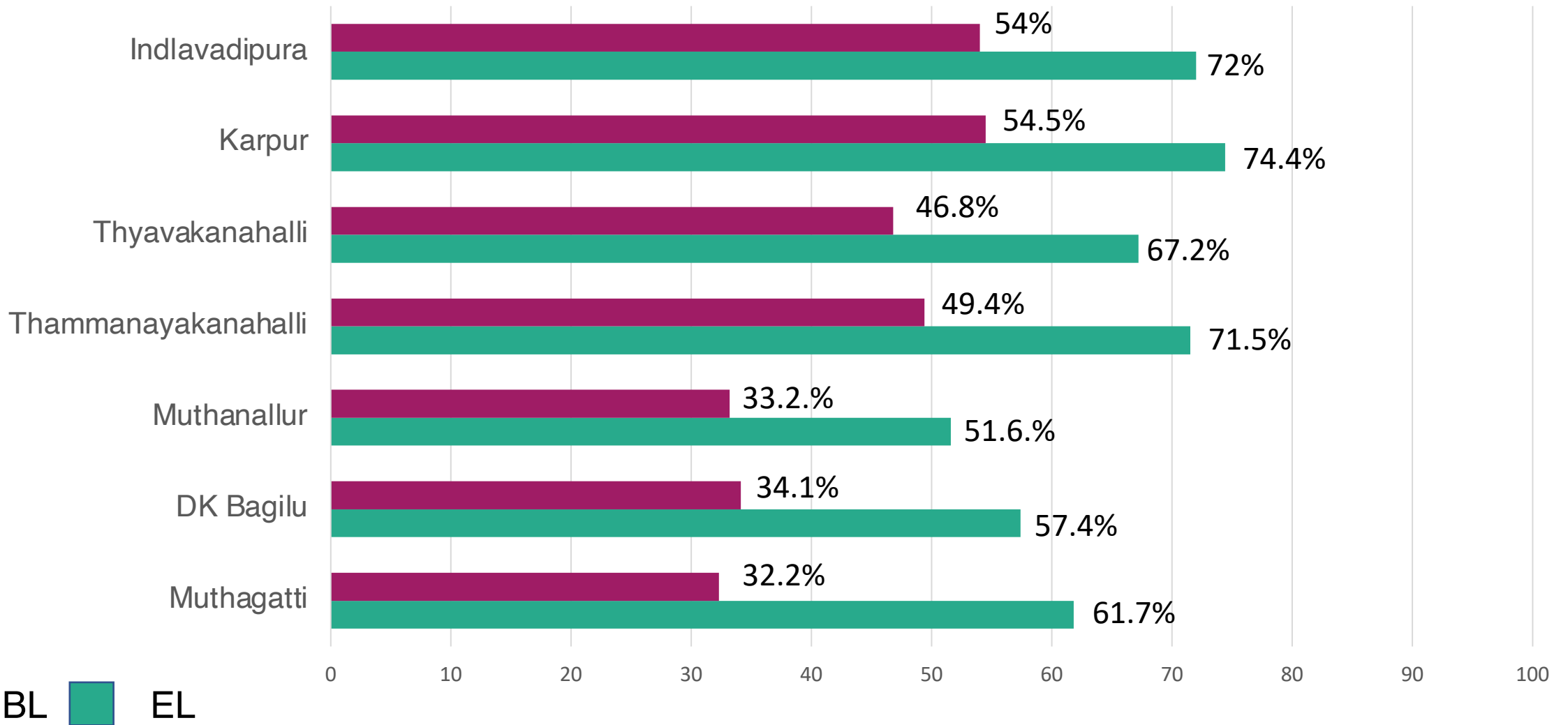


Insight & Inference

- We hypothesize that sustained exposure to alternative gamified learning modules induces accelerated learning among students. Our sample scores further substantiate & advocate for a multi-modal form of learning that integrates technology & in-class facilitation.
- The Solve Program is a useful tool to **improve specific skills** – Reading and Speaking. Rather than focusing on a higher overall improvement, we must **leverage it to combat other constraints**. (E.g. Teacher proficiency which leads to lower scores in Reading & Speaking)

