

PDIA for Systems Change: Tackling the Learning Crisis in Indonesia

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The need for a different approach

Indonesia is facing a learning crisis. While schooling has increased dramatically in the last 30 years, the quality of education has remained mediocre (Rosser et al., 2022).¹ Teacher capability is an often cited weakness of the system, along with policies and system governance. Approaches focused primarily on adding resources to education have not yielded expected outcomes of increased quality. “It is a tragedy that in the second decade of the twenty-first century, some children in Indonesia are not completing primary school and are turned out into the workforce as functional illiterates.” (Suryadarma and Jones, 2013; Nihayah et al., 2020).

In the early 2000s, Indonesia began a process of decentralising service delivery, including education, to the district level. Many responsibilities were transferred from the central government to districts, but some key authorities, such as hiring of civil service teachers, remained with the central government. The Indonesian system is complex and challenging to manage, with more than 300 ethnic groups and networks of authority spread over more than 500 administrative districts (Suryadarma and Jones, 2013).

“When a new minister came, in 2019, we had a chance to talk to him and his team. We told him, ‘You don’t have one education system, you have 500 education systems, and they are all completely different, so forget about imposing one regulation or one policy to everyone.’”

– Daniel Suryadarma

Key Points

- The Indonesian education system faces diverse, complex challenges and an extremely decentralised environment. In this environment, approaches designed to address context specific problems, rather than universal policies, are critical.
- A team of researchers affiliated with the RISE Programme at SMERU, an Indonesia think tank, adapted the Problem Driven Iterative Adaptation (PDIA) approach and deployed it in four district governments. Teams made up predominantly of government officials worked to identify problems, find entry points, and take action steps to address the problem, reflect on the outcomes of the action, and report out their results to maintain authorisation and buy-in. In selected cases, they paired this with follow up RCTs to measure the impact of interventions developed through this process.
- The researchers found that the types of problems and actions generated across the four districts varied considerably in response to the diverse needs and capabilities in the different districts.
- The outcomes of SMERU’s engagement with government on this project demonstrates the way PDIA can be used as part of a strategically incremental approach to systems change.

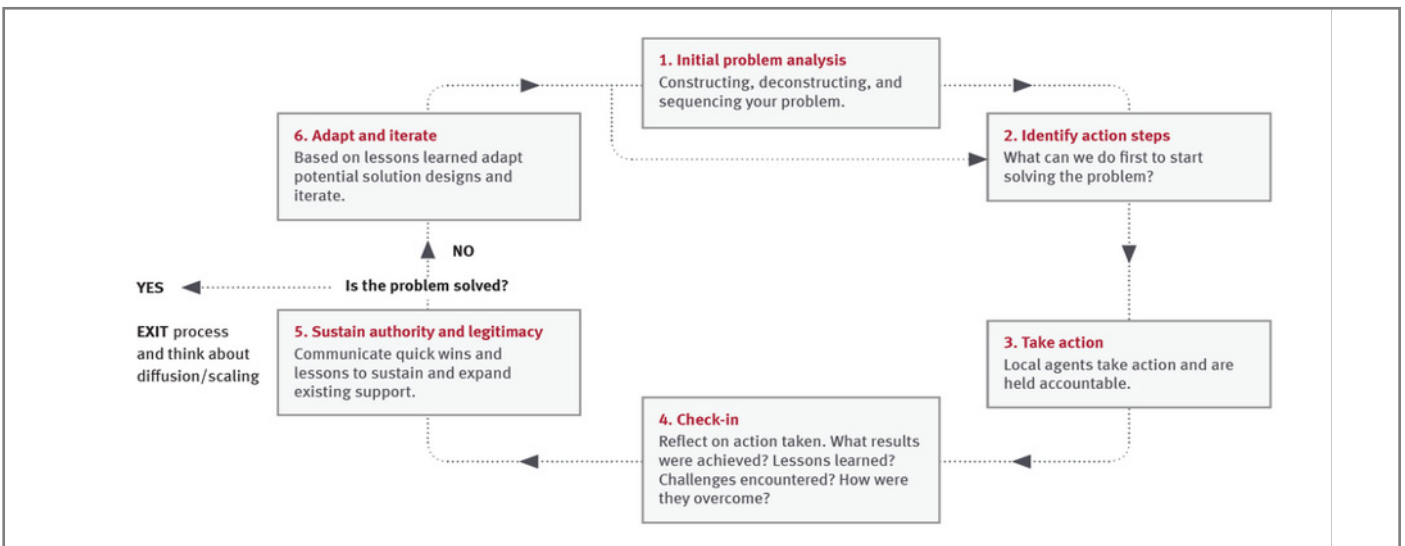
¹ Indonesia has consistently performed more poorly than neighbouring countries such as Malaysia, Thailand, and Singapore on the Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) tests.

