What Works in Education
A Decade of Learning: Experience and Evidence in Education Informing Policy and Practice

Global Evidence and Local Context

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Good Buys
There is good evidence that the interventions in this category can be highly cost-effective across a variety of contexts.

Promising but Low Evidence in LMICs
For these interventions, the evidence is limited, but the available findings suggest that these approaches can be highly cost-effective. More testing to develop scalable models is recommended.
From Global Evidence to Local Context

A Case Study of Targeted Instruction in Pakistan (KP and ICT)

“Smart Buys” is only the beginning of the discussion in a country.

It is not a canned, top-down, donor-driven prescription.
What did we learn from Smart Buys about improving student learning?

1. ADJUST INSTRUCTION
   Target teaching instruction by learning level, not grade (in or out of school)

2. SUPPORT TEACHERS
   Structured lesson plans with linked materials and ongoing teacher monitoring and training

3. LEVERAGE EXISTING TECHNOLOGY
   Using software that adapts to the learning level of the child (where hardware is already in schools)
To address learning loss, it must **first** be MEASURED!

- Smart Buys Report: *Learning loss is rarely being measured systematically in low and middle income countries.*
- A learning crisis existed in Pakistan before COVID: ASER, LEAPS and others
- COVID induced school closures (Mar 2020-Nov 2021): Children in Pakistan only attended school for 60 out of the standard 250 school days in 2020
- **Did COVID-19 school closures exacerbate existing learning crisis in Pakistan?**
  - May 2022: Tested 200,000 students (1-5) in 1250 public schools across two districts in the KP, Pakistan
  - September 2022: Tested 70,000 students (1-5) in 560 public schools in ICT
- Based on English, Urdu and Math foundational Student Learning Objectives (SLOs) from the national curriculum
Despite being back in school since 2021, majority students need remediation across grades and subjects.
In Math, at end of Class 3:
- 14% are one-grade level behind
- 74% are 2 or more grade levels behind

In English, at the end of Class 5:
- 17% students have not mastered KG or Class 1 level content
- 43% have not mastered Class 2 content
TIP Intervention: 40 days of *targeting* and *tracking* students

1. **Diagnose Learning**
   - Map learning gaps with low-stakes student assessment

2. **Sort Students**
   - Sort students across or within classrooms into subject-wise learning groups for part of the day

3. **Track Learning**
   - Quizzes to determine if students have mastered the content

4. **Target Instruction**
   - 40 activity-based lessons to tailor instruction to student learning levels with **innovative pedagogy**

*iterative process*
TIP Intervention: Teacher Support Mechanism

**PRE-LAUNCH SUPPORT**

- **Training of Trainers**
  - Trainers from within the system to train teachers

- **Training of Teachers**
  - Training in program administration and tools through blended training

**ONGOING SUPPORT**

- **Technology tool**
  - App run on teacher's personal smartphones and tablets

- **Mentorship**
  - Mentor support through in-person activities and WhatsApp groups
TIP Tech Tool: MIS, LMS and Fast Grading Tool

Home screen

Grading

Sorting

Analytics

Training

Welcome to TIP

What would you like to do today?

View Class/Groups

Starting Test

Lesson Plans

Quizzes

Training Materials

Results

Guest
Orange | Maths

Place Value and Number Comparison

Select students to make peer groups

Make Peer Groups

Students

Marks Obtained

Absent

Mohammad

3/10

Shahzad

2/10

Muhammad

7/10

Mishal

9/10

Faiz

8/10

Adil

A

Progress

Improving

Improving

Working

Mastered

Reset Peer Groups

Group 1

Shahzad

3/10

Muhammad

2/10

Faiz

7/10

Mishal

9/10

Reset Peer Groups

Group 2

Shahzad

3/10

Muhammad

2/10

Faiz

7/10

Mishal

9/10

Reset Peer Groups

Reset Peer Groups

Reset Peer Groups

Reset Peer Groups

Addition

Subtraction

Division

Addition

Addition

Addition
## TIP Implementation: A large-scale RCT-embedded pilot

A foundational learning program, with embedded RCTs, to support existing teachers in helping primary students (grades 1-5)