6. School Performance & Improvement

Highest Performing Schools



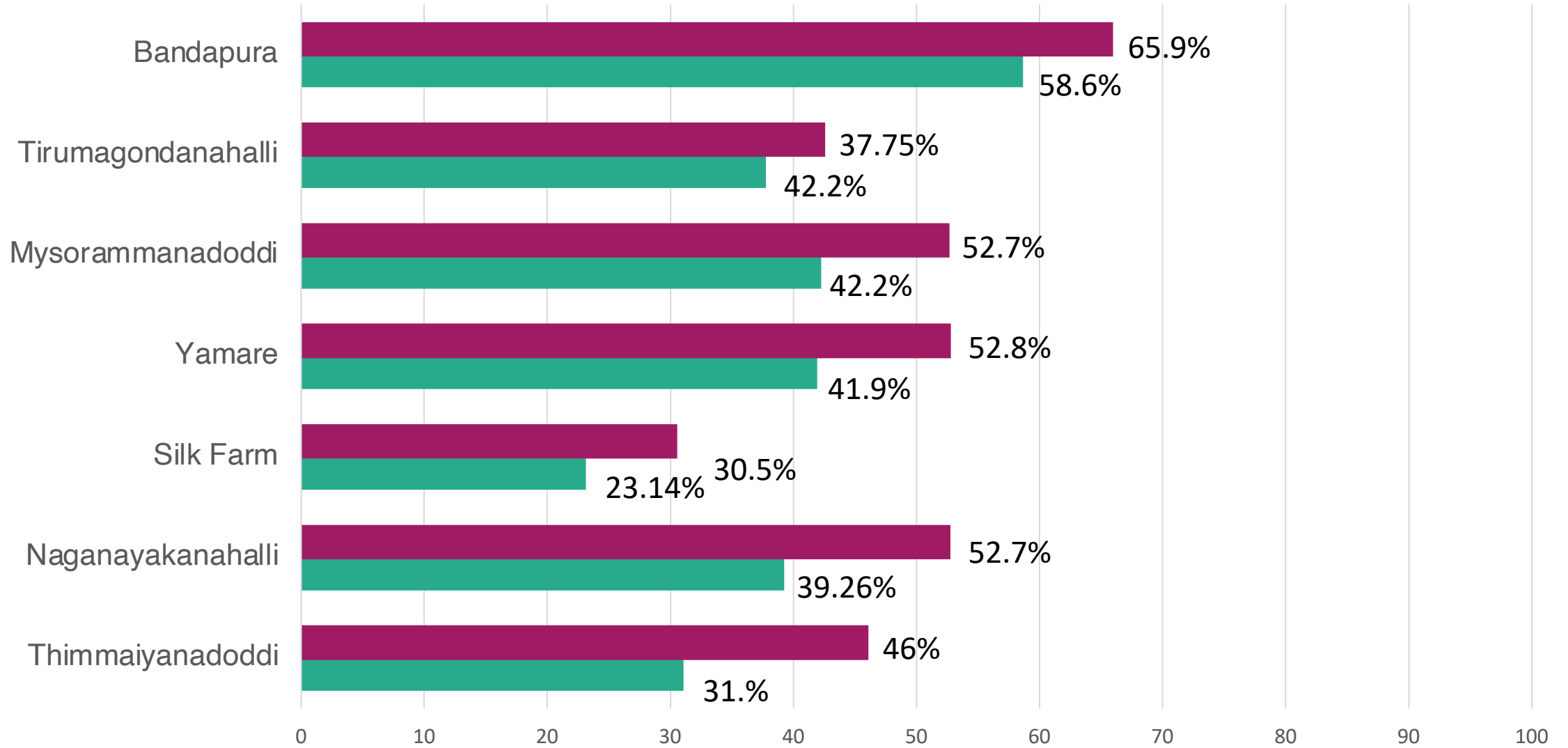
Description

No	School Name	School Size	Teachers	Baseline	Endline	Improvement
1	Muthagatti	18	Kusuma KG	32.27	61.78	91.46%
2	DK Bagilu	40	Chaitra N, Sudha N	34.09	57.37	68.29%
3	Muthanallur	76	Prema G, Pavithra S, Kalpana M, Manju V	33.17	51.61	55.56%
4	Thammanayakanahalli	35	Ashwini N, Vinutha S	49.39	71.52	44.80%
5	Thyavakanahalli	27	Munilakshmi	46.79	67.22	43.66%
6	Karpur	35	Kusuma KG	54.49	74.37	36.50%
7	Indlavadipura	22	Ashwini N	53.96	71.97	33.37%

Insight & Inference

- We need to explore the conditions & success factors around these schools & identify what can be replicated.
- Some considerations: supervisor support, teacher-student ratio, teacher proficiency, class timings, etc.

