Education Insights for Action:
A Product Case Study of Rapor Pendidikan

November 2023

Acknowledgements

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Chapter 0

About Merdeka Belajar

To realize the vision of an advanced, sovereign, self-reliant, and culturally distinctive Indonesia through the cultivation of Pancasila-oriented students, the Ministry of Education, Culture, Research, and Technology consistently introduces various innovations under the "Merdeka Belajar" (Emancipated Learning) initiative.

Emancipated Learning, a set of policies enacted by the Ministry of Education, Culture, Research, and Technology (MoECRT) in 2020, embodies a paradigm shift towards a more flexible, learner-centered approach. It focuses on transformations in four key areas: infrastructure and technology; policy, processes, and funding; leadership, society, and culture; as well as curriculum, pedagogy, and assessment. The program underscores Indonesia's commitment to creating a dynamic, inclusive, and responsive education system, aligning with global best practices in educational reform.

Learn more about the Emancipated Learning reform here: **https://merdekabelajar.kemdikbud.go.id/en/**

About GovTech Edu

GovTech Edu is a technology organization that has been a thought and development partner for the Ministry of Education, Culture, Research, and Technology (MoECRT), as well as part of Telkom Indonesia. GovTech Edu actively contributes to accelerate the transformation of Indonesia's educational landscape through technology.

As of 2023, we have released six products to help the education ecosystem in Indonesia to teach better, learn better, manage better and progress better. Those products are **Platform Merdeka Mengajar, Rapor Pendidikan, Akun Belajar.id, ARKAS, SIPLah** and **Kampus Merdeka.**

Learn more about GovTech Edu here: **https://www.govtechedu.id/**

Chapter 1

Context: Educators' challenges in improving the quality of learning

Under the Emancipated Learning reform, educators are provided with the flexibility to craft quality learning experiences and curriculum that align with the needs and learning environments of the students. However, on the ground, education stakeholders faced three major challenges:
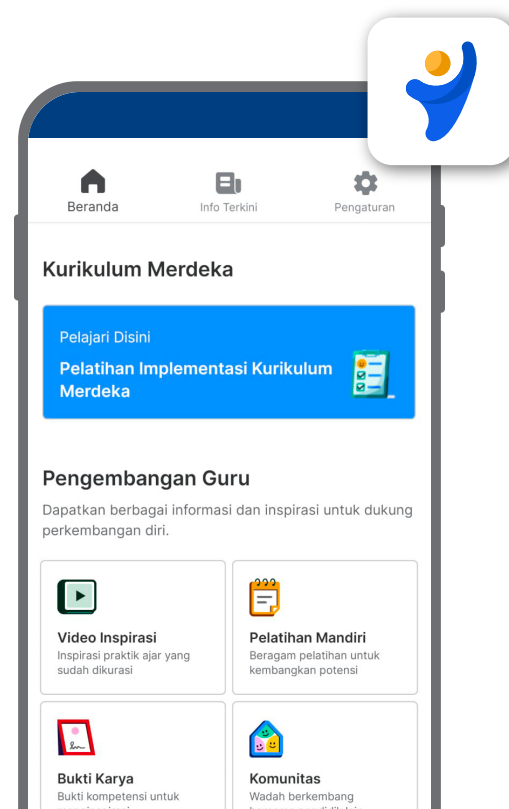
Many schools and educators struggle to identify specific areas for improvement and often do not know where to start.

Every year, District Education Offices require educators to complete evaluation forms to assess school performance. However, the numerous and complex evaluation forms often yielded varying and conflicting results. This school evaluation process was also treated as administrative compliance, instead of a tool to help provide a snapshot of education quality and school performance. Consequently, schools tended to focus on matters that did not directly address education quality and failed to act on the gaps in learning.

Central and local governments[1] also faced difficulties in providing appropriate and targeted assistance without reliable and complete data on schools across Indonesia.

The existing school evaluation process often had imprecise, inaccurate, and incomplete measurements of education quality. Moreover, it was near impossible to develop and cascade recommendations to improve student learning, given the scale and heterogeneous nature of Indonesia's vast regions. Rolling out multiple evaluation forms for over 400,000 schools spread over 514 districts has been a massive task.

Without accurate and contextual snapshots of education performance for these education stakeholders to refer to, the Emancipated Learning reform cannot be effectively implemented.

Knowing the baseline and the performance of schools, teachers, and students every year are key to improving education and putting students at the heart of the learning experience. Making data as well as education evaluation results available and accessible to teachers and local governments are therefore important to realize transformation as envisioned by Emancipated Learning reform.

[1] Local governments here refer to provincial and district governments

Rapor Pendidikan (Education Scorecard) was created with the aim of helping schools and local governments overcome problems in improving the quality of education by providing insights to the current and past conditions of education performance.

Exhibit 01. Rapor Pendidikan's proposed changes

Before		After
Numerous, complex evaluation forms		Evaluation integrated in National Assessment and Basic Data on Education, both managed by MoECRT
Evaluation generates mixed, sometimes contradicting results		Evaluation generates one streamlined results
Measurements of many indicators		Measurements of key indicators on competence and education performance equity

Chapter 2

Approach: Integrating technology intervention with on-the-ground empowerment to support education stakeholders in their respective reflection and planning processes

The Education Standard, Curriculum, Assessment Body (*Badan Standar, Kurikulum, dan Asesmen Pendidikan*, BSKAP) of MoECRT recognized the challenges in accurately identifying gaps in quality of education and the inefficiencies of the evaluation forms. The goal was to create a tool that simplifies evaluation and allows schools to easily identify areas of improvement, using a credible and centralized basis of data (a single source of truth). This would enable key actors in the education ecosystem, including teachers, school principals, district, and provincial governments to be able to independently access and view snapshots of education performance. On top of that, the tool should help school principals and educators to translate these insights into actions for improvements through adjustments to school planning and budgeting.