Niken Rarasati and Daniel Suryadarma,² researchers at SMERU, an Indonesian think tank and NGO, understood this context well. Their prior experience working in the education sector had shown them that improving the quality of education within the classroom required addressing issues at the systems level (Kleden, 2020). Rarasati noted the difference in knowledge between in-classroom teaching and the systems of education: “There are known-technologies, pedagogical theories, practices, etc. for teaching in the classroom. The context [for systems of education] is different for teacher development, recruitment, and student enrollment. Here, there is less known in the public and education sector.” Looking for ways to bring changes to policy implementation and develop capabilities at the district level, SMERU researchers began to apply a new approach they had learned in a free online course offered by the Building State Capability programme at the Center for International Development at Harvard University titled, “The Practice of PDIA: Building Capability by Delivering Results”.³ The course offered insights on how to implement public policy in complex settings, focused on using Problem Driven Iterative Adaptation (PDIA).⁴ The researchers were interested in putting PDIA into practice and seeing if it could be an effective approach for their colleagues in government. This case study reviews Rarasati and Suryadarma’s journey and showcases how they used PDIA to foster relationships between local government and stakeholders, and bring positive changes to the education sector.

Initial problem diagnosis

The SMERU team experimented with deploying a PDIA-like approach in a number of Indonesian districts, believing that this bottom-up approach⁵ could deliver better results. To achieve this, they turned first to identifying the problems together with the local education offices in each district. Their approach was broken down into four stages: diagnosing the problem, designing interventions, evaluating progress, and adapting; this was done in an iterative manner to allow for learning, lessons, and ideas to emerge as they progressed.

Figure 1: The PDIA Process



Source: PDIA Toolkit, PDIA Process, pg. 7. <https://bsc.cid.harvard.edu/PDIAtoolkit>

² Daniel Suryadarma now works for the ADB Institute. Views expressed in this case are his personal opinion and reflections of his work while at SMERU. They are not attributable to ADBI. SMERU was the lead partner on the Research on Improving Systems of Education (RISE) Indonesia Country Research Team (CRT), of which Rarasati and Suryadarma were both members. The work described in this case study was conducted as part of the CRT’s overall agenda and activities.

³ Daniel Suryadarma completed the PDIA course in June 2016 and Niken Rarasati in May 2018. For more on the PDIA course visit: <https://bsc.cid.harvard.edu/online-course>

⁴ PDIA is a process of facilitated emergence which focuses on problems (not solutions) and follows a step-by-step process (not a rigid plan) that allows for flexible learning and adaptation. To learn more, please visit the Building State Capability programme at <https://bsc.cid.harvard.edu/>.

⁵ “Bottom-up” in this sense means that policies would be designed and implemented at the local level, rather than adopting national policies stemming from the Ministry of Education.

First, they had to decide where to begin the project. They started by identifying which districts had overperformed in national exam scores, and other nationally available data,⁶ reasoning that districts that overperformed must contain some schools that had found ways to overcome constraints in their context. They called these “innovative districts”. SMERU researchers identified 64 districts that had high or increasing performance over the years. Taking into account political climate, geography, election cycles,⁷ and other factors, they selected four initial districts to engage with: Way Kanan, Kebumen, Yogyakarta, and Bukittinggi.

Figure 1: Map of four districts chosen by SMERU.



Source: Author's creation using Google maps.

The districts represented rural, semi-urban, and urban areas in Indonesia. Way Kanan, a remote district, is located “a five-hour road trip from the nearest airport, and there is no bookstore in the city,” explains Rarasati. Kebumen is close to an urban center. These two districts posed very different challenges and had varying degrees of capabilities. Yogyakarta and Bukittinggi, on the other hand, were considered high performance districts and had access to a host of educational resources.

