Build Back Stronger: Post-Pandemic Learning Recovery

November 2022

The Impacts of The Pandemic on Education in Indonesia

There are 68 million children in Indonesia attending primary and secondary schools, yet many of them have not mastered basic literacy and numeracy skills. Without further intervention, these children will be even more left behind, especially after the pandemic and school closures. The good news is that this study has found that school principals can play a key role in motivating teachers to continue teaching and helping improve students' learning participation during the pandemic. In addition, by tailoring teaching practices to students' competencies and needs, implementing an adaptive curriculum, and collaborating with various parties, children in Indonesia can make significant progress in the classroom and raise the odds of realising their dreams.

68 Million students

Due to the COVID-19 pandemic and school closures, the majority of primary and secondary school students in Indonesia have been unable to engage in effective learning at school since March 2020.

Short-Term Impacts

Direct Impacts on Education:
- Discontinued learning activities
- Decreased school enrollment rates, especially for vulnerable groups
- Learning outcomes diminished
- Reduced investment in children's education

Indirect impacts:
- Deterioration of student's nutrition
- Declining mental health of students
- Increased vulnerability of students
- Increased child labour, child marriage, and sexual exploitation

Long-Term Impacts

- Decline in the quality of education
- Increased learning gap and economic inequality
- Diminished good quality human resources
- Increasing and persistent poverty across generations

World Bank. 2020. The COVID-19 Pandemic : Shocks to Education and Policy Responses. World Bank, Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/33696 License: CC BY 3.0 IGO

The pandemic is expected to result in learning loss. What is learning loss?

Loss of competencies previously developed

Cooper et al. (1996) discovered that, in general, students' cognitive skills are not improved during summer holidays; instead, their average test scores decrease during the time, which is equivalent to almost one month of an academic year.

Cooper H, Charlton K, Valentine JC, Muhlenbruck L (2000) Making The Most Of Summer School: A Meta-Analytic And Narrative Review. Monographs of the Society for Research in Child Development 65(1): i-vi+1–127.

Incomplete achievement of learning objectives at certain levels based on specific standards, known as a learning gap

Research from several countries indicates that school closures in the second quarter of 2020 have caused students to lag behind by six months in academic achievements that would normally be expected for their age group (McKinsey, 2021).

https://www.mckinsey.com/industries/education/our-insights/teacher-survey-learning-loss-is-global-and-significant

The accumulated impact of failing to master learning from previous levels

Andrabi, Daniels, and Das (2020) revealed that children affected by a longer school closure received proportionately lower test scores. For every month of not attending schools, student learning outcomes denoted a decrease of 0.016 sd or 10% of an (ten-month) academic year.

https://riseprogramme.org/sites/default/files/2020-11/RISE_WP-039_Adrabi_Daniels_Das.pdf

INOVASI conducted a study on learning outcomes during the pandemic at partner schools

- Identifying student **learning outcomes** in **69 INOVASI partner schools** before the pandemic as well as a year and two years after the pandemic
- **The study identified:**
  1. The indications of **learning loss** and **learning gap**
  2. The most **vulnerable** students **group**
- The study was conducted in **four provinces**, covering **seven partner districts**, and focused on **the primary school level**
- **Student learning outcomes** were analysed using a combination of the **Item Response Theory (IRT), OLS regression,and inputs from Mathematics and Bahasa Indonesia experts.**

Sampel Studi

69 schools from 7 districts in 4 provinces
Probolinggo, Sumenep, Bima, Sumba Barat, Sumba Barat Daya, Bulungan, dan Malinau

4,103 students
Female: 2.057
Male: 2.046

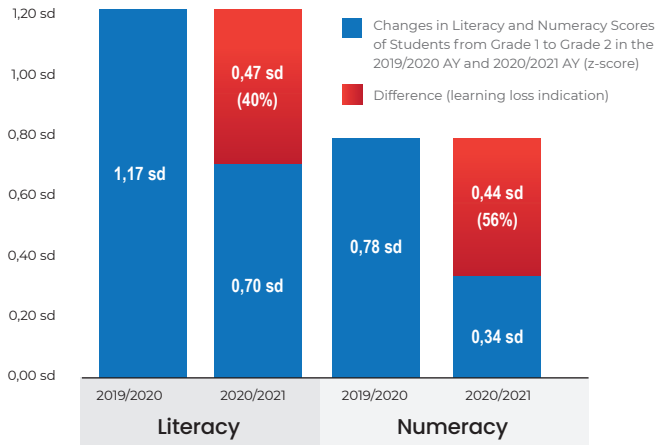
360 teachers of 1st to 4th graders
Female: 267
Male: 93

Data was collected in three time points: January 2020, May 2021, and August 2022

School sampling in each district **was selected purposively** by only **involving partner schools that had learning outcomes in early 2020 through a student test from INOVASI.**

Study Findings: What Do We Know?

