Early Grades Reading in Uganda: Contextual Factors that Impact Reading Achievement

USAID/Uganda Literacy Achievement and Retention Activity
November 2020

Presented by:
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By the end of P4, significant positive differences in the number of local language words read correctly were found in 10 of the 12 languages. This graph shows the gains in the percent of program learners reading 20+ wpm over control for Cluster 1 (2016), Cluster 2 (2017) and Cluster 3 (2018).
By the end of Primary 4, reading achievement was higher in program schools than control schools in all 12 languages, with significant differences from control schools in 9 languages: Luganda, Ateso, Runyankore-Rukiga, Leb Acoli, Runyoro-Rutooro, Lhukonzo, Lusoga, Lugwere and Ngakarimojong.
By the end of Primary 3, reading achievement was higher in program schools than control schools in Luganda and Runyankore Rukiga, with significant differences over control schools in local language oral reading fluency and comprehension for both languages. In Runaynkore-Rukiga program schools, learners also read significantly more words per minute in English.
Systems and policies are strengthened

P1 to P4 pupil books and teacher guides

Teachers trained and supported

Support for local language literacy instruction

Rigorous assessment of foundational reading skills
Implications of SHRP/LARA Program Impacts

1. Continue What Worked
   - “Good Buy”
   - Books at a 1:1 ratio
   - Teacher training
   - Coaching & support
   - Assessment and CLA

2. Focus on Particular Languages
   - Revised Teachers’ Guides
   - Implementation Challenges

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Contextual Factors Study Research Questions

• Research Question 1: What student, teacher and school level factors are associated with higher local language and English Reading performance in Uganda?

• Research Question 2: What are the student, teacher and school level characteristics associated with gains in learning outcomes?

• Research Question 3: What are the implications of the findings for the implementation of reading programs in Uganda?
Research Questions

**Research Question 1** – what contextual factors explain student achievement?
*Using multi-variate regression analysis to explain achievement*

**Research Question 2** – what contextual factors explain student learning gains due to USAID Early Grade Reading programming?
*Using multi-variate regression analysis to explain gains*

**Research Question 3** – what are the implications of the findings for the implementation of reading programs in Uganda?
Data Sources

- SHRP 2012-2018
- NORC P&IE 2017-2019
- LARA LONGITUDINAL 2018-2019
- LARA MONITORING 2016-2019
## Data Sources for Analysis

<table>
<thead>
<tr>
<th>Data / Year</th>
<th>Type</th>
<th>Instruments*</th>
<th>Number of Schools Sampled</th>
<th>Languages</th>
<th>Data Used for Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHRP 2012-2018</td>
<td>Cohort longitudinal</td>
<td>LL EGRA, Eng EGRA, Teacher, Headteacher, Classroom Observation, SRGBV student</td>
<td>378</td>
<td>1 - 12</td>
<td>P3, P2-P3 gains</td>
</tr>
<tr>
<td>NORC P&amp;IE 2017-2019</td>
<td>Cross-sectional</td>
<td>LL EGRA, Eng EGRA, Classroom Observation, SRGBV Staff</td>
<td>264</td>
<td>1,4</td>
<td>P3</td>
</tr>
<tr>
<td>LARA LONGITUDINAL 2018</td>
<td>student longitudinal</td>
<td>LL EGRA, Eng EGRA, Headteacher, Classroom Observation</td>
<td>98</td>
<td>1</td>
<td>P3, P2-P3</td>
</tr>
<tr>
<td>LARA MONITORING 2016</td>
<td>cohort longitudinal + cross-section</td>
<td>LL EGRA, Eng EGRA, Classroom Observation, SRGBV Staff</td>
<td>63</td>
<td>1,4,8</td>
<td>P2</td>
</tr>
</tbody>
</table>

Note:
- not all instruments used at every timepoint
- not all grades & languages assessed each year

### Languages

<table>
<thead>
<tr>
<th>LANGUAGES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Luganda</td>
<td>7 Lumaasaaba</td>
</tr>
<tr>
<td>2 Leblango</td>
<td>8 Runyoro-Rutooro</td>
</tr>
<tr>
<td>3 Ateso</td>
<td>9 Lugwere</td>
</tr>
<tr>
<td>4 Runyankore/Rukiga</td>
<td>10 Ngakarimojong</td>
</tr>
<tr>
<td>5 LebAcoli</td>
<td>11 Lhukonzo</td>
</tr>
<tr>
<td>6 Lugbarati</td>
<td>12 Lusoga</td>
</tr>
</tbody>
</table>
Contextual Factor Selection