After selecting the districts, in preparation for engaging with authorities, the SMERU team undertook their own initial diagnostic exercise with the aim of identifying key constraints to education progress in the district. The research team used their knowledge, along with data from the Ministry of Education,⁸ to construct and deconstruct the problem using tools such as the “5 why’s”, fishbone diagrams, and sometimes tools from other approaches such as Design or Systems Thinking. This gave them a set of initial hypotheses of the challenges facing each district. In Way Kanan, for example, the researchers had identified that the key challenge was teacher recruitment and accountability, while in Kebumen, the SMERU researchers found that teacher training was poor.

Engaging, working as a team, and managing authorisation

After having done their initial problem diagnosis, the SMERU team was ready to engage with others to share and learn more about the problem. Engagement began at the district level government, with the education offices or

⁶ Data on districts such as economic conditions, education level of adults, and education level of teachers, among others, was obtained from the Ministry of Education.

⁷ SMERU researchers considered election cycles important as they did not want their work interrupted by changes in government administrations.

⁸ Over the years, SMERU has built a good working relationship with the central government. A relationship that started during the 1998-1999 Asian financial crisis, where they played a key role in helping the government understand the depth of the crisis. For more information about SMERU, please visit <https://smeru.or.id/>

agencies. These bodies oversee policies affecting schools within their districts. Suryadarma recalls that when preparing presentations to the top elected officials and office leaders, they had to be careful about the message they conveyed. “We were very worried, although these districts overperformed, on other standards they were still low performing, so we were worried that they wouldn’t want to work with us thinking we had insulted them. We prepared the wording and practiced how to relay the message properly.” They were surprised, though, by how open the education offices were on listening to their initial findings and about working together. Suryadarma recalls one high ranking official telling the team, “You can present anything because we know that the quality of our education is still not that good and we are trying to work more on it.” This was consistent across the four districts where SMERU worked, though it was not generally the case across Indonesia, “I think we got lucky.” recalls Suryadarma. “We kind of mapped these district heads that wanted to improve the quality of the school systems, and this made a huge difference.” With the buy-in from local officials secured, the SMERU research team began to set up a PDIA team in each district.

Team structure was the same across the districts, with each team including both SMERU researchers and officials from the local government. Once they had buy-in from district heads, they were given letters authorising officials to be part of these efforts. They carefully considered who was part of the team. “Apart from the letter, selecting the right people to be in the task force was important. For example, in the first meeting we may have had 12 people, but the number decreased over time. And we know that people who stayed are usually the people who care about their job. They are the ones who really understand how this process will help them solve problems,” recalls Rarasati.

Work was slow at first, SMERU researchers worked on increasing engagement, ownership, and capabilities within the team. Meetings would happen either weekly or bi-weekly, and check-in with district heads either monthly or quarterly to keep them informed. The team would also contact and work with a broader network. Members were asked to reach out to schools, talking to principals, teachers, students, parents, NGOs, and even the media, creating channels of communication among stakeholders. Interaction was almost non-existent at the start, principals would not generally trust the education office, and some principals were well connected with politicians.

Rarasati and Suryadarma noted that at first government officials were reluctant to work in new ways, they continued with traditional approaches because they were sometimes successful. For example, they continued to deploy policies to increase enrollments, “Schools would tell us, ‘We were successful before, so we’ll be successful again.’ without realising that the problem was different,” recalls Suryadarma. The first few meetings felt formal, any objection to ideas or data were either withheld or voiced softly. They did not believe this approach could be adopted. “It is not in the ministry law number so and so.” Rarasati remembers that some people were used to simply following regulations, but she noticed a change in behaviour over time.

“When they started to do the [problem] diagnosis and interviewed people, their dynamic strangely changed. They started to criticise things or be more forward if they didn’t like our ideas, and the discussion began to be more and more engaging.”

– Niken Rarasati

There were a lot of voices from teachers and lower-level staff who had ideas but were not heard because they were not at the top of the hierarchy. The PDIA process helped these voices to be heard by high ranked staff in the districts.