Lowest Performing Schools



BL EL

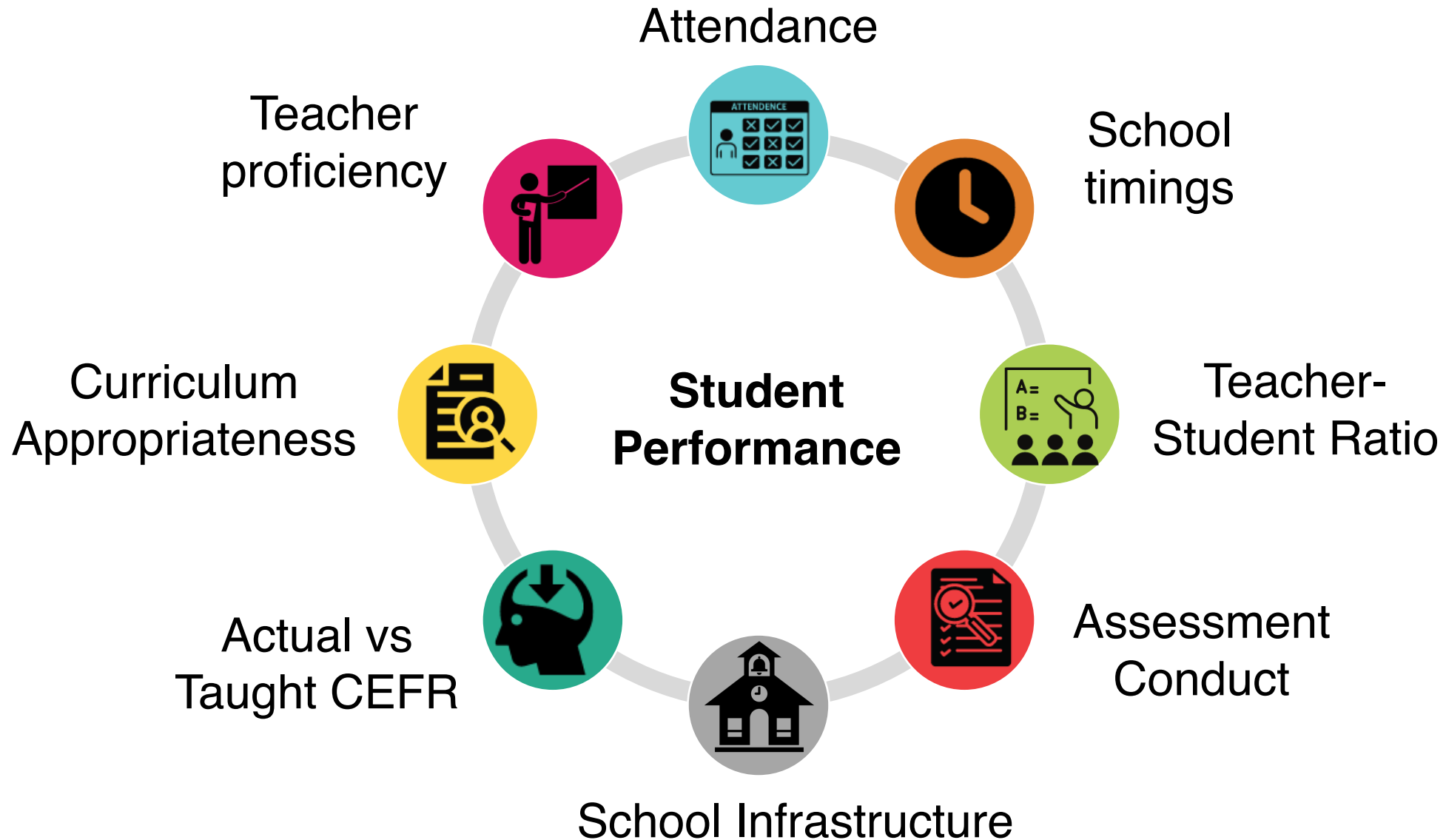
Description

No	School Name	School Size	Teachers	Baseline	Endline	Improvement
1	Thimmaiyanadoddi	18	Puttamma G	46.09	31.07	-32.58%
2	Naganayakanahalli	24	Vanitha KN	52.76	39.26	-25.55%
3	Silk Farm	23	Gayathri N	30.54	23.14	-24.22%
4	Yamare	33	Hemvathi S	52.80	41.91	-20.63%
5	Mysorammanadoddi	13	Puttama G	52.7	42.25	-14.25%
6	Tirumagondanahalli	62	Jayalakshmi S, Shobha N, Bharathi N	42.59	37.75	-11.37%
7	Bandapura	10	Pushpa M	58.65	65.98	-11.11%

Insight & Inference

Overall, **20** schools have shown a drop in scores between baseline and Endline. 13 of these schools have shown a drop lesser than 10%. We need to explore the conditions & learnings from these schools to understand how to tweak our program operations accordingly.