1. Is there existing evidence that this contextual factor has causal impact on reading outcomes?
   - Yes - medium to high impact on reading scores
   - Yes - low to no impact on reading scores
   - No - insufficient evidence

2. Can this contextual factor be mediated by an intervention program?
   - No
   - Drop factor
   - With broader research team, determine inclusion of factors on a case by case basis

3. Is there sufficient existing data to test this factor with confidence?
   - Include factor variables in analysis
   - Recommend factors for future research
The starting line: Baseline Learning Outcomes to Contextualize Research

But even 100% zeros scores does not adequately reflect the low starting situation.

At the beginning of P1 not one learner could read a single word.

LARA Monitoring, 2016
Contextualizing the Research: Low Baseline learning Outcomes

as half of these learners have no familiarity with print.

LARA Monitoring, 2016
Non-readers falling further behind……..

Average Reading Fluency Gain (cwpm)
P2 to P3 by Reading Proficiency

Proficiency, P2

- Non-reader: 7.1
- Beginner: 15.8
- Emergent: 12.7
- Fluent: 8.5

LARA Longitudinal Data (2018, 2019)
Implications of being in a poor performing classroom
Comparing ORF P2 to P3 by classroom composition

Non-readers in a low performing classroom (with more than 40% non-readers) gain literacy skills at a slower rate than non-readers in a higher performing classroom.

Source: LARA Longitudinal

Average gain in words read

<table>
<thead>
<tr>
<th>Classroom Composition</th>
<th>Average Gain in Words Read</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low performing Classroom</td>
<td>5.8</td>
</tr>
<tr>
<td>Higher performing Classroom</td>
<td>8.5</td>
</tr>
</tbody>
</table>

difference 2.9 words (p=0.03), Effect Size = 0.30
Implications of baseline skill levels

1. Know where learners are starting in terms of pre-reading skills and abilities
   - Rapid reading assessment

2. Adjust teaching to meet learners where they are
   - SHRP / LARA program helps children catch up

3. Starting levels also determine how quickly learners progress to next levels
   - Focus on equity
P3 SHRP, by Language Group

Pearson’s correlation $r=0.58$ ($p<0.001$)

Percentage of Learners Wear Shoes, P3

Average Local Language Reading Fluency
Implications of Demographics

1. Socioeconomic Status Matters

Consider larger socioeconomic factors when comparing reading outcomes
Presentation Structure

Schools, Classroom and System (Section 1)

Teacher Characteristics and Instructional Practices (Section 2)

Learners and home environment (Section 3)

Step 1: What does the literature say is important?
Step 2: What do our findings from Uganda say?
Step 3: What are the implications?
Evidence in the Literature
Schools, Classroom, System

- What matters? Existing research points to...

  Class size
  Safety, relationships
  School leadership, management
  Ongoing teacher support
  Books in learners’ hands
  Supportive School management committee

Time on Task
Teacher and head teacher training
Teacher & student attendance
Disparity between highest and lowest performers
Language
### Evidence from the Uganda Analysis

**Schools, Classroom, System**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time on Task</td>
<td>✓</td>
</tr>
<tr>
<td>Teacher and headteacher training ✓</td>
<td></td>
</tr>
<tr>
<td>Teacher &amp; student attendance</td>
<td></td>
</tr>
<tr>
<td>Disparity between highest and lowest performers</td>
<td>✓</td>
</tr>
<tr>
<td>Language</td>
<td></td>
</tr>
<tr>
<td>Class size ✓</td>
<td></td>
</tr>
<tr>
<td>Safety, relationships ✓</td>
<td></td>
</tr>
<tr>
<td>School leadership, management ✓</td>
<td></td>
</tr>
<tr>
<td>Ongoing teacher support ✓</td>
<td></td>
</tr>
<tr>
<td>Books in learners’ hands ✓</td>
<td></td>
</tr>
<tr>
<td>Supportive School Management ✓</td>
<td></td>
</tr>
<tr>
<td>Committee</td>
<td></td>
</tr>
</tbody>
</table>
### Evidence from the analysis: Interpreting Findings