The goal was to develop a tool or platform for key stakeholders in the education ecosystem to incorporate the following approaches.

01 Identify

achievements and gaps in student learning using a single source of truth of data.
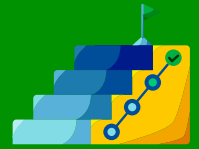
02 Reflect

on student performance and learning process at the school, district, and province level to identify root causes.

03 Improve

by developing action, program, and budget plans to address root causes.

Together, the BSKAP unit and GovTech Edu agreed to adopt two strategies:

01 Technology intervention

A platform to cater to the need for a single source of truth of school statistics and education performance to support a data-driven approach towards planning and budgeting to improve education delivery. A technology intervention was appropriate because it would improve the process of how education-related data is used and remove the barriers of access.

02 On-the-ground empowerment

Considering that education stakeholders may be unfamiliar with using data effectively and the 'identify-reflect-improve' approach, it is imperative that the technology intervention is supplemented with technical assistance. Training and advocacy are given to users to build their capacities, particularly in understanding the meaning of the insights, determining their practical applications, and effectively integrating a data-driven approach into their planning and decision-making processes.

Chapter 3

Rapor Pendidikan: Providing contextualized insights for action

3.1. What is Rapor Pendidikan?

Rapor Pendidikan (Education Scorecard)[2], is a web-based platform where education stakeholders can access current and historical evaluation data of comprehensive education indicators.

The platform enables teachers, school principals, district[3] and provincial education offices to conduct data-driven assessment, planning, and decision making to improve the quality of education in Indonesia. This platform delivers outputs that are:
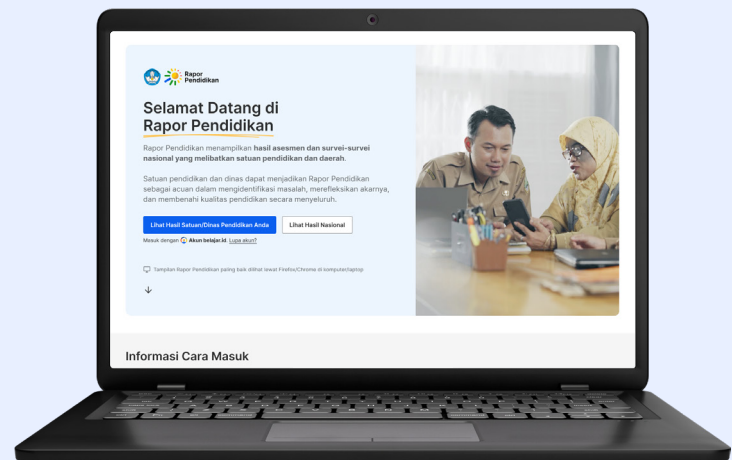
Contextualized	Simple, accessible, and insightful	Actionable
Providing relevant information and outcome to each stakeholder involved.	Various data and information are translated into simple and digestible insights on performance, progress, and gaps, while providing insights on root causes, allowing targeted interventions.	Empower schools and regional authorities through actionable improvement plans tailored to each root cause.

3.2. Who is it for and what is it used for?

The platform is intended for users to self-identify and diagnose local challenges, and develop data-based and contextualized action plans to tackle identified challenges in support of the Ministry's objective to create irreversible transformation in education.

[2] The second version of Rapor Pendidikan was released in May 2023
[3] Districts are equivalent to city level

Rapor Pendidikan has 3 sub-products:

1. School Scorecard (Rapor Pendidikan untuk Satuan Pendidikan) for school principals and teachers,
2. District/Province Scorecard (Rapor Pendidikan untuk Pemerintah Daerah) for district and provincial offices of education, and
3. Public Scorecard (Rapor Pendidikan Indonesia) for the general public.

Exhibit 02. Snapshots of Rapor Pendidikan sub-products
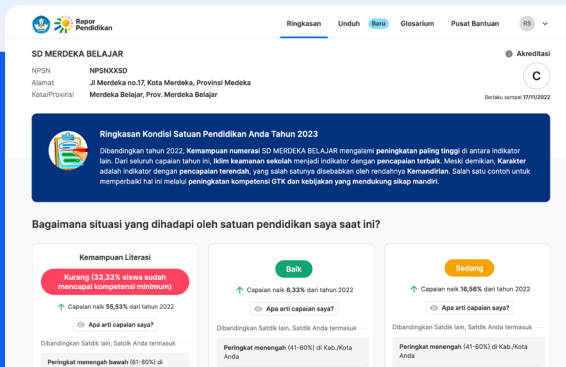
Rapor Pendidikan untuk Satuan Pendidikan

School Scorecard
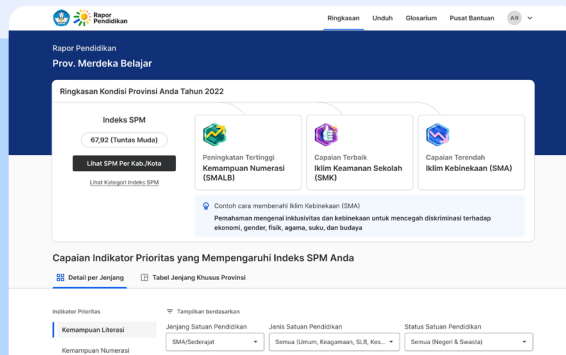
Rapor Pendidikan untuk Pemerintah Daerah

District/Province Scorecard

Rapor Pendidikan Indonesia

Public Scorecard

Each of these sub-products are interlinked. For example, school principals propose the school planning and budget of an academic year based on the School Scorecard, district and provincial governments are able to cross-check this using District/Province Scorecard.