Exploring **factors** that affect student performance



Data Tool used: Correlation

- Correlation describes the strength of an association between two variables
- It is completely symmetrical, that is, the correlation between A and B is the same as the correlation between B and A. ($AB=BA$)

- Range: -1 to 1

-1 for a perfectly inverse, or negative relationship

1 for a perfectly positive correlation

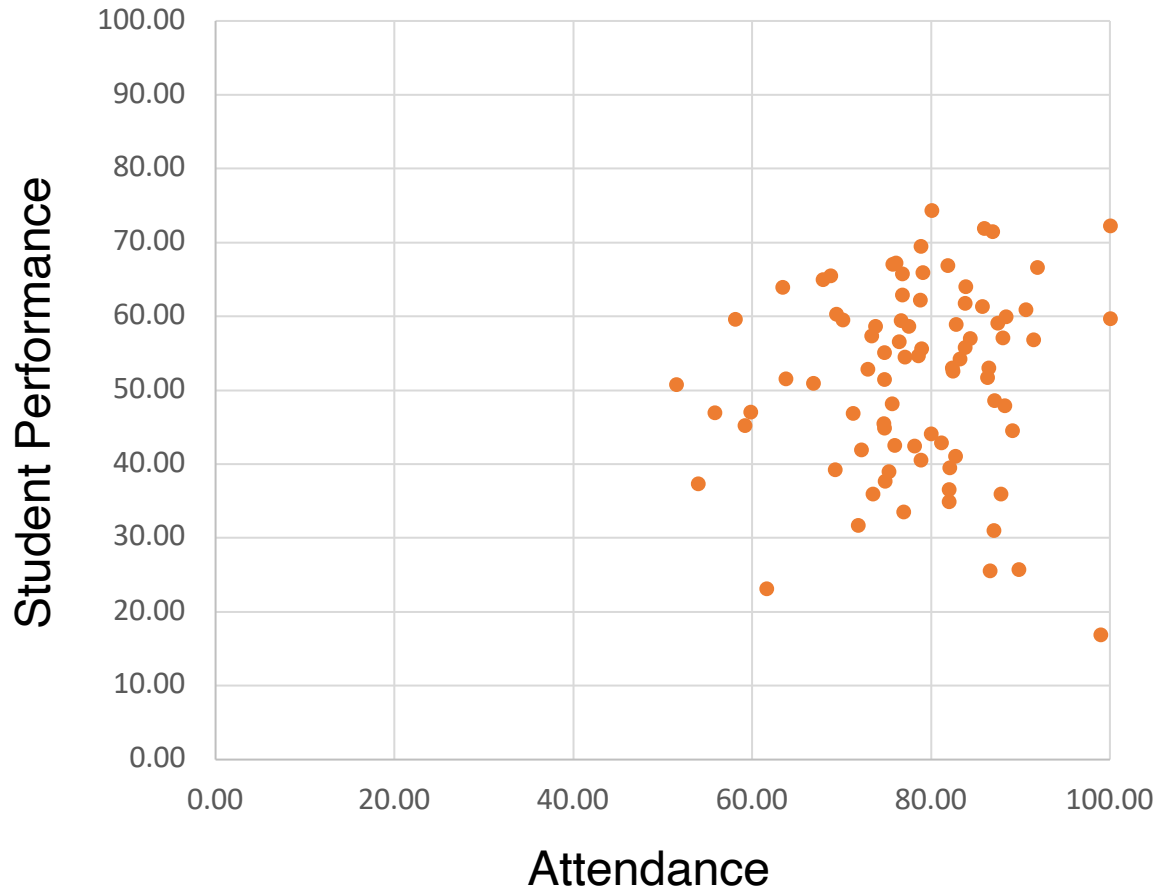
Values at/or close to zero indicate no linear relationship or a very weak correlation.

- Must be above 0.7 to be a strong correlation.