1. There is an indication of a decline in student learning outcomes one year after the pandemic



Based on the results of this study, students experienced an indication of learning loss equivalent to six months of learning (or 0.47 sd) for literacy and five months of learning (or 0.44 sd) for numeracy within one year of learning after the pandemic. This may have an impact on students' ability to achieve academic success in the future.

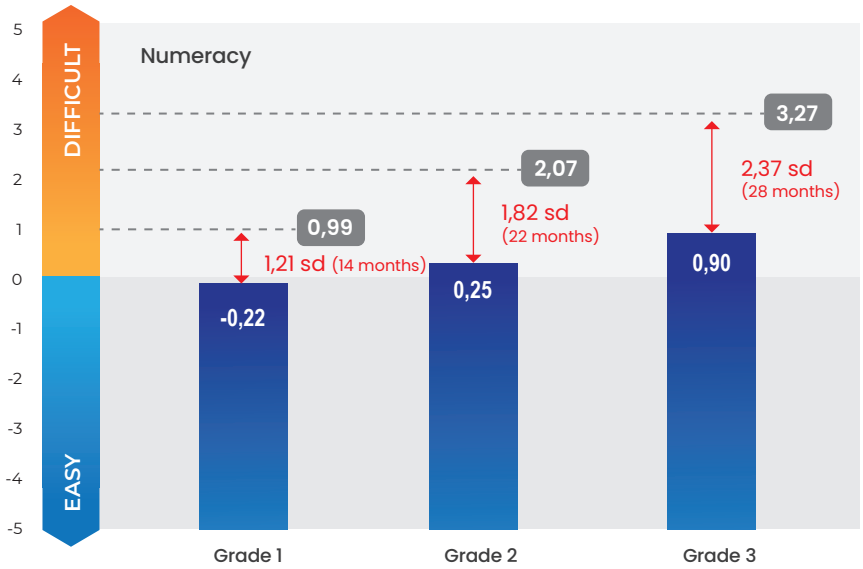
In other words, a year after the pandemic, students' learning progress from grade 1 to grade 2 was five to six months slower compared to the pre-pandemic situation.

The conversion of the difference between standard deviation and months of learning progress is projected using the ⍰⍰ Education Endowment Foundation study. https://educationendowmentfoundation.org.uk/evidence-summaries/about-the-toolkits/attainment

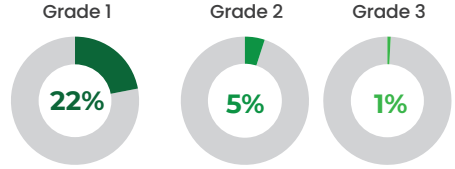
Literacy 0,47 sd or **losing six months** of learning progress

Numeracy 0,44 sd or **losing five months** of learning progress

2. The learning loss tended to contribute to widening the gap in learning outcomes



Students that have met the Special Curriculum (KK) standards



About four of five students in grade 1 did not meet the expected standards

: Difficulty level of questions from the 'easiest' to the 'most difficult'

