#### [Taleemabad Evaluation by CERP Analytics](#taleemabad-evaluation-by-cerp-analytics)

1.Basic Introduction

2.Summary of results produced by Taleemabad.

Grades 1-3: 50.7% of all Taleemabad students meet the criteria for all 3 subjects compared to 29.4% of control students at endline. This represents a difference of 0.46 standard deviations compared to the control group (1.58 LAYS).

During baseline, the difference between Taleemabad and control students is statistically insignificant from zero for English and Mathematics. For Urdu, however, the difference was -13.6% between Taleemabad and control.

At the endline, the difference between Taleemabad and control schools rises to 22.9% for English and 14.6% for Urdu (both significant at 5% level). For Mathematics, however, the difference is -2.9% (i.e. in favor of control schools, significant at 5% level).

Grades 4-5: 7.2% of all Taleemabad students meet the criteria for all 3 subjects compared to 6.2% of control students at endline. This represents a difference of 0.05 standard deviations compared to the control group (0.4 LAYS).

During baseline, the difference between Taleemabad and control students is statistically insignificant from zero for English and Mathematics. For Urdu, however, the difference was -8.7% between Taleemabad and control, meaning that control schools were at a higher level than intervention schools.

At the endline, the difference between Taleemabad and control schools rises to 3.6% for English, 1.5% for Mathematics and 2.2% for Urdu (all significant at 5% level).

MELQO: At baseline, Taleemabad schools outperformed control schools by ~6 percent of overall score in pre-numeracy but lagged behind control schools in pre-literacy and motor skills by 0.35% and 1.58% respectively.

At the endline, the difference between Taleemabad and control schools reduced to ~4% in pre-numeracy whereas Taleemabad schools performed better than control schools in pre-literacy and motor skills by 1.6% and 3.4% respectively. These results are statistically significant at the 5% level.

3.Analytics by CERP:

4.Sampling Methodology: Power and standard errors:

5.Balance Tests (ASER, TEACH MELQO): - Attrition: Table - Balance Test(s): Tables: 1 for learning outcome vars and other relevant variables

6.Results replications (diff-in-diff) regression at school level to measure treatment effect. (ASER, TEACH MELQO)

7.Other analysis avenues/data visualization(s) to be explored:

* Looking at the frequency of schools that were in baseline and endline (Consistent), schools which were only in baseline (Attrition) and schools which were only in endline (Replacement).

matching | Freq. Percent Cum.

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Attrition | 15 14.85 14.85

Replacement | 46 45.54 60.40

Consistent | 40 39.60 100.00

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Total | 101 100.00

| treatment

matching | 0 1 . | Total

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Attrition | 7 8 0 | 15

Replacement | 0 5 41 | 46

Consistent | 18 22 0 | 40

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Total | 25 35 41 | 101

* Balance checks

0: 1: p-value f~y:

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(mean) age\_b:mean 8.256 8.165 0.695

(mean) aser\_b\_e\_capital\_per:mean 96.418 98.223 0.147

(mean) aser\_b\_e\_small\_per:mean 95.533 96.667 0.451

(mean) aser\_b\_e\_words\_per:mean 73.454 83.223 0.054

(mean) aser\_b\_e\_word\_meaning\_~r:mean 66.040 73.410 0.161

(mean) aser\_b\_e\_read\_sent\_per:mean 68.968 80.747 0.091

(mean) aser\_b\_e\_sent\_flue\_per:mean 65.705 71.027 0.346

(mean) aser\_b\_e\_sent\_meaning\_~r:mean 62.110 64.289 0.725

(mean) aser\_b\_u\_read\_sent\_per:mean 69.194 72.408 0.611

(mean) aser\_b\_u\_sent\_flue\_per:mean 55.682 60.380 0.411

(mean) aser\_b\_u\_words\_per:mean 63.502 69.861 0.248

(mean) aser\_b\_u\_letters\_per:mean 64.758 74.468 0.169

(mean) aser\_b\_u\_story\_flue\_per:mean 62.914 74.704 0.002

(mean) aser\_b\_u\_comp\_per:mean 68.552 78.967 0.102

(mean) aser\_b\_m\_minus\_2digit\_~r:mean 63.324 77.148 0.115

(mean) aser\_b\_m\_minus\_3digit\_~r:mean 56.608 70.217 0.092

(mean) aser\_b\_m\_100\_200\_per:mean 84.064 80.272 0.555

(mean) aser\_b\_m\_10\_99\_per:mean 71.724 79.455 0.291

(mean) aser\_b\_m\_1\_9\_per:mean 73.013 89.228 0.097

(mean) aser\_b\_m\_division\_per:mean 46.337 57.929 0.192

(mean) aser\_b\_m\_time\_per:mean 36.882 41.338 0.592

(mean) aser\_b\_m\_word\_problem\_~r:mean 47.662 50.052 0.753

(mean) aser\_b\_m\_shape\_name\_per:mean 67.816 86.529 0.019

(mean) aser\_b\_gk\_act\_1\_per:mean 82.694 95.103 0.097

(mean) aser\_b\_gk\_act\_2\_per:mean 83.347 94.705 0.122

(mean) aser\_b\_gk\_pic\_1\_per:mean 100.000 100.000 .