3.3. How does it work?

The platform combines data from different sources, such as national assessment scorecards, national census, socio-economic surveys, school and government budgets. These data inputs are processed using an algorithm to identify key root causes based on multiple indicators and datasets set by the Ministry, which is then turned into insights that are presented on the web page. The platform offers interactive tools such as overview of their performance at each component (categorized into good, medium, not improving), their ranks compared to peers (within the same jurisdiction) and national level, meaning of each component, root factors affecting the performance of a specific component, and recommendations on how to improve each learning component.

Exhibit 03. Rapor Pendidikan's data sources, process, outputs, and uses
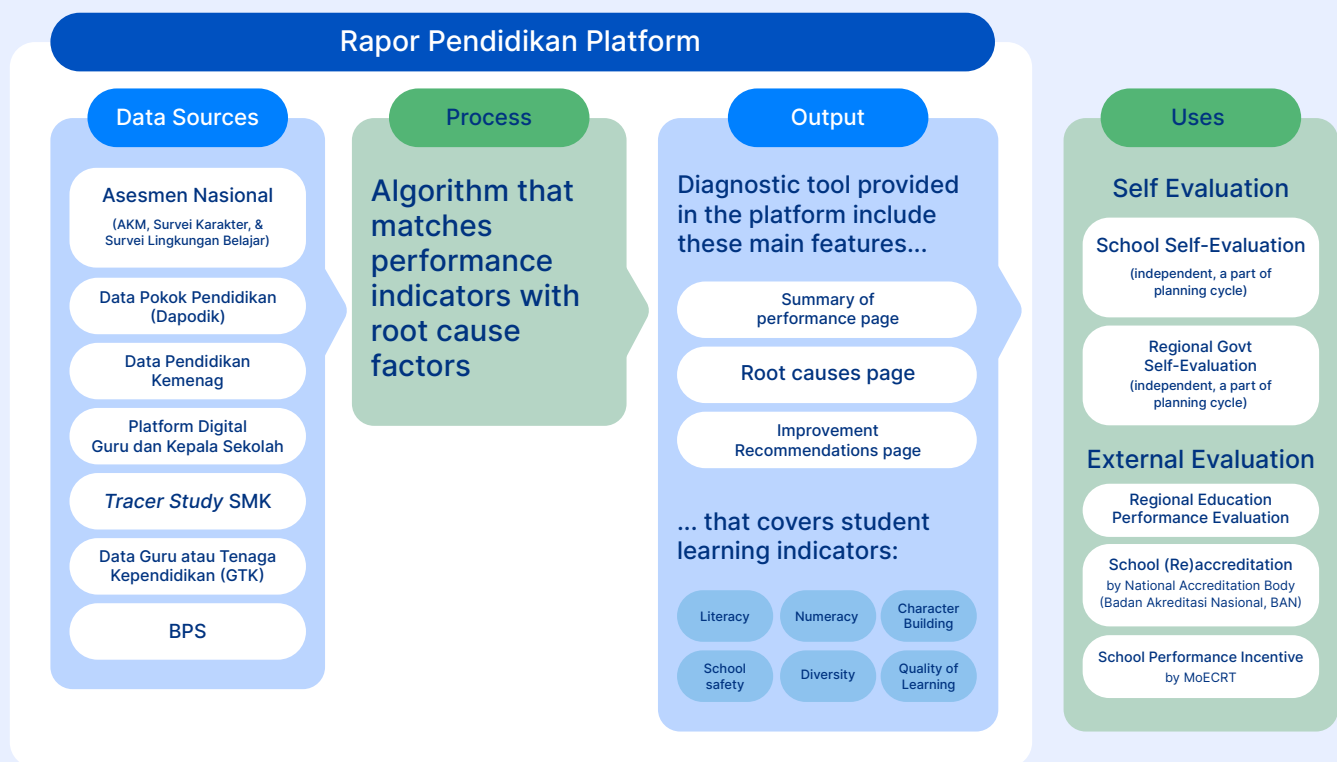
The insights presented in the platform are based on the key learning indicators set by MoECRT. The information that is visible to both school and regional level users are the core indicators, including:

1 Student learning outcomes in literacy, numeracy, and character building (scores from National Assessment)

2 Learning process measured by quality of learning, diversity, safety, and gender equality (from National Assessment survey rollout)

Each of these indicators is the aggregate score of subcomponents. For district and provincial education offices, information on discrepancies of each of these indicators within their jurisdiction are presented to monitor inequality in learning quality and outcomes.