**Impact measure:** ADDITIONAL WORDS READ PER MINUTE, ACHIEVEMENT

<table>
<thead>
<tr>
<th>PRACTICE</th>
<th>STATISTICAL SIGNIFICANCE</th>
<th>EFFECT SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOST &gt;60%</td>
<td>⚫⚫⚫⚫ p&lt;0.001</td>
<td>✔️ ✔️ 0.5</td>
</tr>
<tr>
<td>SOME 30–59%</td>
<td>⚫⚫⚫ p&lt;0.01</td>
<td>✔️ 0.20 to 0.49</td>
</tr>
<tr>
<td>FEW &lt;30%</td>
<td>⚫ p&lt;0.05</td>
<td>Less than 0.20</td>
</tr>
</tbody>
</table>

**READING GAINS**
School leadership and management

ADDITIONAL WORDS READ PER MINUTE

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<tr>
<th>PRACTICE</th>
<th>STATISTICAL SIGNIFICANCE</th>
<th>EFFECT SIZE</th>
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<tbody>
<tr>
<td>FEW</td>
<td>p&lt;0.05</td>
<td>&lt;.20</td>
</tr>
<tr>
<td>SOME</td>
<td>p&lt;0.01</td>
<td>0.20 to 0.49</td>
</tr>
<tr>
<td>MOST</td>
<td>p&lt;0.001</td>
<td>&gt;0.5</td>
</tr>
</tbody>
</table>

Reading gains:

- **Local Language**
  - Head teacher training: 4.4
  - Teacher training: 8.0

- **English**
  - Head teacher training: 3.2
  - Teacher training: 6.8
School leadership and management

**ADDITIONAL WORDS READ PER MINUTE**

- **Local Language**
  - School administrator observes teachers: 1.9
  - Evidence of regular lesson planning: 2.5, 3.6*
  - Up to date attendance records: 1.3

- **English**
  - Lesson plans reviewed every week: 9.1

**Source:** SHRP, Grade 3, achievement Grade 2/3
Ongoing teacher support

Coordinating Centre Tutor observes class once a term or more

Local Language

English

**ADDITIONAL WORDS READ PER MINUTE**

Source: LARA Monitoring, Grade 2
Books in the hands of learners

Source:
Percent of students LARA NORC, Grade 3
At least half: SHRP, Grade 2/3
Supportive School Management Committee

SMC supports activities

- Local Language: 2.4
- English: 2.3
- SMC meets at least every 2 months

Source: LARA monitoring, SHRP
Should we reduce class size?

(Findings from enrollment data results)

Source: SHRP
Consistent with Existing Evidence
Training teachers, on-going support
Books –how to use them is the key skill

Provides New Evidence
Head teachers,
School leadership and management

Divergent with Existing Evidence
SMC/ engagement – how SMCs are engaged determines impact
Implications

Schools/Systems

Importance of:

1. Training teachers and providing teacher support
   - Connect training to specific instructional routines
   - Training methods (modeling & practice)
   - Train CCTs, head teachers and Deputy HTs on coaching skills

2. Books and teachers’ guides
   - Teachers’ guides revisions
   - Provide or replenish pupil books and teacher guides
Implications

Schools/Systems Importance of:

3. Accountability
   Create accountability measures for high leverage behaviors (observations, support)

4. School Management Committee Support
   Train and support SMCs to support specific reading related activities.

5. Class Size
   Reducing class size is very costly with minimal impact
Evidence from the Literature

Teachers

• What matters? Existing research points to...