: Students' literacy skills in the 2020/2021 academic year

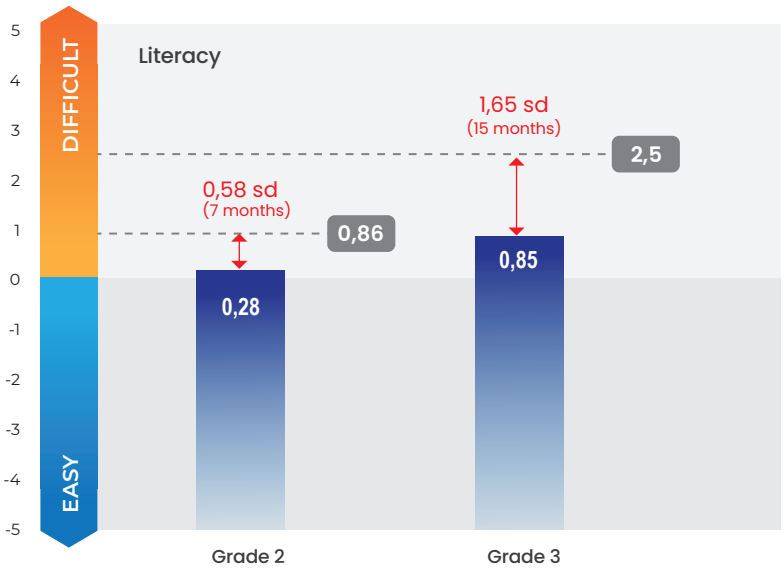
: The expected standard of students' skills based on the special curriculum. The cut-off point for each grade was estimated through a psychometric process and recommendations of mathematics subject experts.

: Difference (the learning gap)

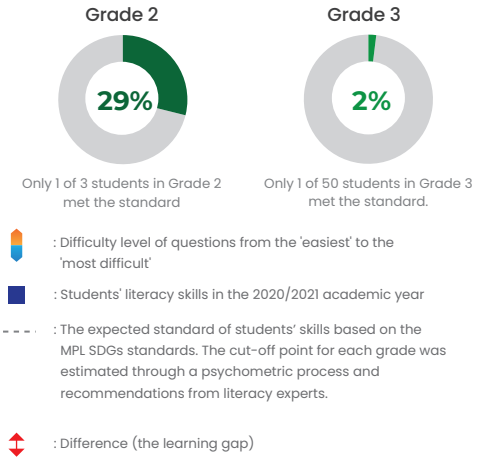
'The Special Curriculum (or commonly referred to as the emergency curriculum) is a curriculum issued by the Ministry of Education, Culture, Research, and Technology (MoECRT), which provides flexibility for educational units to determine the curriculum according to the learning needs of students during a pandemic.' https://kurikulum.kemdikbud.go.id/kurikulum-darurat

There is a gap between the achieved learning outcomes and what should be mastered according to the curriculum and international standards. With the current pace and learning abilities, it would take Grade 1 students 14 months to reach the expected level of competence.

This has a significant impact on children's future learning, with learning gaps tending to increase exponentially over time. This can be seen from the decreasing percentage of students who reach the expected standards in the subsequent grade levels.



Students that have met the Minimum Proficiency Level (MPL) of the Sustainable Development Goals (SDGs) standard



The standard of SDGs' MPL was adopted to measure literacy skills since the Special Curriculum did not outline the details of the expected reading and listening skills. Therefore, students' test results could not be measured using this framework (Spink, J. et al, 2022). The SDGs' MPL standard was applied to Grade 2 and upper.

3. The impact of COVID-19 pandemic on education varies. Who are most affected?

STUDENT-RELATED FACTORS

- Male and female students deal with different forms of vulnerability
- Students with disabilities (physical and non-physical)
- Students do not master Bahasa Indonesia
- Students neither accomplish early childhood education nor have the essential skills to attend primary school (such as memorisation, following instructions, and self-control).

FAMILY-RELATED FACTORS

- Students whose parents do not actively assist their children in the learning process.
- Students from socially and economically disadvantaged families, including those:
  - living in remote/underserved areas
  - whose parents have limited education
  - coming from poor families
  - lacking resources for distance learning, such as internet access, smartphones, textbooks, and non-texbooks materials at home.

SCHOOL-RELATED FACTORS

Students whose:

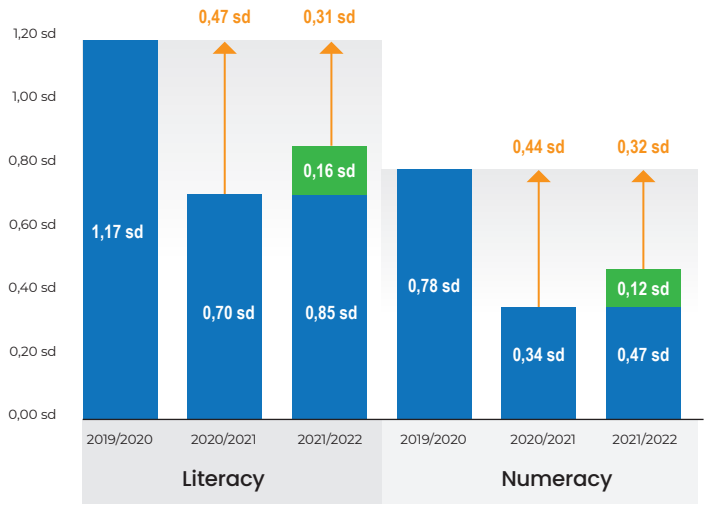
- Teachers use inappropriate learning materials and language of instruction.
- Teachers lack education and are underqualified.
- Teachers do not have access to facilities for remote learning (such as internet, laptop, and vehicle to reach school for offline learning).
- Schools do not implement programs to increase students' participation or interaction in learning during the pandemic.