Exhibit 04. Core Indicators included in School and Regional (District/Province) Scorecard

Dimension	Key Indicators		
Quality and relevance of student performance	Literacy	Numeracy	Character building
Education equity	Inequality in literacy	Inequality in numeracy	Inequality in character building
	Minimum service standards (MSS) index	Net enrollment rate for age range 7-12, 13-15, 16-18 years old	Net enrollment rate for different ability students age range 4-18 years old
	Gross enrollment rate for primary, secondary, and high schools		

Dimension	Key Indicators			
Quality and relevance of student learnings	Quality of learning		School Diversity	School Safety
	School Inclusivity	School gender equality	Learning improvements by teachers	Instructional leadership
	Inequality in School Diversity		Inequality in School Safety	Inequality in School Inclusivity
	Inequality in School Gender equality		Inequality in facility for literacy	School-to-workforce matching

🔵 accessible to schools and local governments
🟠 accessible only to local governments

3.4. What is a typical user journey?

Login	Identification	Reflection	Improvement	Action
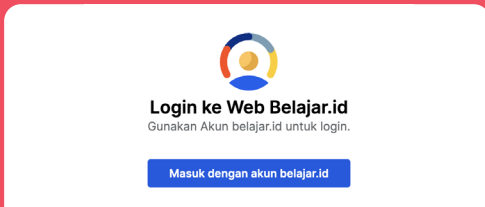
Users could access the platform through their respective belajar.id[4] single-sign-on (SSO) account

Login	Identification	Reflection	Improvement	Action
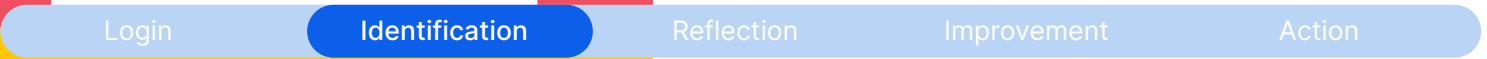

Summary Page:

A paragraph highlighting the best and worst performing learning components, comparison from last year, example of root cause and recommendations.

Identify - Summary of Progress:

Gives an overview of the progress of each 6 key indicators of student learning outcomes and a paragraph of summary. Progress figures are presented in terms of relative change compared to the previous year. Each key indicator is color-labeled based on the level of progress: good, medium, not improving. Information on the institution's ranks among its peers within the same jurisdiction and based on national minimum standards are also shown.

Login	Identification	Reflection	Improvement	Action
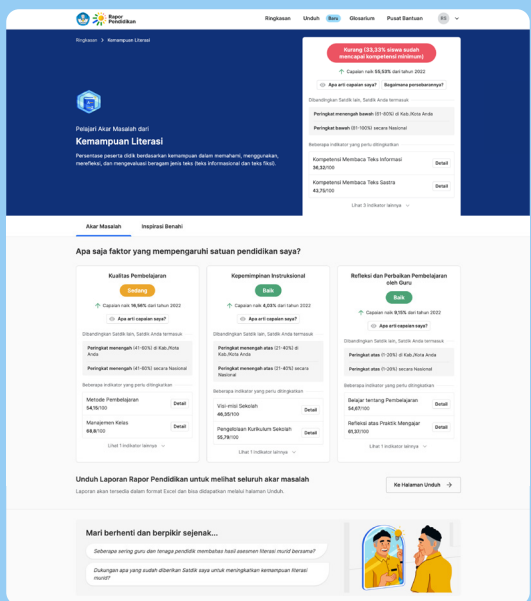
Reflect - Analysis of root cause by priority indicators:

Each of the core indicators can be clicked for deeper analysis/diagnostics. Users can explore how they perform in the breakdown components of an indicator. For example, at school level, if the numeracy progress is medium, then users can see their institution's average scores in geometry, algebra, and other components. Principals and teachers are then shown some factors that influence the learning process which in turn
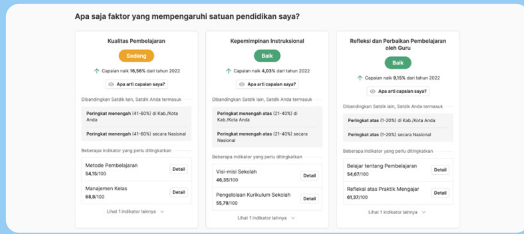
determine the learning outcome as shown by the priority indicators. When factors like the quality of learning, curriculum management, and improvements in teaching practices fall short, they are shown as the underlying causes of subpar student outcomes. Users are encouraged to reflect based on the analysis provided and prioritize based on the findings.
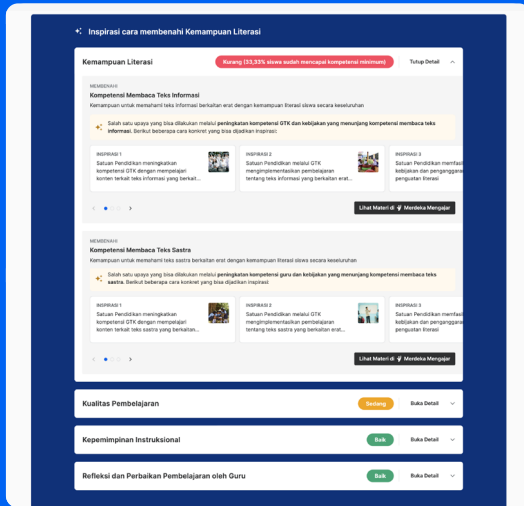
| Login | Identification | Reflection | **Improvement** | Action |

Improve - Recommendations and good practice knowledge sharing:

Presents proposed recommendations on what to improve based on each root cause. This is followed by inspirational content from good practices, which users can translate into their action plans. It also includes links to the content on Platform Merdeka Mengajar where users can dive deeper into topics of interest[5]. This action plan can feed into academic/ fiscal year planning as well as budget items to be prioritized/deprioritized.
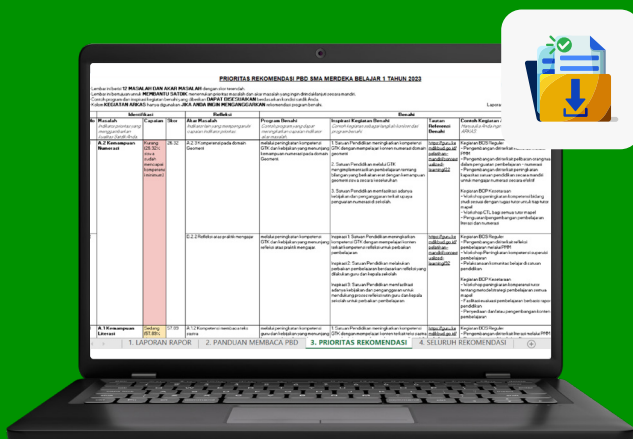
| Login | Identification | Reflection | Improvement | **Action** |

The insights obtained from the process above ideally will translate into specific action items in the programs as well as budget items, if needed. They can also be used for yearly program planning and budgeting submissions.

Download Data-Driven Planning Report (*Perencanaan Berbasis Data*, PBD):

Users can go to the download page to obtain the performance data as well as the root cause analysis in an editable spreadsheet format.

[4] Belajar.id is an official account from the government to access various education platforms (such as Rapor Pendidikan, Platform Merdeka Mengajar, etc.) and also softwares that support teaching & learning activities
[5] Platform Merdeka Mengajar is a digital platform for K-12 teachers developed by GovTech Edu. The aims are to (1) improve their teaching; 2) learn and upskill themselves; and 3) progress in their careers. Find out more here: https://www.govtechedu.id/platform-merdeka-mengajar
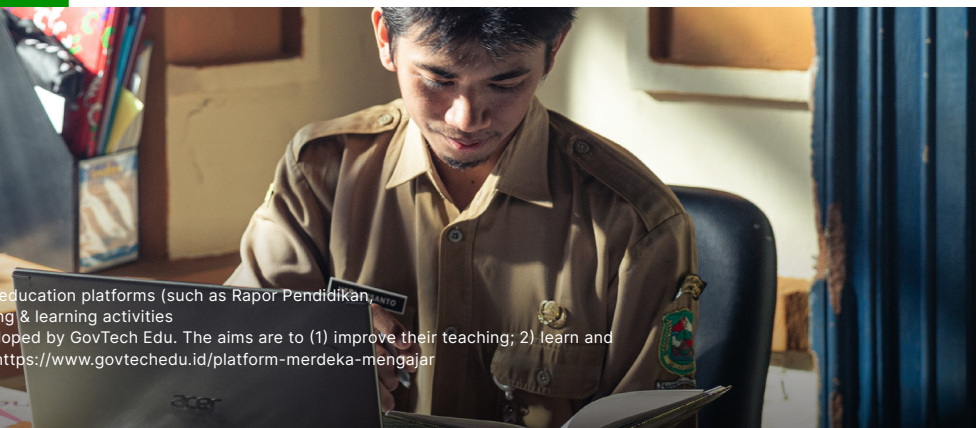
Chapter 4

Results: Stronger foundation for school and local government planning process

Rapor Pendidikan has reached high adoption rates distributed all across the regions.

It has been adopted by more than 253,000 schools within four months of this year's launch, which represents around 62% of total schools in Indonesia. All district and provincial governments have adopted the platform since Rapor Daerah's launch in July 2023. The platform also has managed to reach rural/remote areas, despite digital infrastructure challenges.[6]

Overall, we have observed the beginning of positive changes of practice in school program planning and budgeting.

The intended impact of Rapor Pendidikan is to induce positive behavior change along the chain of school decision making through increased willingness and ability to use data for more informed and contextualized decision making.

There are three ways in which Rapor Pendidikan has influenced how school planning and budgeting is conducted:

01 Stronger foundation for school planning

The Data-Driven Planning Report (PBD) enables users to have a stronger foundation when planning for both budgeting process, such as deciding how BOS funds[7] should be used, and general school planning purposes, such as programs and allocation of teachers and human capital.

The Data-Driven Planning Report contains detailed analysis and supporting data on school performance progress, gaps, and root causes for specific schools (School Scorecard) or specific regions (Regional Scorecard). These are used as supporting evidence when deciding on a Program and Budget Plan (RKAS)[8].

[6] See Appendix for details.
[7] BOS fund or School Operational Assistance fund is a federal/national financial support in the form of block grants disbursed directly to public and private schools on a per-student basis to cover costs such as utilities, books and learning materials, locally-hired teachers, and student activities.
[8] *Rencana Kegiatan dan Anggaran Sekolah.*

"I use the PBD Report as the basis for school program planning and budgeting because it is comprehensive and informed by data. I like to attach the report to ARKAS [which is an app-based school financial management system] to strengthen our school proposal."

Ibu Jumini, an Elementary School Principal from Sarirejo Kaliwungu, Central Java province

Her case is one of many, with a growing number of users that have increasingly adopted a data-driven approach to school planning.

02 More action-oriented mindset

Equipped with insights from Rapor Pendidikan, users are able to better connect the gaps they have identified and potential action plans they can adopt to improve the quality of education in their school or jurisdiction.