Explicit Reading Instruction
• Phonics instruction
• Fluency & Vocabulary
• Adherence to teacher guide
• Group learning
• Student Practice
• Questioning
• Discussion/Dialogic Teaching

Assessment

Student teacher relationships
Planning, organization
Peer support

Teachers background
(sex, experience, language)
Evidence from the analysis

Teachers

Explicit Reading Instruction
- Phonics instruction
- **Fluency & Vocabulary** ✓
- Adherence to teacher guide
- **Group learning** ✓
- **Student Practice** ✓
- **Questioning** ✓
- **Discussion/Dialogic Teaching** ✓

**Student teacher relationships** ✓

Planning, organization ✓

Peer support

Teachers background
(sex, experience, **language**) ✓

Assessment ✓
**Teacher Background**

**Teacher is female**

**Teacher’s Mother Tongue Same as Language of Instruction**

**Teaching Experience (additional year)**

**Local Language**

- 2.4

**English**

- 2.4

**Source:**
- Sex (SHRP)
- MT/LOI (LARA NORC and Monitoring)
- Experience (LARA monitoring)

**Statistical Significance**

- Most (p<0.001)
- Some (p<0.01)
- Few (p<0.05)
- Few (p<0.05)

**Effect Size**

- >0.5
- 0.20 to 0.49
- <0.20

**Reading Gains**

- MOST
- SOME
- FEW
Teacher Instructional Practices and the Impact on Fluency

- High Impact, Most Teachers Doing
  - Teacher asks learners to individually answer a question
  - High Impact, Few Teachers Doing
  - At least half the learners have books
  - Learners' work is displayed on the walls
  - Most of the wall displays are in local language
  - Reading rich classroom environment

Size of bubble relative to effect size
Teacher Instructional Practices and the Impact on Fluency

- **Books/Print Environment**
  - Regular lesson planning
  - Learners work is displayed on the walls
  - Most of the wall displays in the local language
  - Print rich classroom environment

- **Planning**
  - Evaluates through routine written tests
  - Evaluates using end of term tests

- **Friendly practices**
  - Teacher marks exercise books
  - Whole class reads aloud
  - Learners practice reading individually, in pairs or groups
  - Teachers uses guide
  - Learners work

- **Assessment**
  - Teacher believes learners read best through repeating text
  - Teacher asks learner to individually answer a question

- **Other Explicit Instruction**
  - Teacher introduces new words after learners know how to read familiar words
  - Teacher praises students
  - Treats boys and girls equally
  - Teacher engages in discussion
  - Engages in discussion

Size of bubble proportional to effect size.
Implications

Linking to the Literature

Consistent with Existing Evidence
- Explicit instructional practices
- Assessment
- Teacher Background
- Print rich classrooms

Provides New Evidence
- Use of textbooks
- Lesson Planning
- Adherence to Teachers’ Guides

Divergent with Existing Evidence
- Work on the classroom walls
Implications Teachers/Instructional practices

1. Instruction matters
   - Specific instructional practices modeled and practiced
   - Encourage use of the teachers’ guide daily

2. Print rich classrooms
   - Use books every day at 1:1 ratio
   - Support teachers to use story books
   - Encourage active classrooms
Evidence from the Literature

Learner and Home

- What matters? Existing research points to...

<table>
<thead>
<tr>
<th>Age</th>
<th>Disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Primary</td>
<td>Reading at home</td>
</tr>
<tr>
<td>Repetition</td>
<td>Exposure to violence</td>
</tr>
<tr>
<td>Transition/exposure to L2</td>
<td>SES</td>
</tr>
</tbody>
</table>
Evidence from the Literature
Learner and Home

- What matters? Existing research points to...

<table>
<thead>
<tr>
<th>Factor</th>
<th>Indicator</th>
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</thead>
<tbody>
<tr>
<td>Age</td>
<td>✓</td>
</tr>
<tr>
<td>Pre-Primary</td>
<td></td>
</tr>
<tr>
<td>Repetition</td>
<td>✓</td>
</tr>
<tr>
<td>Transition/exposure to L2</td>
<td></td>
</tr>
</tbody>
</table>

Disability
Reading at home ✓
Exposure to violence
SES ✓
Learner and Home

Learner is repeater
-0.8

Learner is over-age
-1.9

Learner is wearing shoes
1.5

Learner is female
6.6

See someone reading in your home
0.7

Local Language

English

READING GAINS

PRACTICE
-0.8
-1.4

STATISTICAL SIGNIFICANCE

-1.9
-3.7

EFFECT SIZE

-0.8
-1.4

>0.5
0.20 to 0.49
<.20

Local Language

English

Source: SHRP, LARA Monitoring
Implications  Learner and Home

Linking to the Literature

Consistent with Existing Evidence  SES, Reading at Home

Provides New Evidence  Age, Repetition
Implications Learner and Home

1. Unchangeable factors
   - SES, gender
   - Be aware but don’t invest much

2. Importance of home support
   - Very small effect of reading at home

3. Pre-primary and repetition policies
   - Support policy changes on pre-primary access and repetition
Summary of Findings