<table>
<thead>
<tr>
<th></th>
<th>Study 1</th>
<th>Study 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>2 districts in KP</td>
<td>ICT</td>
</tr>
<tr>
<td><strong>Schools</strong></td>
<td>1250 public primary schools</td>
<td>560 public primary schools</td>
</tr>
<tr>
<td><strong>Teachers</strong></td>
<td>~7000 teachers and head teachers</td>
<td>2500 teachers and head teachers</td>
</tr>
<tr>
<td><strong>Students</strong></td>
<td>~250,000 from classes 1-5</td>
<td>~90,000 from classes 1-5</td>
</tr>
<tr>
<td><strong>Household actors</strong></td>
<td>NA</td>
<td>10,000</td>
</tr>
</tbody>
</table>
Students need TIP! However, implementation is only successful if the system **OWNS** and **SUPPORTS** this paradigm.

→ **System-level ownership and support**
  - High-level government priorities of COVID-19 recovery strategy
  - Aligning with the complex, multi-tiered public education ecosystem

→ **Teacher-level ownership and support**
  - Teachers’ beliefs towards pedagogical innovation
  - Teachers’ constraints in adopting TIP
COVID created a sense of urgency to address the learning crisis
System-level alignment: Co-designing and implementing TIP with key actors

Leverage existing resources and knowledge

→ Autonomous federal and provincial education directorates
  • Approval of Targeted Instruction curriculum (FDE, DCTE)
  • Teacher training design and master trainer recruitment (DPD, FDE)
  • TIP program design and implementation (DE&SE, FDE)

→ District education authorities: ASDEOs as critical nodes between system and schools

→ Teachers as decisive players in TIP
Aligning TIP with teachers’ beliefs

The good news is that teachers thinking is aligned with the program. The need for change is recognized, so not much work is needed on changing teachers’ beliefs in innovation’s effectiveness.

- **85%** Teachers believe students are currently far behind the curriculum and need help catching up.
- **94%** Teachers agree that it is important to experiment with new teaching methods.
- **33%** Teachers believe that they should stick to the pace of the standard curriculum.
- **16%** Teachers believe that they should promote students even if they have not mastered the material.

Source: TIP Teacher Baseline Survey (2022), 6000+ teachers
Addressing *teachers’ constraints* in TIP adoption

**Extra burden: targeting instruction based on repeated testing**

→ **Solution 1**: TIP part of regular timetable, suspension of regular classes for 40 days  
→ **Solution 2**: Tech Tool supports teachers through automatic grading and LMS of materials

**Need pedagogical support to teach to student learning levels**

→ **Solution 1**: Simplified, FLN-focused curriculum based on SLOs from national curriculum  
→ **Solution 2**: Readily available materials through Tech Tool and in paper form

**Regulatory oversight**

→ **Solution 1**: Official policy change through notifications to circle ASDEOs to “not monitor on syllabus completion”  
→ **Solution 2**: Relationship building with ASDEOs to reinforce change in practice  
→ **Solution 3**: Changed external Grade 5 final exam; based on 50% of regular syllabus for sample districts
Alleviating teachers’ constraints in TIP adoption

TIP is designed as a scalable and sustainable solution for budget-constrained settings. 
➔ A low-cost technology software, built using WhatsApp UI/UX interface, that can be used offline once downloaded on existing smart devices.
➔ Smartphones as the instrument of choice, given its high prevalence and comfort among teachers as a personal digital device.