"By reading the Summary feature, I am able to have an idea of [the performance of] my school scorecard. I took a screenshot of this performance summary and shared it with all teachers."

Pak Darno, an Elementary School Principal from Central Maluku, Maluku province

"The description of each student performance component [from the situation board] is the first thing I see before exploring other features, and from this page I am able to pair the root causes of each [underperforming] component with recommendations on concrete actions. This is very helpful for us when doing school planning."

Ibu Nur, an Elementary School Principal from Pasangkayu, West Sulawesi province

03 Targeting root causes, not symptoms

The multi-source data available in Rapor Pendidikan helps to accurately identify the root causes of underperforming learning components, which in turn is used in developing more well-targeted yearly school programs.

"With PBD, I am able to look at the school performance, see the red indicators, do a prioritization process, then plan for the yearly school programs based on the spreadsheet provided. It's faster, very practical, and comprehensive, contained in one document."

Pak Jeffry, a Junior High School Principal from Rote, East Nusa Tenggara province

Chapter 5

Lessons Learned

01 **Using human-centered design to carefully present scorecard product for schools and educators**

The main challenge with creating a true public sector technology product is creating a high quality and suitable product for users that are not particularly used to technology and have resistance to changes of practice or culture. In Rapor Pendidikan's case, the technology has to be at the right level:

01

Balancing simplicity and substance in terms of contents and user interface that even those who are not technology and data-savvy can use.

02

Well-tailored to the kind of information and analytics that would be useful for different levels of users.

03

Sequencing how information is provided, between high-level highlights and more detailed information.

To achieve this, Rapor's team adopted a culture of frequent reflection when researching, designing, and developing the product.

Particularly, the team reflected on "What are the needs of teachers, principals, and regional government decision makers? Would a particular feature help them in improving or achieving the quality of education that they aspire to bring?".

02 **Ensuring high integrity and quality of the single source of truth data**

Rapor Pendidikan manages almost a total of almost 300 indicators as data inputs for the platform.

These are sourced from multiple directorates within MoECRT as well as from across government agencies such as the Ministry of Religious Affairs and the Central Bureau of Statistics. The process of managing this data to be consistent, accurate, and complete is one of the team's high priority focuses. To this effort, the team has been investing significant efforts and coordination with the Ministry and has also put a data protocol in place. Moreover, the team, together with the Ministry also spent resources in communicating with education stakeholders about the data sources and quality, which is key in building trust for users to use the platform. Some users have expressed genuine concern on the basis of the insights shown in the platform.

03 Curating insights for action while anticipating misinterpretation that might occur

As Rapor Pendidikan is a cognitive load-heavy platform, it is important to ensure users can easily navigate to grasp key insights and plan concrete action items. Therefore, Rapor Pendidikan's team collaborated with the Ministry team to set guidelines for the Data-Driven Planning Process (PBD). GovTech Edu adopted this approach in the platform design to support the users in their respective reflection process, while anticipating some misinterpretations that might occur.

Together with the Ministry, Rapor's team carefully defines key concepts such as the worst performing indicators, as well as which type of indicators should a school or a district focus on. The latter include curating between:

1. Indicators with the "Low" score today.
2. Indicators that experienced a massive decline compared to previous year.
3. Indicators with the lowest score compared to other schools in surrounding areas, and many more.

In summary, Rapor Pendidikan's journey demonstrates the potential and evidence of culture shifts in schools and local governments in Indonesia to reflect on real problems, make data-driven decisions, and create action plans to progress forward. Looking ahead, Rapor Pendidikan hopes to continue fostering a data-driven planning culture in schools and local governments and enabling greater transparency to broader education actors in Indonesia.

Anindito Aditomo, S.Psi., M.Phil., Ph.D.

Head of the Educational Standards, Curriculum and Assessment MoECRT

"As a part of Emancipated Learning policy and program, MoECRT has implemented a National Assessment that measures literacy, numeration, and character performance, as well as the learning environment of all schools across Indonesia. We take the result of National Assessment as feedback and basis for Data-Driven Planning (*Perencanaan Berbasis Data*, PBD) that are presented in Rapor Pendidikan platform. This would in turn become a tool for schools to identify and narrow down problems, to reflect in a more comprehensive manner, and to improve more concretely, which eventually advance the quality of learning."

Dr. Iwan Syahril, Ph.D.

Director General of Early Childhood Education, Primary Education, and Secondary Education MoECRT

"Rapor Pendidikan and *Perencanaan Berbasis Data* (PBD, Data-Driven Planning) are provided by MoECRT to all school levels (including pre-school, elementary, junior high, senior high schools, vocational schools, and special school) and are designed to be inclusive to the unique and contextual nature of these schools. MoECRT aims to continuously refine Rapor Pendidikan platform so that the implementation of PBD runs successfully, which in turn would help schools to conduct well-targeted improvements and program planning. My hope is not only to improve the quality of learning, but also to change the culture of school planning and budgeting that is more oriented towards identifying and reflecting on root causes."

Chapter 6

Appendix

Rapor Pendidikan has been adopted by more than 253,000 schools within four months of launch, which represents around 62% of total schools in Indonesia. All district and province governments have adopted the platform since its launch in July 2023.

Rapor Pendidikan is primarily intended for desktop usage, but it is also accessible on mobile devices to accommodate users who do not have access to a computer. The majority of users prefer accessing it via desktop computers, while over 34% opt to use mobile devices.