Very low level of reading ability at the beginning of P1

SHRP/LARA inputs help – training, use of materials, ongoing support, 1:1 books and materials
Summary of Findings, continued

Key school level practices matter – coaching, reviewing lesson plans, supporting teachers

SES and gender matter

Utilizing the SHRP/LARA materials works

Reinforce key instructional behaviors

Children should start at the right age and progress without repetition
Learning Loss Modeling Results (Luganda)

Mean ORF (cwpm)

- NonCOVID Trajectory
- COVID Linear Trajectory
- COVID Compound Trajectory

Start P2

Interruption to P2

Estimated Linear Learning Loss

Estimated Compounded Learning Loss

End P1

End P2

<table>
<thead>
<tr>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
</tr>
</thead>
</table>

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Learning Loss Distribution Results (Luganda)

ORF (cwpm)

- End Gr 2
- End Gr 3
- Gr 3 in Mar 2020
- Predicted Restart Gr 3

Graph showing the distribution of learning loss for different grade levels and predictions.
Recommendations

Use the SHRP/LARA program daily – “Good Buy”

Focus on key instructional practices

Provide ongoing teacher support through coaching

Coaching should focus on observable behaviors

Support classroom environments

Encourage positive school behaviors – teacher support, SMC, links to home, accountability
— Recommendations Part 2

Increase learning materials in the classroom

Change policy of pre-primary access & repetition

Class size matters, but the investment isn’t cost-effective

Invest in teacher training that works

Provide modest support to reading at home efforts

Consider catch-up program development/implementation
Questions?
Parking lot
Factors Not Included in the Models

Difficult to mediate by program
- SES
- Parent literacy
- Geography
- Gender
- Nutrition
- Refugee Status
- Distance from school
- Salary
- Funding

Recommend for qualitative/mixed methods
- Parent attitudes
- Remediation & Differentiation
- Teacher Self-Efficacy & Resistance
- Technology use
- Student engagement
- Shared definition of “quality”