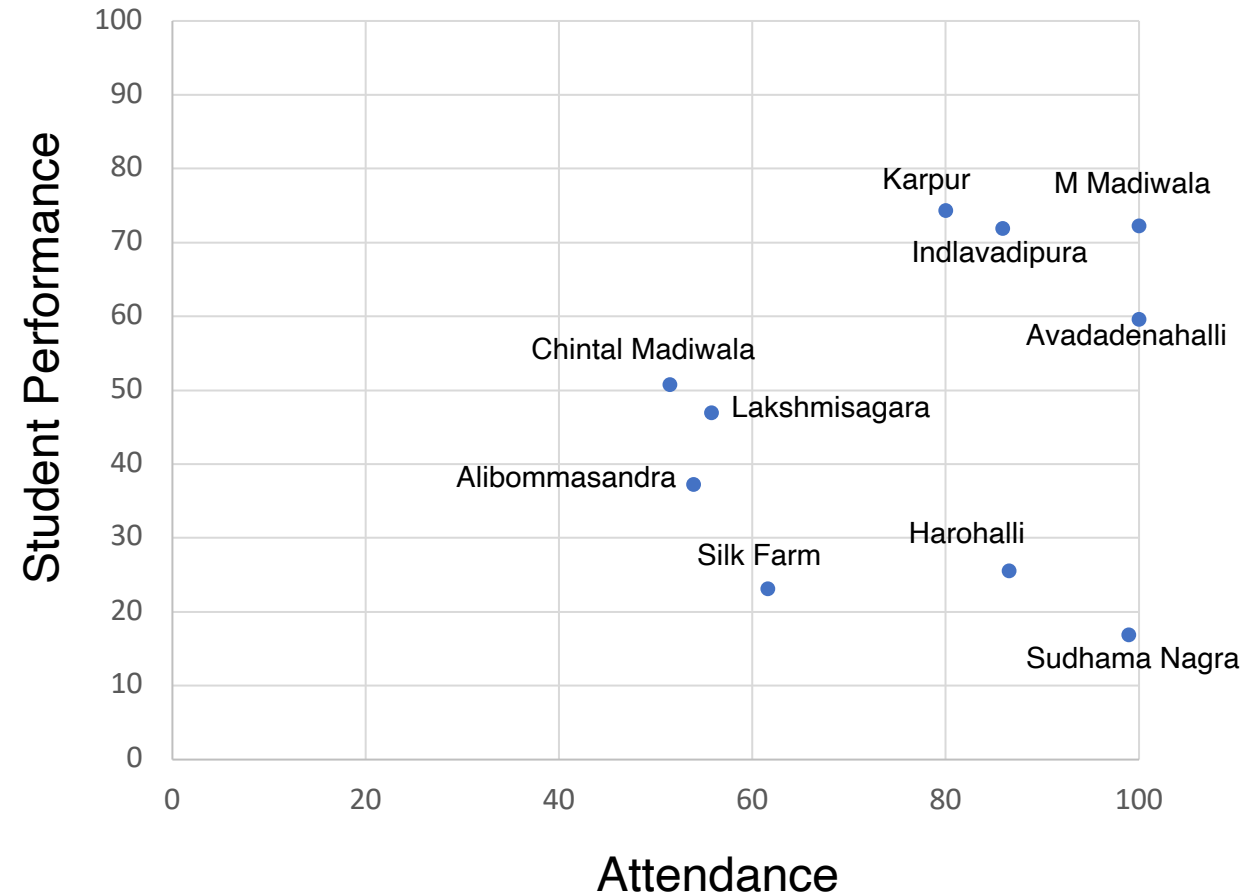
If strong correlation then can check for causation between two variables.

7. Effect of Attendance on Student Performance

All schools under the programs



Select schools with larger variance



Correlation Co-efficient: **0.08**

This data does not suggest a significant relation between attendance and student performance. It is not a key determinant. Must look into other affecting factors like school support, teacher-class ratio, class timings, taught vs actual CEFR etc.