Exhibit 05. School (top, May-Aug 2023) and local (district and province) government (bottom, July-Aug 2023) adoption rate
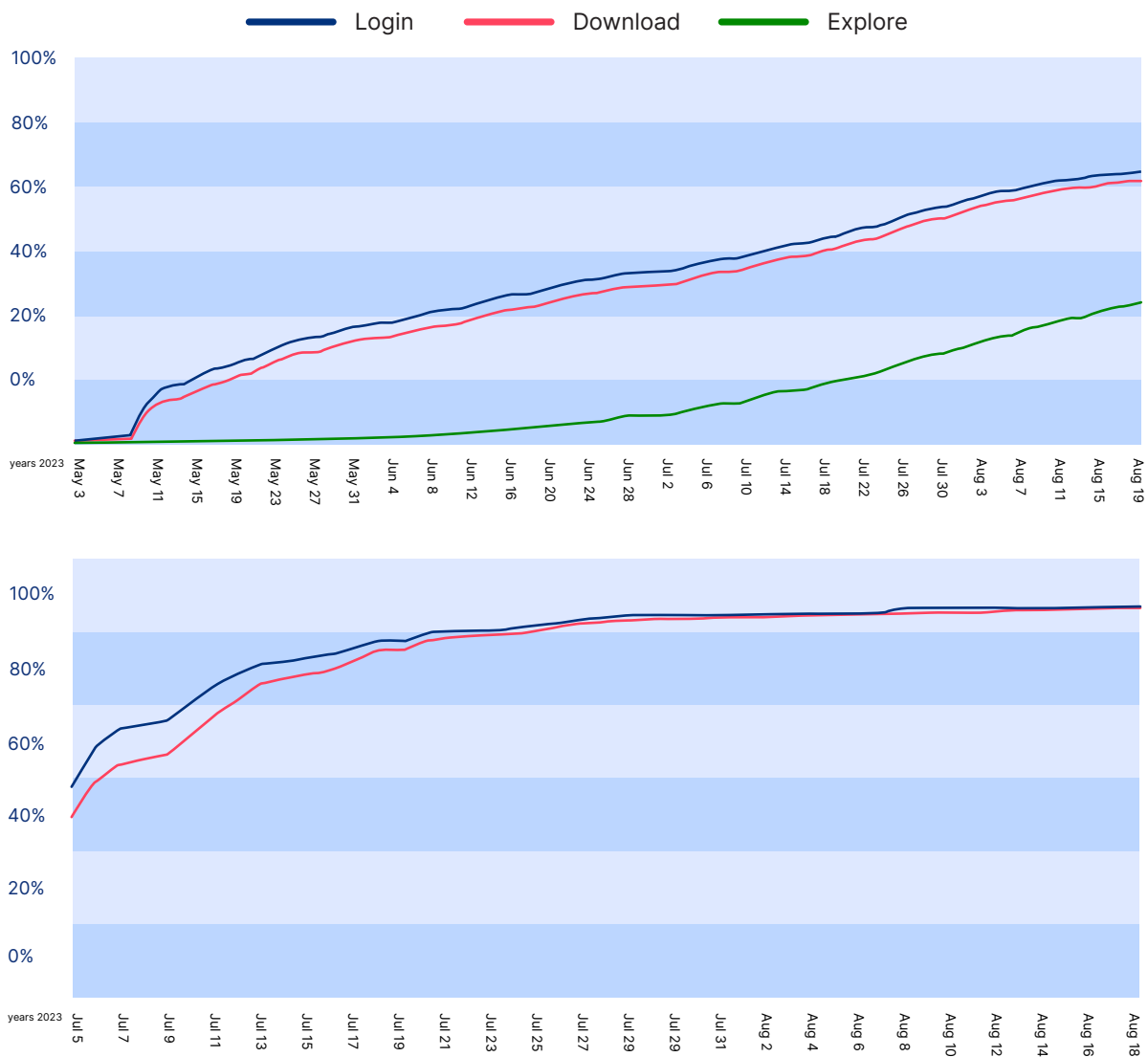
Rapor Pendidikan has managed to reach rural/remote areas, despite digital infrastructure challenges.

The number of users and logins are concentrated in Java and Bali, which is expected as these areas have the highest population density and number of schools. There remain digital infrastructure gaps, especially on internet network coverage, in eastern and outermost parts of Indonesia[9]. But across other regions, districts in these areas are still able to access and benefit from the technology.