Evidence suggests low or no impact
- Caregiver – child gender match
- Teacher certification
- Tutor/coach qualifications
Findings Tables
<table>
<thead>
<tr>
<th>Factor</th>
<th>Data</th>
<th>Percentage “Yes”</th>
<th>Impact on Local Language Reading Fluency</th>
<th>Impact on English Reading Fluency</th>
<th>Predictor of</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Leadership and Management</td>
<td>LARA NORC</td>
<td>56.30%</td>
<td>+4.36***</td>
<td>+3.16*</td>
<td>achievement</td>
</tr>
<tr>
<td>Teacher trained to teach LARA in 2019 TRAINING</td>
<td>LARA NORC</td>
<td>15.30%</td>
<td>+7.98***</td>
<td>+6.8***</td>
<td>achievement</td>
</tr>
<tr>
<td>Are you ever observed by a school administrator?</td>
<td>SHRP</td>
<td>95.60%</td>
<td>1.94*</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>How often are lesson plans reviewed? (ref. Never)</td>
<td>SHRP</td>
<td>Every week 53.9%</td>
<td>Every week 9.05*</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Is there evidence of regular lesson planning</td>
<td>SHRP</td>
<td>53.30%</td>
<td>2.54**</td>
<td>3.63*</td>
<td>achievement</td>
</tr>
<tr>
<td>Attendance records taken last week</td>
<td>SHRP</td>
<td>84.40%</td>
<td>1.27***</td>
<td></td>
<td>gain</td>
</tr>
<tr>
<td>CCT observes class once a term or more frequently</td>
<td>LARA Monitoring</td>
<td>33%</td>
<td>2.37*</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Books in the hands of Learners</td>
<td>LARA NORC</td>
<td>52.60%</td>
<td>+2.71*</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>At least half the learners have books (ref. none to less than half)</td>
<td>SHRP</td>
<td>57.20%</td>
<td>4.31*</td>
<td></td>
<td>learning gain</td>
</tr>
<tr>
<td>School Community Support</td>
<td>LARA Monitoring</td>
<td>65%</td>
<td>2.32</td>
<td></td>
<td>learning gains</td>
</tr>
<tr>
<td>Does SMC support activities that promote reading?</td>
<td>SHRP</td>
<td>70.70%</td>
<td>2.3*</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Does SMC support activities that promote reading?</td>
<td>SHRP</td>
<td>70.70%</td>
<td>1.43*</td>
<td></td>
<td>learning gains</td>
</tr>
<tr>
<td>How often SMC meet (2 months or more freq. versus once/year or never)</td>
<td>SHRP</td>
<td>91.90%</td>
<td>1.94*</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Enrollment</td>
<td>SHRP</td>
<td>Mean 94.2, range 1-233</td>
<td>-0.06***</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Factor</td>
<td>Data</td>
<td>Percentage “Yes”</td>
<td>Impact on Local Language Reading Fluency</td>
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<td>------------------------------------------------------------------------</td>
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<td>--------------</td>
</tr>
<tr>
<td>Teacher praises students IP friendly classroom</td>
<td>SHRP</td>
<td>87.30%</td>
<td>2.67*</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Teacher uses textbook</td>
<td>SHRP</td>
<td>62.80%</td>
<td>2.53**</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Is there evidence of regular lesson planning</td>
<td>SHRP</td>
<td>53.30%</td>
<td>2.54**</td>
<td>3.63*</td>
<td>achievement</td>
</tr>
<tr>
<td>Student question: “Teachers treat girls and boys equally”</td>
<td>LARA Longitudinal</td>
<td>89.00%</td>
<td>3.7*</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>T: “I only introduce new words after pupils know how to read familiar words”</td>
<td>LARA NORC</td>
<td>82.10%</td>
<td>+2.03*</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>T: “Learners learn to read best through repeating text”</td>
<td>LARA NORC</td>
<td>97.00%</td>
<td>+5.62*</td>
<td>+10.2***</td>
<td>achievement</td>
</tr>
<tr>
<td>Teacher reads aloud to the class</td>
<td>LARA NORC</td>
<td>40.70%</td>
<td></td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Teacher asks learners to individually answer a question or to do a task.</td>
<td>LARA NORC</td>
<td>94.50%</td>
<td>+6.72**</td>
<td>13.2***</td>
<td>achievement</td>
</tr>
<tr>
<td>Students practice their reading individually, in pairs, or in groups</td>
<td>LARA NORC</td>
<td>19.30%</td>
<td>+3.27**</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Engage in discussion about theme or sub-theme</td>
<td>LARA NORC</td>
<td>66.20%</td>
<td>+3.12*</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>The LARA P3 Teacher Guide is used in the lesson</td>
<td>LARA NORC</td>
<td>32.80%</td>
<td></td>
<td>3.81 (p=0.05)</td>
<td>achievement</td>
</tr>
<tr>
<td>“Fairly” or “Very” ‘reading rich’ classroom environment</td>
<td>LARA NORC</td>
<td>33.50%</td>
<td>+7.55***</td>
<td>+9.27***</td>
<td>achievement</td>
</tr>
<tr>
<td>Most of the wall displays are in LL</td>
<td>LARA NORC</td>
<td>15.80%</td>
<td>+6.53***</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Learner’s work is displayed on walls</td>
<td>LARA NORC</td>
<td>13.00%</td>
<td></td>
<td>4.81*</td>
<td>achievement</td>
</tr>
<tr>
<td>At least half the learners have books (ref. none to less than half)</td>
<td>SHRP</td>
<td>57.20%</td>
<td>4.31*</td>
<td></td>
<td>learning gain</td>
</tr>
<tr>
<td>Teacher uses wall posters/charts</td>
<td>SHRP</td>
<td>24.70%</td>
<td>2.10*</td>
<td></td>
<td>learning gain</td>
</tr>
<tr>
<td>Has the teacher marked the exercise books in the last week?</td>
<td>SHRP</td>
<td>59.70%</td>
<td></td>
<td>3.64*</td>
<td>achievement</td>
</tr>
<tr>
<td>Teacher: I Evaluate students using routine written tests</td>
<td>LARA NORC</td>
<td>54.20%</td>
<td>+2.30**</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Teacher: I evaluate students through routine written tests</td>
<td>LARA NORC</td>
<td>54.20%</td>
<td>+2.32*</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Teacher: I evaluate students through end of term evaluations</td>
<td>LARA NORC</td>
<td>20.40%</td>
<td></td>
<td>+4.15**</td>
<td>achievement</td>
</tr>
<tr>
<td>Whole class reads aloud</td>
<td>LARA NORC</td>
<td>44.30%</td>
<td>+3.60**</td>
<td></td>
<td>achievement</td>
</tr>
</tbody>
</table>
### Teacher Classroom and Instructional Practices, continued