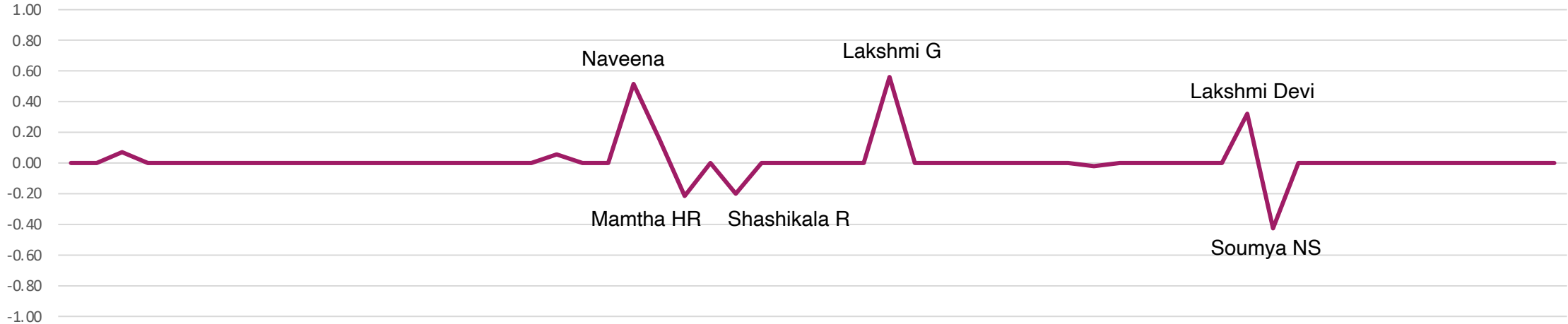
Description

School	Attendance	Student Scores	Relationship/Effect
Alibommasandra	53.94	37.33	Low attendance, low score
Chinthal Madiwala	51.47	50.75	Low attendance low score
Lakshmisagara	55.81	46.99	Low attendance low score
Silk Farm	61.6	23.14	High attendance low score
M Madiwala	100	72.31	High attendance low score
Avadadenahalli	100	59.67	High attendance low score
Harohalli	86.59	25.55	High attendance low score
Sudhama Nagra	98.97	16.9	High attendance low score
Indlavadipura	85.93	71.97	High attendance high score
Karpur	80.03	74.37	High attendance high score

Insight & Inference

1. Case-by-case effect of attendance on student performance (both low attendance low score & high attendance high score). While this data does not suggest a significant correlation, there are limitations to this analysis, so we must further explore other factors before drawing a concise conclusion. What kind of data should we capture that will help us make a more rigorous analysis?
2. **Limitations:** Student-level scores and attendance has not been captured. Aggregates of each school's attendance and scores have been matched. Hence, low reliability of tests & results.

8. Effect of Teacher Proficiency on Student Performance



Correlation Co-efficient: 0

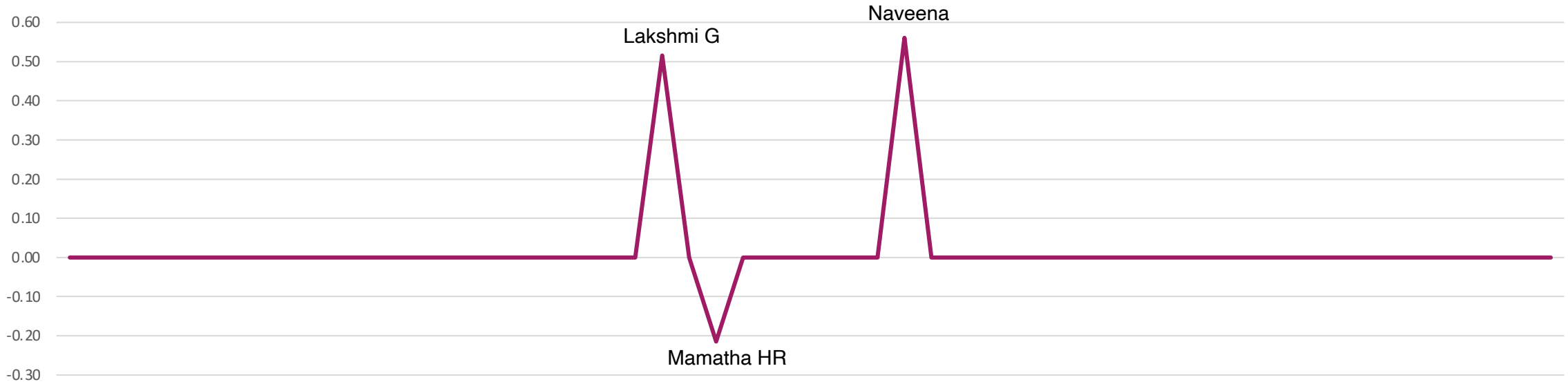
While this data does not support a correlation between teacher proficiency & student performance, this has to be explored more thoroughly to identify other factors before making a definitive conclusion.