The results of the regression analysis of variables affecting student learning outcomes during the pandemic revealed that students from vulnerable groups (such as students with disabilities, students from low-income families, and students with low proficiency in Bahasa Indonesia) are likely to achieve lower learning outcomes compared to other students in general.

Before and during the pandemic, female students consistently outperformed male students in terms of learning outcomes. However, female students experienced a larger indication of learning loss because they are generally given more domestic responsibilities compared to male students. Additionally, since the beginning, female students already had higher learning outcomes, which means they may have 'more to lose' or potentially experience more learning losses.*

**https://www.inovasi.or.id/en/publikasi/the-learning-gap-series-3-a-widening-gap-impacts-of-the-covid-19-pandemic-on-indonesias-most-marginalised-students/*

4. Two years after the pandemic, positive indications of learning recovery arise, although the learning outcomes are yet to be restored to the pre-pandemic era



Compared to the learning outcomes of the 2020/21 academic year, the learning outcomes of the 2021/22 academic year indicated learning recovery, equivalent to 2 months of learning (or 0.16 sd for literacy and 0.12 sd for numeracy).

: Changes in Literacy and Numeracy Scores of Students from Grade 1 to Grade 2

: The difference (an indication of learning loss) compared to the previous year

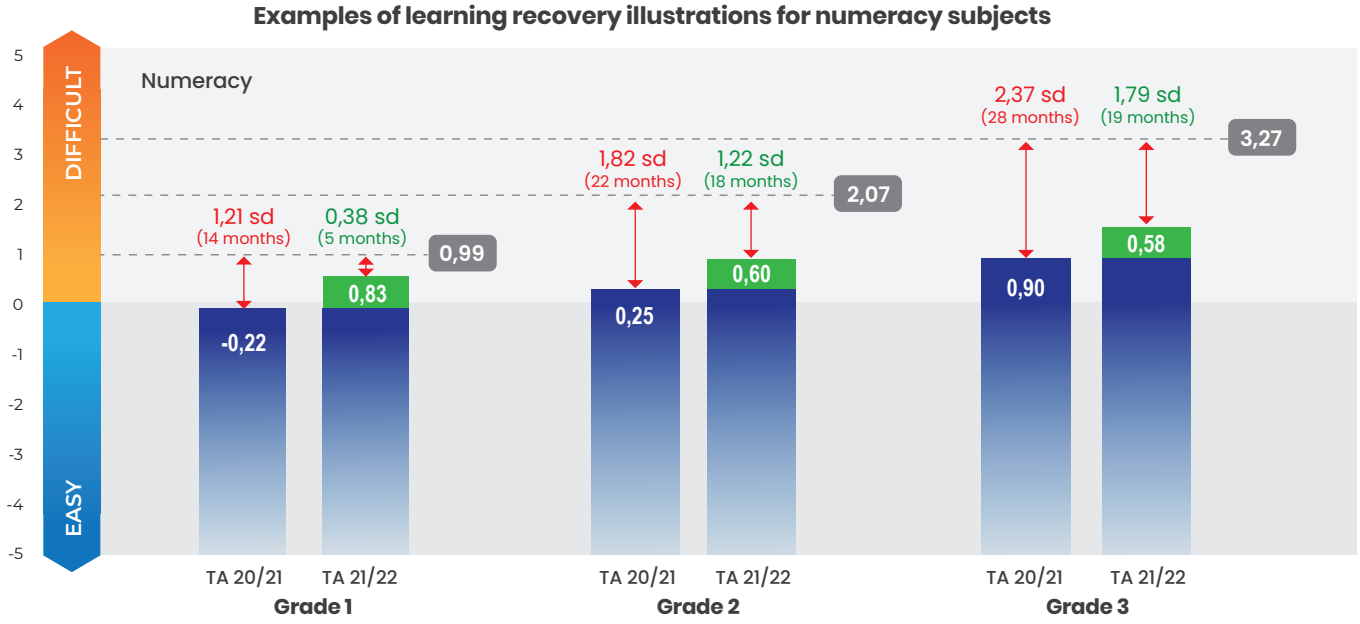
: The difference (an indication of learning gain) compared to the previous year