(mean) aser\_b\_gk\_pic\_2\_per:mean 100.000 100.000 .

(mean) aser\_b\_gk\_pic\_3\_per:mean 100.000 100.000 .

0: 1: p-value f~y:

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(mean) age\_e:mean 8.391 8.233 0.273

(mean) aser\_e\_e\_capital\_per:mean 89.875 92.111 0.002

(mean) aser\_e\_e\_small\_per:mean 83.535 86.278 0.093

(mean) aser\_e\_e\_words\_per:mean 77.193 73.894 0.676

(mean) aser\_e\_e\_word\_meaning\_~r:mean 63.706 64.893 0.901

(mean) aser\_e\_e\_read\_sent\_per:mean 73.886 81.155 0.079

(mean) aser\_e\_e\_sent\_flue\_per:mean 70.088 73.371 0.761

(mean) aser\_e\_e\_sent\_meaning\_~r:mean 65.004 69.528 0.580

(mean) aser\_e\_u\_read\_sent\_per:mean 69.495 70.837 0.828

(mean) aser\_e\_u\_sent\_flue\_per:mean 63.008 58.924 0.730

(mean) aser\_e\_u\_words\_per:mean 63.884 63.183 0.221

(mean) aser\_e\_u\_letters\_per:mean 62.661 51.841 0.100

(mean) aser\_e\_u\_story\_flue\_per:mean 70.026 69.773 0.923

(mean) aser\_e\_u\_comp\_per:mean 72.177 74.740 0.539

(mean) aser\_e\_m\_minus\_2digit\_~r:mean 85.521 69.050 0.158

(mean) aser\_e\_m\_minus\_3digit\_~r:mean 74.707 78.615 0.833

(mean) aser\_e\_m\_100\_200\_per:mean 77.675 76.902 0.068

(mean) aser\_e\_m\_10\_99\_per:mean 62.056 80.205 0.004

(mean) aser\_e\_m\_1\_9\_per:mean 57.407 74.773 0.020

(mean) aser\_e\_m\_division\_per:mean 73.208 66.800 0.116

(mean) aser\_e\_m\_time\_per:mean 66.050 56.553 0.296

(mean) aser\_e\_m\_word\_problem\_~r:mean 56.920 49.949 0.613

(mean) aser\_e\_m\_shape\_name\_per:mean 74.708 80.124 0.073

(mean) aser\_e\_gk\_act\_1\_per:mean 98.667 95.200 0.683

(mean) aser\_e\_gk\_act\_2\_per:mean 91.815 93.484 0.487

(mean) aser\_e\_gk\_pic\_1\_per:mean 100.000 100.000 .

(mean) aser\_e\_gk\_pic\_2\_per:mean 100.000 100.000 .

(mean) aser\_e\_gk\_pic\_3\_per:mean 100.000 100.000 .

0: 1: p-value f~y:

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(mean) melqo\_b\_ev\_edible\_num\_~r:mean 31.886 34.829 0.093

(mean) melqo\_b\_ev\_animal\_num\_~r:mean 27.418 30.938 0.041

(mean) melqo\_b\_pl\_let\_identif~p:mean 71.136 67.217 0.315

(mean) melqo\_b\_pl\_let\_sound\_per:mean 41.181 46.871 0.652

(mean) melqo\_b\_listcomp\_story~e:mean 52.600 62.473 0.255

(mean) melqo\_b\_name\_writing\_per:mean 47.948 53.682 0.029

(mean) melqo\_b\_pn\_verbal\_coun~p:mean 67.712 69.543 0.348

(mean) melqo\_b\_pn\_num\_identif~p:mean 59.711 60.631 0.004

(mean) melqo\_b\_ms\_shape1\_per:mean 66.910 76.154 0.148

(mean) melqo\_b\_ms\_shape2\_per:mean 72.792 71.892 0.230

(mean) melqo\_b\_ms\_shape3\_per:mean 52.092 62.401 0.091

0: 1: p-value f~y:

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(mean) melqo\_e\_ev\_edible\_num\_~r:mean 31.527 34.219 0.647

(mean) melqo\_e\_ev\_animal\_num\_~r:mean 28.158 29.652 0.416

(mean) melqo\_e\_pl\_let\_identif~p:mean 69.931 65.343 0.551

(mean) melqo\_e\_pl\_let\_sound\_per:mean 45.033 46.326 0.972

(mean) melqo\_e\_listcomp\_story~e:mean 56.632 57.912 0.195

(mean) melqo\_e\_name\_writing\_per:mean 55.265 52.993 0.942

(mean) melqo\_e\_pn\_verbal\_coun~p:mean 67.409 67.651 0.007

(mean) melqo\_e\_pn\_num\_identif~p:mean 60.123 58.360 0.648

(mean) melqo\_e\_ms\_shape1\_per:mean 67.926 76.823 0.073

(mean) melqo\_e\_ms\_shape2\_per:mean 68.039 69.237 0.928

(mean) melqo\_e\_ms\_shape3\_per:mean 49.727 60.104 0.045

0: 1: p-value f~y:

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(mean) age\_b:mean 10.373 10.793 0.354

(mean) aser\_b\_e\_sent\_per:mean 70.669 81.892 0.065

(mean) aser\_b\_e\_sent\_meaning\_~r:mean 62.262 72.283 0.106

(mean) aser\_b\_e\_story\_flue\_per:mean 65.265 77.319 0.036

(mean) aser\_b\_e\_comp\_per:mean 70.634 79.805 0.218

(mean) aser\_b\_e\_g1\_3\_sent\_per:mean 49.201 42.417 0.574

(mean) aser\_b\_e\_g1\_3\_sen\_mean~e:mean 39.514 28.917 0.179

(mean) aser\_b\_e\_g1\_3\_words\_per:mean 27.847 47.222 0.116

(mean) aser\_b\_e\_g1\_3\_meaning\_~r:mean 23.889 35.278 0.219

(mean) aser\_b\_e\_g1\_3\_small\_per:mean 46.528 63.273 0.437

(mean) aser\_b\_e\_g1\_3\_capital\_~r:mean 35.000 41.111 0.540

(mean) aser\_b\_u\_story\_flue\_per:mean 73.225 79.304 0.303

(mean) aser\_b\_u\_comp\_per:mean 77.580 88.853 0.065

(mean) aser\_b\_u\_g1\_3\_storyflu~p:mean 53.124 54.643 0.795

(mean) aser\_b\_u\_g1\_3\_compre\_per:mean 67.626 75.000 0.483

(mean) aser\_b\_u\_grammar\_per:mean 42.779 60.975 0.081

(mean) aser\_b\_u\_word\_sent\_per:mean 71.416 81.455 0.133

(mean) aser\_b\_u\_read\_sent\_per:mean 58.008 56.616 0.879

(mean) aser\_b\_u\_g1\_3\_sen\_flue~e:mean 48.414 47.285 0.874

(mean) aser\_b\_u\_g1\_3\_read\_wor~\_:mean 63.316 67.574 0.647

(mean) aser\_b\_u\_g1\_3\_read\_let~e:mean 53.530 63.512 0.407

(mean) aser\_b\_u\_mas\_fem\_per:mean 72.942 85.431 0.082

(mean) aser\_b\_m\_minus\_4digit\_~r:mean 56.562 74.313 0.112

(mean) aser\_b\_m\_minus\_5digit\_~r:mean 68.337 81.821 0.133

(mean) aser\_b\_m\_division\_per:mean 64.768 72.280 0.477

(mean) aser\_b\_m\_g1\_3\_minus\_3d~\_:mean 61.620 64.923 0.774

(mean) aser\_b\_m\_g1\_3\_minus\_2d~\_:mean 66.761 75.508 0.462

(mean) aser\_b\_m\_5digit\_nums\_per:mean 87.349 83.702 0.471

(mean) aser\_b\_m\_3digit\_nums\_per:mean 84.571 78.266 0.543

(mean) aser\_b\_m\_2digit\_nums\_per:mean 68.333 75.556 0.539

(mean) aser\_b\_m\_1digit\_nums\_per:mean 55.000 85.000 0.143

(mean) aser\_b\_m\_decimals\_per:mean 83.490 74.623 0.142

(mean) aser\_b\_m\_time\_per:mean 53.863 67.993 0.161

(mean) aser\_b\_m\_word\_problem\_~r:mean 50.591 59.403 0.401

(mean) aser\_b\_m\_g1\_3\_wordprob~e:mean 50.596 48.737 0.867

(mean) aser\_b\_m\_complete\_pat\_~r:mean 56.776 68.579 0.253

(mean) aser\_b\_gk\_act\_1\_per:mean 71.516 88.751 0.081

(mean) aser\_b\_gk\_act\_2\_per:mean 72.364 90.675 0.069

(mean) aser\_b\_gk\_pic\_1\_per:mean 100.000 100.000 .

