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Using Data and Technology to Improve Education: Insights from Indonesia's *Merdeka Belajar* Reform

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In 2019, Indonesia launched *Merdeka Belajar*, a systemic reform aimed to improve learning quality for all students.

Student learning outcomes:
foundational competencies in *Profil Pelajar Pancasila*

School transformation: instructional leadership, teacher reflection and collaboration, and student-oriented teaching practices

Teacher training: improve competencies and teaching quality through collaborative reflection on practice

School principal and supervisor recruitment and training: emphasis on instructional leadership and change management

Teaching and learning: national curriculum framework and teaching resources which focus on foundational competencies

Evaluation and accountability: provide feedback on and incentives for teaching and learning quality in each school and district

Digital **technologies** | **Partnerships** with stakeholders |
Asymmetric and affirmative **provision of resources**

This reform is implemented in a system that comprises of

>3.3 million teachers,

>46 million students across

>430 thousand schools

managed by 554 local governments.

As part of the reform, a national assessment collects data on teaching and learning from 4.3 million teachers and principals, 6.9 million students in 510 thousand schools.

1. Communicates reform vision and goal

- ▶ Quality & equity of student learning (literacy)
- ▶ Deep and engaging teaching
- ▶ Safe and inclusive school climate
- ▶ Teacher collaborative learning and reflection

2. Evidence-based planning & evaluation

- ▶ Schools reflect on their teaching quality and climate; then make plans for improvement.
- ▶ Local governments reflects on areas of strengths and weaknesses; prioritize resources for struggling schools.
- ▶ Central gov monitors progress; evaluates and improves programs.

3. Provide incentives for behavior change

- ▶ Financial incentive for high performing and most improving schools and districts.
- ▶ Automatic extension of school accreditation status (saves time, resource).

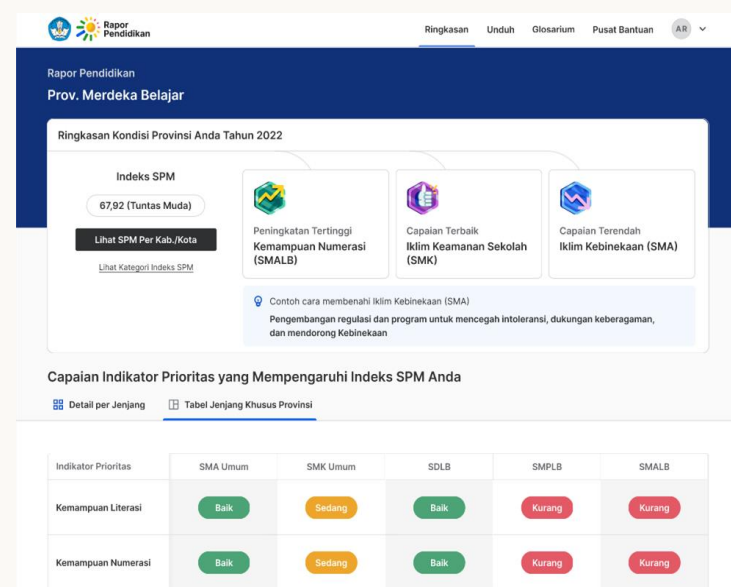


Figure 1 District Education Report Platform

Key programs in the *Merdeka Belajar* reform rely on digital technology and platforms for scale, speed, and effectiveness of implementation.



1. Data collection & analysis

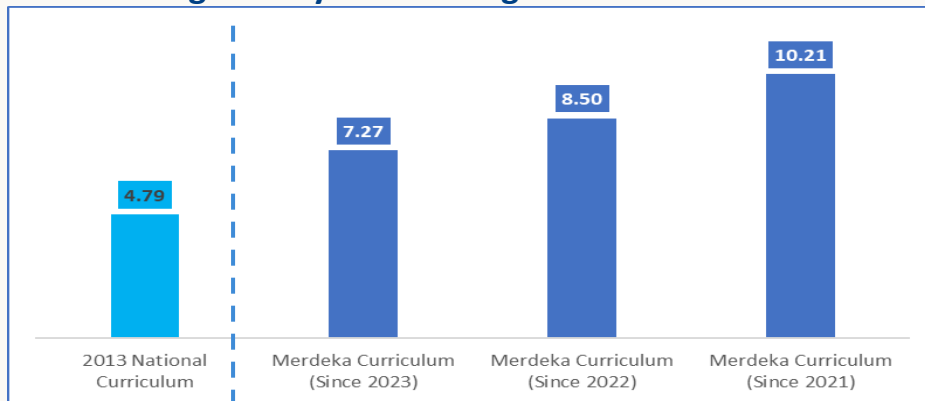
- ▶ The literacy tests are computer adaptive.
- ▶ Online testing, can be done with standard laptops; does not require local server.
- ▶ Automatic scoring of multiple choice and short essay responses. Analysis finalised and reported within 2-3 months.
- ▶ Collection of data on teaching practices from hundreds of thousand of teachers.

2. Personalised experiences

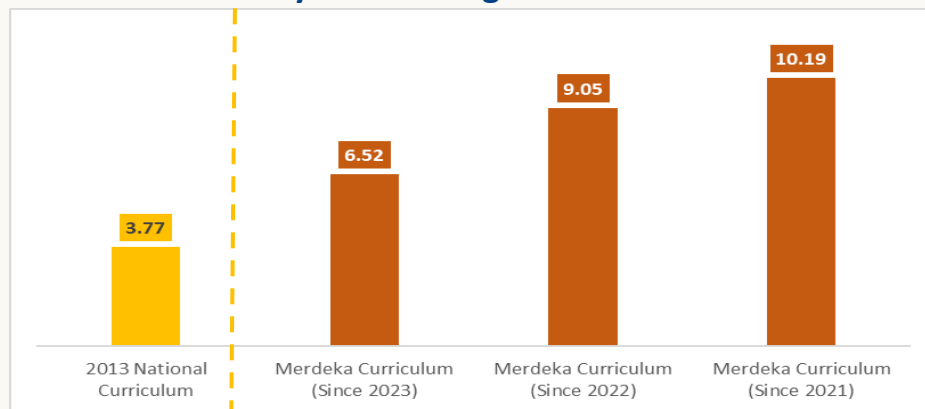
- ▶ With Platform *Merdeka Mengajar*, teachers can choose training modules and engage with online communities that fit their needs. They can also use teaching materials that are relevant to their context.
- ▶ With Platform *Rapor Pendidikan*, school principals and district education officials are provided with recommendations of programs based on their own data.

The 2023 National Assessment results indicate that the *Merdeka Belajar* reform is beginning to show positive impact on student learning.

Reading literacy score changes from 2021 to 2023



Math literacy score changes from 2021 to 2023



- ▶ Compared to schools still using the previous 2013 National Curriculum, schools implementing the new Merdeka Curriculum show better learning gains from 2021 to 2023.
- ▶ Learning gains are associated with period of implementation of the Merdeka Curriculum, with schools implementing the since 2021 showing the largest gains.
- ▶ This pattern is consistent across domains (reading and mathematics), levels of education (primary, lower secondary, and upper secondary), and regions (remote, rural, and urban).



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