Literacy 0,16 sd or **catching up on 2 months of** learning loss

Numeracy 0,12 sd or **catching up on 2 months of** learning loss

5. Decreasing disparity between student learning outcomes and the expected standards set by the curriculum/international standards

Examples of learning recovery illustrations for numeracy subjects



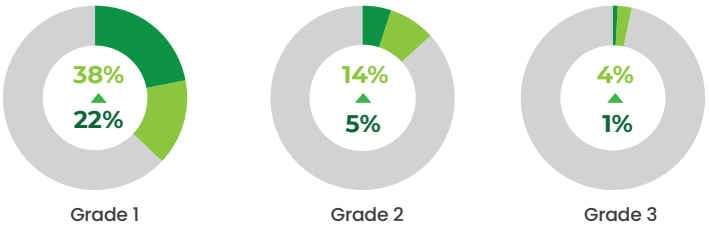
: Difficulty level of questions from the 'easiest' to the most 'difficult'

: Difference (the gap in learning outcomes)

: Improvement indication of students' scores from the 2020/2021 to 2021/2022 academic year

: Students' abilities in the 2020/2021 academic year

: Expected students' skills based on a special curriculum. The cut-off point for each class was estimated through a psychometric process and inputs from mathematic experts.



The graph above shows that students have significantly progressed in catching up on their learning gap. The gap between what students are expected to master and what they have actually achieved has decreased.

For example, more Grade 1 students have now met the curriculum standards. In the year 2020/21, only 22% of children met the curriculum standards, but in the year 2021/22, this number increased to 38%. The learning gap has decreased from 1.21 sd to 0.38 sd, indicating a positive trend.

Example of the progress of basic numeracy skills:
from the 2020/2021 Academic Year to the 2021/2022 Academic Year

Grade 1 Explaining and performing addition and subtraction operations of whole numbers up to 20			Grade 2 Explaining the multiplication and division operations of the whole numbers with the product up to 100			Grade 3 Explaining the multiplication and division operations of the whole numbers with the product more than 100		
Example	The percentage of students who answered correctly		Example	The percentage of students who answered correctly		Example	The percentage of students who answered correctly	
	20/21 AY	21/22 AY		20/21 AY	21/22 AY		20/21 AY	21/22 AY
5 + 15 = ...	39%	66%	2 x 3 = ...	55%	69%	56 : 7 = ...	21%	31%
My mother bought the youngest 11 marbles. Next day, the oldest gave the youngest 7 marbles. How many marbles does the youngest have?	24%	34%	Faris buys 2 storybooks each month. How many storybooks have Faris bought in four months?	21%	28%	32 : ... = 4	8%	14%

The table above indicates the increase in the percentage of students who answered correctly to various types of mathematical problems.

6. What can be differentiating factors in accelerating learning recovery?

Some schools recovered faster than others. The quantitative and qualitative analyses in this limited study discovered several factors that might have contributed to accelerating learning recovery.

Factor	Variable	Delta*
School Principal Leadership	The school principals periodically monitor the teachers (observing the learning activities and students' learning outcomes) and utilise the obtained data.	0,39 sd (5 months)
	The schools have implemented a program to encourage students who skip school during the pandemic to go back to school.	0,21 sd (3 months)
	The schools make adjustments to the budget allocations focusing on students' learning recovery.	0,13 sd (2 months)
Adjustment of Teaching Practices by Teachers	Teachers are using adapted curriculum (emergency curriculum, independently adapted curriculum, or prototype curriculum).	0,31 sd (4 months)
	Teachers give assignments according to the students' ability.	0,19 sd (3 months)
	Teachers perform a diagnostic assessment at the beginning of the 2021/2022 academic year or before starting a new teaching material.	0,14 sd (2 months)