Insight & Inference

- Naveena has high proficiency and a positive correlation while Soumya NS has high proficiency but a negative correlation.
- Teacher proficiency is **not a key determinant** of student performance. Almost all the teachers showed no correlation.
- This is in line with our context given that our teachers are still building proficiency and getting acquainted with the curriculum.

Teacher Name	ELP	Correlation
Naveena	70%	0.56
Lakshmi G	35%	0.52
Lakshmi Devi	34.55%	0.16
Mamtha HR	57.73%	-0.21
Shashikala R	53%	-0.02
Soumya NS	73.18%	-0.43

Overall Teacher Proficiency



Correlation Co-efficient:
ELP: 0
Curriculum: 0.03
Pedagogy: 0.08

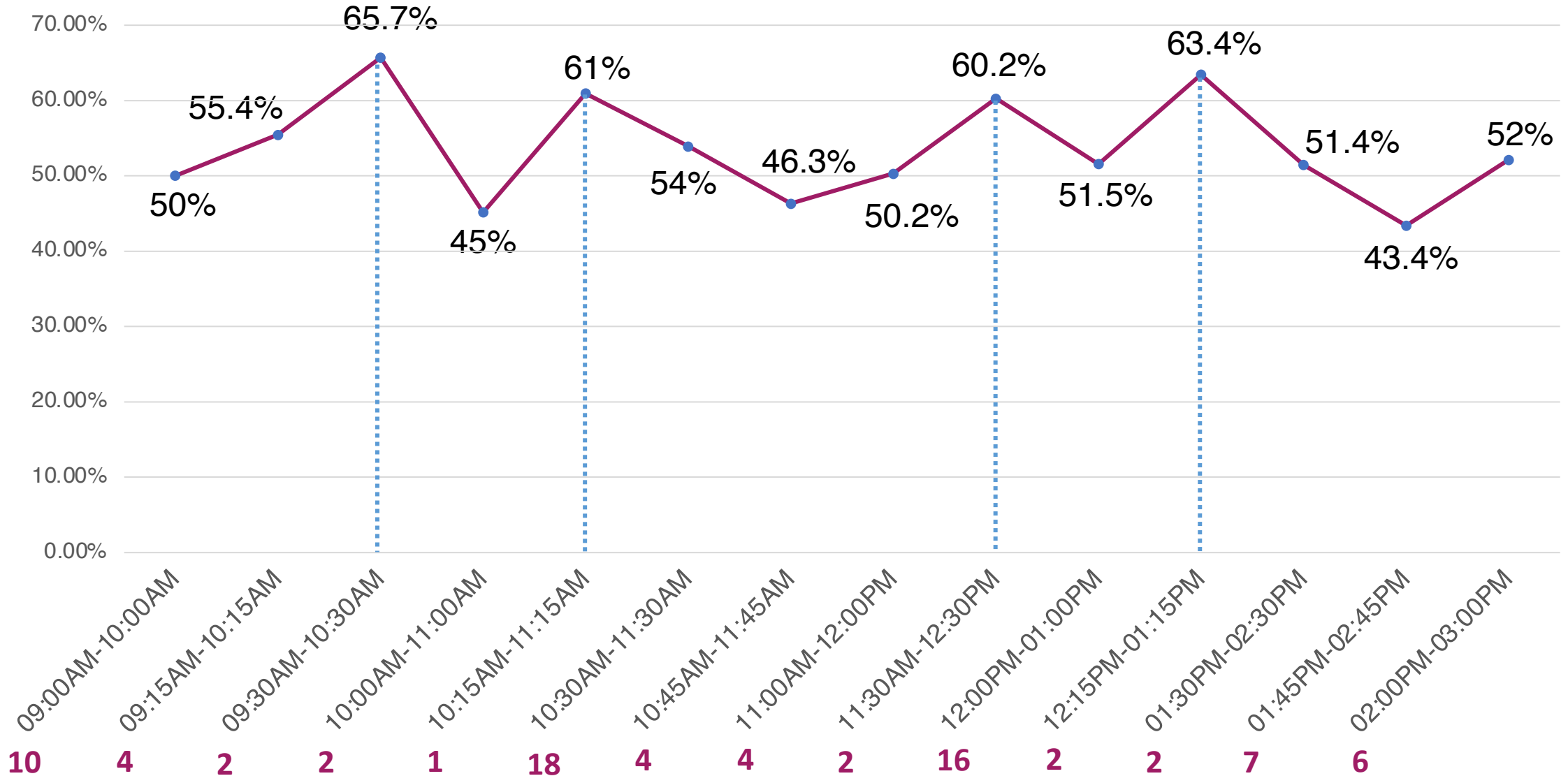
While this data does not support a correlation between teacher proficiency & student performance, this has to be explored more thoroughly to identify other factors before making a definitive conclusion.