Exhibit 06. User login distribution by district

Login Count
- (683,2818)
- (356,693)
- (203,356)
- (1,203)
- 0
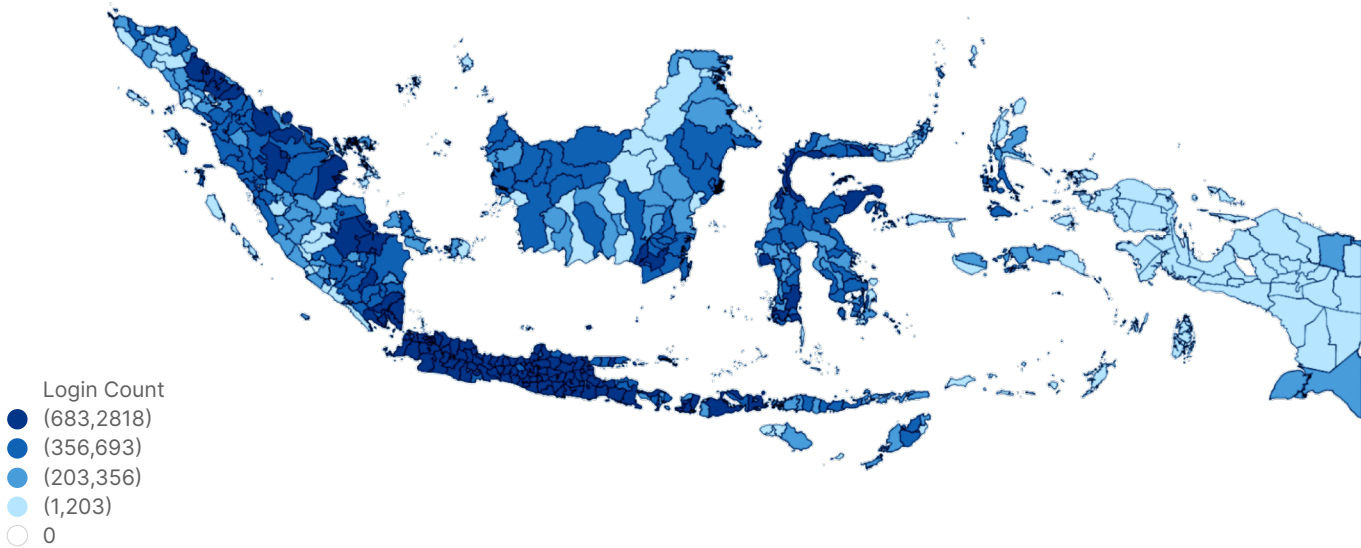
Source: GovTech Edu product data, 2023

Exhibit 07. Percentage of school internet access by province

Internet Access (%)

0   74

[9] Source: Dapodik 2019 data, MoECRT, as cited in World Bank, 2020, *The Promise of Education in Indonesia*. Regions in eastern indonesia have some of the lowest percentage of distribution of school connectivity (measured by % of internet access).

More than 35 percent of the active users have engaged in the identifying and reflecting process[10].

The intended impact of the platform is to create a culture of data-driven planning and decision making. When users explore the root cause feature and its insights, this means that the platform has successfully achieved its intended impact. Active users across 504 districts (or 98% of total districts) have explored the product. Districts which have not done exploration are located in a few Papua provinces where access to the internet is very limited.

Exhibit 08. Distribution of exploration metric

Exploration Count
- (262.5, 1301)
- (122.5, 262.5)
- (58,122.5)
- (1,58)
- 0
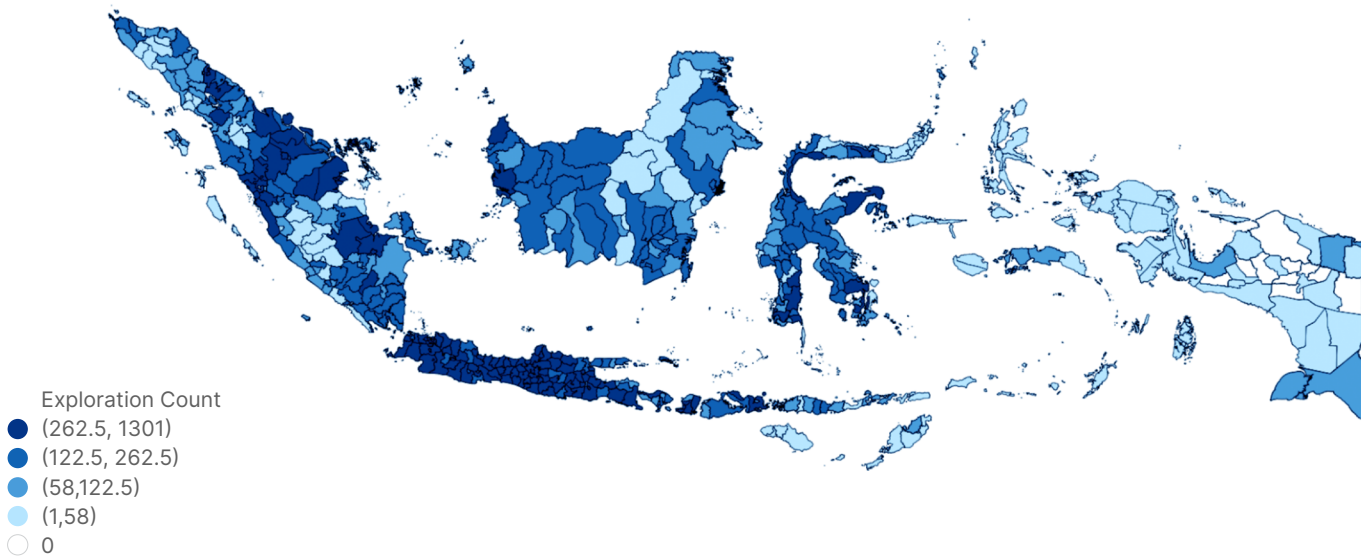
Source: GovTech Edu product data, 2023

[10] The metrics for successful platform engagement are measured in two layers: (1) exploration metric - when users explore at least one root causes and insights feature; and (2) northstar metric - when users specifically explore the root cause of either the lowest performing key indicator or one of key indicators that scores lower than the Minimum Standard of Service (MSS or SPM). The figure provided is the northstar performance, period May-August 2023.

GovTech Edu