Source: TIP Teacher Baseline Survey (2022)
Annexure
TIP Team

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Collaborating Partners

Clients and Implementing Partners

Researchers

International Partners
System-level alignment within the KP education ecosystem

PK Administration Services

Chief Minister

Chief Secretary

Home Department

Special Secretary

Elementary & Secondary Education Department

Secretary of Education

Deputy Commissioner

Divisional Commissioner

Home Secretary

Special Secretary

Add. Sec. Development, Deputy Sec., Team

Add. Sec. Education, Reforms, Deputy Sec., Team

Add. Sec. Establishment, Deputy Sec., Team

Add. Sec. Planning & Budget, Deputy Sec., Team

Additional Secretaries, Deputy Secretaries, Team

Other Additional Secretaries, Deputy Secretaries, Teams

Pakistan Administrative Services

Additional Secretary, Security, Deputy Secretary, Team

International Partners

Delivery & Regulation

Chief Minister

Chief Secretary

Home Department

Special Secretary

Elementary & Secondary Education Department

Secretary of Education

DEO

DEO (F)

DEO (M)

DDEO

DDEO

ADEOs

ADEOs

SDEO

SDEO

ASDEO

ASDEO

Primary schools

Primary schools

Parent Teacher Councils

Parent Teacher Councils

Headteachers, Teachers, Students

Headteachers, Teachers, Students

DPD Director

Independent Monitoring Unit

Director General

Team of ADDs, DDs, others

Team of ADDs, DDs, others

District Monitoring Officers

Data Collection & Monitoring Assistants
Teacher Support

Q1: What support is offered to teachers for TIP administration?
Q2: Do teachers receive any materials to implement the program? How are these related or unrelated to the regular materials used by school teachers?
Q3: Can you elaborate upon the TIP training model? How are teachers trained in the program? Through whom? And how were existing resources leveraged?
Q4: Is there any ongoing coaching/mentoring provided to teachers during TIP administration?
# TIP Intervention: Teacher Support Toolkit

<table>
<thead>
<tr>
<th>Component</th>
<th>Assessments</th>
<th>Teaching Learning Materials</th>
<th>TIP Tech Tool</th>
<th>Training Materials</th>
</tr>
</thead>
</table>
| Sub-Components | • Diagnostic Test  
• Quizzes  
• Summative Test | • Workbooks  
• Lesson Plans  
• TLMs  
• Teaching Manual | • Fast grading tool  
• Library of tools  
• Head Teacher dashboard  
• Training module | • Training manual  
• MOOC training course |

**How it supports teachers?**

- **Assessments**
  - Identify student learning gaps and track student progress.

- **Teaching Learning Materials**
  - Tailor instruction to learning groups for each of the three subjects.

- **TIP Tech Tool**
  - Combine all components for access on existing devices.
  - Automates TIP to reduce additional burden on teachers.

- **Training Materials**
  - Prepare teachers and head teachers in TIP implementation through blended training.
Use of existing technology

Q1: Is the tech tool directly used by students or teachers?
Q2: How is the tech tool designed for low-income settings where internet access may be limited?
Alleviating teachers’ constraints in TIP adoption

TIP is designed as a scalable and sustainable solution for budget-constrained settings.

➔ A low-cost technology software, built using WhatsApp UI/UX interface, that can be used offline once downloaded on existing smart devices.

➔ Smartphones as the instrument of choice, given its high prevalence and comfort among teachers as a personal digital device.

Source: TIP Teacher Baseline Survey (2022)
Scalability and Sustainability

Q1: In a scaleup version of the program, who will replace the dedicated team of mentors? How are these mentors comparable to existing resources in the system?

Q2: What stage is the program at? When will the studies conclude?

Q3: What are future scalability and sustainability plans?
Current Status of TIP

➔ **February 2023:** Completed 40 days of TIP classes in 1800+ public schools in KP and ICT

➔ **March-April 2023:** Endline summative student testing underway in KP and ICT

➔ **June 2023:** First look at impact evaluation results

➔ **Ongoing:** Discussions with Federal and KP education departments on:
  - Permanent integration/sustainability of TIP in the education reform agenda
  - Cost-effective version of TIP for scaleup across Pakistan
Assorted Questions

Q1: Can you explain more how the tests were developed?
Q2: How are parents involved in foundational learning of students?
Q3: Are you also conducting any classroom observations as part of the program to gauge the quality of teacher lesson delivery?