School principals play a vital role in the success of students' learning. Those who give clear directions and instructions to teachers can increase teachers' motivation to consistently teach and support improving students' learning participation during the pandemic.
"I visited students' houses at the direction of the school principal. Teachers can choose whether to do a house visit or online learning. The school principal always monitors, calls, and discusses with us to check on the student's progress. Sometimes, the school principal joins us to visit the students' houses."
(a fourth-grade male teacher from Sumenep)

The school collaborates with/receives assistance from Non-Government Organisations (NGOs).
"Once the KKG finished, they (INOVASI's district facilitators) keep assisting us. They also came to our school to provide their support to improve our knowledge and skills." (a female school principal from West Sumba)

**Delta is an indication of differences in the acceleration of learning recovery between respondents who carried out the practice and those who did not.*

Teacher Intrinsic Motivation

Teachers actively participate in the KKG activity: Making lesson plans that are more suitable to the pandemic.

0,23 (3 months)

Teachers with high intrinsic motivation are sympathetic to students, and they feel the need to make extra efforts to help these students.
"I've been living in this village for quite a long time. I consider my students just like my younger brothers/sisters. I feel sorry for them for experiencing learning loss. That is why I have to assist them effectively, even without being paid. What matters the most to me is my students can continue learning." (a first-grade female teacher from West Sumba)

Support from Others (Government, Other Teachers, NGOs, and Parents)

Schools receive support from the central/local governments in the forms of equipment for remote learning.

0,21 (3 months)

Assistance or support from other teachers and Non-Governmental Organisations (NGOs)

"Senior teachers at my school fully support me. We always work together. They suggest me to focus more on the students struggling with literacy and numeracy." (a first-grade female teacher from Bima)

Support from students' parents/ families

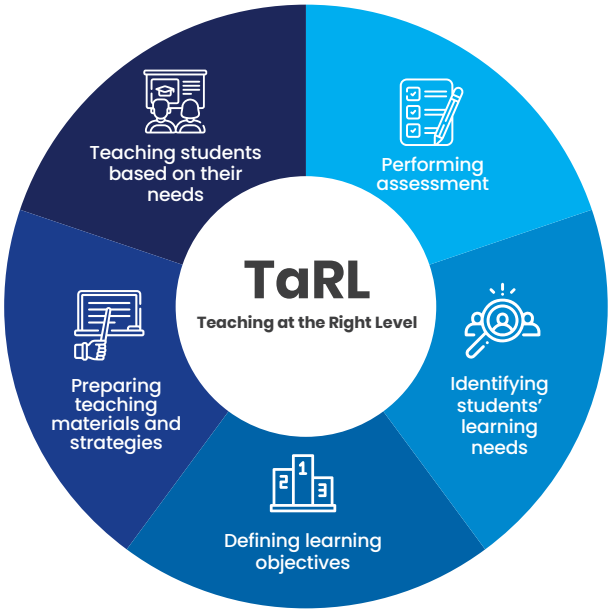
"During the COVID-19 pandemic, some students did not actively learn at home since teachers did not provide an optimum assistance. Those whose parents and older siblings mastering reading skills could assist them to actively learn at home." (a female school principal from West Sumba)

What can be done?

The following recommendations are in line with the characteristics of *Kurikulum Merdeka* (Emancipated Curriculum)

Focusing on essential foundational skills

Participating in the Continuing Professional Development or CPD programs (KKG, MGMP, etc.)



Collaborating with Teacher Training Institute (LPTK), organisations, and parents

Supporting schools in the form of funds, time, and policies

INOVASI

Contact Information

Gedung Perkantoran Ratu Plaza lantai 19
Jl. Jend. Sudirman Kav 9, Jakarta 10270, Indonesia
T: +62 21 720 6616
E: info@inovasi.or.id
@InovasiPendidikanAIP
www.inovasi.or.id
INOVASI Pendidikan

Innovation for Indonesia's School Children is a partnership program between the Governments of Australia and Indonesia, which includes Indonesia's Ministry of Education, Culture, Research, and Technology (MoECRT); Ministry of Religious Affairs (MoRA); Ministry of National Development Planning (Bappenas); as well as sub-national partners in the provinces of West Nusa Tenggara, East Nusa Tenggara, North Kalimantan, and East Java. The program seeks to identify and support changes to education policy, system, and practice which demonstrably accelerate improved student learning outcomes.

Recommended citation: Sukoco, G.A., Hafiszha, A., Sari, G.P., Purba, R. 2022. Bounce Back Stronger: Post-Pandemic Learning Recovery. Jakarta: INOVASI.