<table>
<thead>
<tr>
<th>Factor</th>
<th>Data</th>
<th>Percentage “Yes”</th>
<th>Impact on Local Language Reading Fluency</th>
<th>Impact on English Reading Fluency</th>
<th>Predictor of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher: I evaluate students through homework</td>
<td>LARA NORC</td>
<td>34.00%</td>
<td>-1.55*</td>
<td>-3.05*</td>
<td>achievement</td>
</tr>
<tr>
<td>Teacher: I evaluate students through end of year evaluations</td>
<td>LARA NORC</td>
<td>2.20%</td>
<td></td>
<td>-8.21***</td>
<td>achievement</td>
</tr>
<tr>
<td>Teacher guides learners to read printed material</td>
<td>SHRP</td>
<td>60.90%</td>
<td>-3.87*</td>
<td></td>
<td>learning gain</td>
</tr>
<tr>
<td>Has the teacher taught as indicated in the lesson plan (LL class)</td>
<td>SHRP</td>
<td>77.80%</td>
<td>-3.73*</td>
<td></td>
<td>achievement</td>
</tr>
</tbody>
</table>

### Teacher Characteristics

<table>
<thead>
<tr>
<th>Factor</th>
<th>Data</th>
<th>Percentage “Yes”</th>
<th>Impact on Local Language Reading Fluency</th>
<th>Impact on English Reading Fluency</th>
<th>Predictor of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the teacher Female? sex</td>
<td>SHRP</td>
<td>57.00%</td>
<td>0.91 (p=0.138)</td>
<td>2.41*</td>
<td>achievement</td>
</tr>
<tr>
<td>Teacher is female sex</td>
<td>SHRP</td>
<td>57.00%</td>
<td>0.64 (p=0.06)</td>
<td>1.92**</td>
<td>learning gain</td>
</tr>
<tr>
<td>Is LOI = teacher MT? LANGUAGE</td>
<td>LARA Monitoring</td>
<td>98%</td>
<td>2.41*</td>
<td></td>
<td>learning gain</td>
</tr>
</tbody>
</table>

### Student and Home Characteristics

<table>
<thead>
<tr>
<th>Factor</th>
<th>Data</th>
<th>Percentage “Yes”</th>
<th>Impact on Local Language Reading Fluency</th>
<th>Impact on English Reading Fluency</th>
<th>Predictor of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeater</td>
<td>SHRP</td>
<td>10.70%</td>
<td>-0.78**</td>
<td>-1.41**</td>
<td>achievement</td>
</tr>
<tr>
<td>Student is “over-age” for grade AGE</td>
<td>SHRP</td>
<td>84.60%</td>
<td>-1.91***</td>
<td>-3.68***</td>
<td>achievement</td>
</tr>
<tr>
<td>Student is wearing shoes SES</td>
<td>SHRP</td>
<td>29.60%</td>
<td>1.53***</td>
<td>3.31***</td>
<td>achievement</td>
</tr>
<tr>
<td>Someone at home reads (newspapers, religious texts, books) home support</td>
<td>SHRP</td>
<td>67.20%</td>
<td>0.65**</td>
<td>1.14***</td>
<td>achievement</td>
</tr>
<tr>
<td>Female Learner sex</td>
<td>LARA Longitudinal</td>
<td>50%</td>
<td>+6.6 ***</td>
<td></td>
<td>achievement</td>
</tr>
<tr>
<td>Female Learner sex</td>
<td>LARA Longitudinal</td>
<td>50%</td>
<td>+3.7***</td>
<td></td>
<td>learning gain</td>
</tr>
</tbody>
</table>