(mean) aser\_b\_gk\_pic\_2\_per:mean 100.000 100.000 .

(mean) aser\_b\_gk\_pic\_3\_per:mean 100.000 100.000 .

0: 1: p-value f~y:

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(mean) age\_e:mean 9.729 10.714 0.000

(mean) aser\_e\_e\_sent\_per:mean 80.051 84.213 0.108

(mean) aser\_e\_e\_sent\_meaning\_~r:mean 68.082 71.435 0.184

(mean) aser\_e\_e\_story\_flue\_per:mean 74.000 75.454 0.491

(mean) aser\_e\_e\_comp\_per:mean 81.130 78.184 0.253

(mean) aser\_e\_e\_g1\_3\_sent\_per:mean 41.782 41.713 0.971

(mean) aser\_e\_e\_g1\_3\_sen\_mean~e:mean 32.523 25.324 0.661

(mean) aser\_e\_e\_g1\_3\_words\_per:mean 50.857 40.714 0.780

(mean) aser\_e\_e\_g1\_3\_meaning\_~r:mean 29.714 24.286 0.383

(mean) aser\_e\_e\_g1\_3\_small\_per:mean 82.889 66.667 0.682

(mean) aser\_e\_u\_story\_flue\_per:mean 74.680 77.826 0.815

(mean) aser\_e\_u\_comp\_per:mean 84.030 80.595 0.383

(mean) aser\_e\_u\_g1\_3\_storyflu~p:mean 52.758 57.195 0.659

(mean) aser\_e\_u\_g1\_3\_compre\_per:mean 68.483 69.549 0.555

(mean) aser\_e\_u\_grammar\_per:mean 92.291 77.775 0.088

(mean) aser\_e\_u\_word\_sent\_per:mean 85.228 83.715 0.327

(mean) aser\_e\_u\_read\_sent\_per:mean 58.468 60.863 0.417

(mean) aser\_e\_u\_g1\_3\_sen\_flue~e:mean 49.235 53.916 0.670

(mean) aser\_e\_u\_g1\_3\_read\_wor~\_:mean 67.784 66.369 0.101

(mean) aser\_e\_u\_g1\_3\_read\_let~e:mean 77.607 58.545 0.082

(mean) aser\_e\_u\_mas\_fem\_per:mean 88.147 84.297 0.651

(mean) aser\_e\_m\_minus\_4digit\_~r:mean 83.874 77.064 0.751

(mean) aser\_e\_m\_minus\_5digit\_~r:mean 86.608 82.217 0.758

(mean) aser\_e\_m\_division\_per:mean 80.467 82.352 0.666

(mean) aser\_e\_m\_g1\_3\_minus\_3d~\_:mean 62.819 74.795 0.384

(mean) aser\_e\_m\_g1\_3\_minus\_2d~\_:mean 65.000 66.481 0.832

(mean) aser\_e\_m\_5digit\_nums\_per:mean 73.064 81.335 0.073

(mean) aser\_e\_m\_3digit\_nums\_per:mean 73.413 82.963 0.618

(mean) aser\_e\_m\_2digit\_nums\_per:mean 53.095 63.333 0.714

(mean) aser\_e\_m\_1digit\_nums\_per:mean 32.222 48.333 0.095

(mean) aser\_e\_m\_decimals\_per:mean 71.579 79.176 0.057

(mean) aser\_e\_m\_time\_per:mean 81.623 73.517 0.424

(mean) aser\_e\_m\_word\_problem\_~r:mean 75.666 75.566 0.983

(mean) aser\_e\_m\_g1\_3\_wordprob~e:mean 46.302 47.989 0.232

(mean) aser\_e\_m\_complete\_pat\_~r:mean 79.219 82.648 0.870

(mean) aser\_e\_gk\_act\_1\_per:mean 97.142 94.256 0.567

(mean) aser\_e\_gk\_act\_2\_per:mean 92.963 95.161 0.513

(mean) aser\_e\_gk\_pic\_1\_per:mean 100.000 100.000 .

(mean) aser\_e\_gk\_pic\_2\_per:mean 100.000 100.000 .

(mean) aser\_e\_gk\_pic\_3\_per:mean 100.000 100.000 .