Teacher Name	ELP	Curriculum	Pedagogy	Correlation
Naveena	70%	80%	58%	0.56
Lakshmi G	35%	25%	2%	0.52
Mamtha HR	58%	50%	38%	-0.21

Limitations & Other Factors:

- School infrastructure
- Student-teacher ratio
- Student Attendance

9. Effect of School Timings on Student Performance



Insight & Inference

Correlation Co-efficient: **0.09**

While this data does not support a correlation between school timings & student performance, this has to be explored more thoroughly to identify other factors before making a definitive conclusion.

- The time slots 9:30-10:30 AM, 10:15-11:15 AM and 12:15-1:15 PM are most conducive for learning based on the student scores.
- The time slots 1:45-2:45 and 10:00-11:00 are the least conducive for learning based on student scores.
- While time slots is a relevant metric it is dependent on other factors such as school support and system, geographical location, teacher-class strength etc.
- School timing is **not a primary determinant**.

10. Hypothesis Testing: T-Test

- A t-test is a statistical inferential test that is used to compare the means of two groups.
- It is often used in **hypothesis testing** to determine whether a process or treatment actually has an effect on the population of interest, or whether two groups are different from one another.
- Interpreting Mean & Variance (Standard Deviation)

Our Hypothesis

Learner-centric learning through universally recognized standardised CEFR curriculum and well-trained quality English teachers will lead to an improvement in English literacy among government primary school students.

Description: T-Test (Two Sample, Assuming Equal Variances)

LISTENING SKILLS	Baseline %	Endline %	Improvement %
Mean	13.83	16.57	19.86%
Variance	63.58	57.51	-9.88%

There is a significant difference between the score of baseline and end line for Listening. Endline score is higher and variance is lower.

SPEAKING SKILLS	Baseline %	Endline %	Improvement %
Mean	9.87	11.07	12.16%
Variance	41.60	43.01	3.39%

There is a significant difference between the score of baseline and end line for Speaking. The endline score is higher but the variance increased a little.

READING SKILLS	Baseline %	Endline %	Improvement %
Mean	15.50	14.67	-5.36%
Variance	55.49	54.86	-1.14%

There is a significant difference between the score of baseline and end line for Speaking. The endline score is higher but the variance increased a little.

WRITING SKILLS	Baseline %	Endline %	Improvement %
Mean	7.78	9.86	26.67%
Variance	59.16	76.74	29.71%

There is a significant difference between the score of baseline and end line for Writing. The endline score is higher but the variance also increased.

There is a significant difference between the score of baseline and end line for Overall Performance. Endline score is higher and the variance is lower. Thus, our **hypothesis for the intervention has been proven.**

EXECUTIVE SUMMARY

Listening & Speaking have shown a steady improvement in line with our learning outcomes for Pre-A1 which comprises 83% of our student population.

There has been an extensive improvement of 41% in **writing skills** across all student levels.

Our **ed-tech tablet program** initiative has yielded **accelerated learning across Speaking & Reading skills.**

There is immense potential to expand this program both in frequency across existing schools as well as extend it to new OBLF-adopted schools.

School eco-system, teacher proficiency, attendance, classroom size, & curriculum all affect student performance.

Our schools are excellent examples of how these determinants can be **strategically leveraged and strengthened** to improve the learning experience for students.

REFLECTIONS & RECOMMENDATIONS

Recommendations

Use flashcards in pre-A1 and phonics in A1 for Reading skills

Revisit the 'writing' skills across assessments.
Reflect on assessment conduct

Using Solve to improve reading and speaking skills

ELP & pedagogy should be more focused on Reading & Speaking

Increase the frequency of our Ed-tech interventions (expansion across school or hours of play)

Reflections

Curriculum & Training:

Working on speaking & reading as skills with teachers

What are the % improvement goals we are setting this year as per these findings?

Operations:

Reflecting on school constraints & system in low performing school

Looking at which constraints can be resolved this year

Impact Measurement:

Data inputs & cleaning – what all must the data sheet contain?

What areas do we want to track and measure this year?