Different contexts required different interventions

The work done on each district was different depending on the context. Suryadarma reflected that the policies implemented at Kebumen would not have been implementable in Way Kanan, and the opposite is true. The policies and responses were specific to the problems in each of the districts.

*“One of the amazing things, to me, about doing this in 4 districts is that the approach, although the same, the outcomes are really different, and the policies that the government ended up implementing were different. **You don’t have to copy the solutions, but you should copy the approach.**”*

– Daniel Suryadarma.

The experience in Way Kanan

This remote district, which had limited resources and capabilities, faced many challenges including very little data on students below Grade 9 and poor accountability among principals and teachers. Teachers would sometimes report to work once a month and there was no performance monitoring. Rarasati recalls that in this case it was obvious, she compares it to a car, “if you have a car that is broken down and you can clearly see that it is missing its tires, then you know the problem is the missing tires.” Even then, though, there was effort placed into **making sure that stakeholders shared and viewed the problem in a similar manner**. Focus groups were formed with broader audiences to listen to their concerns and ask questions. The team also visited schools and sat-in on classrooms and trainings. Government officials and principals, though, were not always aware of the problem’s scale. Suryadarma recalls how the team gained greater acceptance and authority by doing a simple survey in about 50 to 60 schools to gauge students’ literacy and numeracy skills. The results were astonishing to district heads. This was the first time they had realised how big the problem was. This small act helped prompt government officials, teachers, and principals into action.

Regarding teacher attendance and recruitment, the team collectively decided to begin working on the attendance side. Though teacher recruitment was a critical constraint to progress, principals had little authority to address it. Recording teacher attendance was a good way to start building capability, plus principals had some experience trying to get teachers to show up to school. Suryadarma recalls how they had tried using fingerprint readers to keep track of attendance, but teachers would somehow find ways to game the system. The team wanted to find an easy, low-cost solution that principals would not object to. It started with having the principals record teacher attendance on a notepad, with the team helping the principals by reminding them to do so. As principals learned how to keep better information, they developed a phone app to replace the notepad. Once the team felt comfortable that principals were using the app as intended, they began to add features to the app, building its functionality and giving principals more substantive tasks over time.

This way of working proved quite successful in building local capabilities. To Rarasati, “agency matters more than authority.” She notes that while the authority to recruit teachers is not granted by the central government, districts have found a way around this restriction. “If you have the authority, but not the agency, you will do nothing. But if you accept that the problem really matters, and you have the agency, you will solve it.”

The experience in Kebumen

Kebumen was close to an urban center, though not considered an urban district. Obtaining authority and acceptance proved challenging at first. The researchers had found that the most pressing problem in this district was teacher development and training, but education officials and schools did not share this view. Rarasati and Suryadarma remember how they had systems in place for teacher training, teachers and principal recruitment, and good funding for schools: “From this perspective the system seems to be complete, but its not working. So, it’s much harder to get acceptance from officials that there is a problem and have them do something about it.” Schools and districts would often say, “we have already tried that; our teachers are well-trained and meet all requirements.”

“We called these the isomorphic mimicry districts”, says Rarasati, referring to these districts copying the policies and programmes that schools in nearby urban areas would adopt.⁹ “It doesn’t work, of course, because they have different capabilities and [are in] different contexts.”

⁹ Isomorphic mimicry is a technique that allows organisations (and states) to maintain legitimacy by adopting the forms of successful organisations and states even without their functions. For more information about isomorphic mimicry and other capability traps, see Pritchett et. al, 2012.

On paper, teacher training programmes looked very promising, describing clear goals and what would be taught. So, the PDIA team was eager to understand why these trainings did not seem to help improve teachers' persistently low performance. To get a better understanding, they decided to sit in on teacher training programmes and it quickly became clear that teachers were not being trained on new curriculum objects, but rather were being taught to memorise specific items that would be tested on national exams, and to then transfer this knowledge to students. "Teaching to test rather than to learn."

The team tried to highlight this to district officials but encountered resistance. Officials would not accept that this was an issue. In an effort to make progress and gather greater acknowledgement of the problem, the team asked the education officers to work with the schools to identify the causes of the teacher performance problem. As the officers and school leaders began to work together and iterate over the problem, and reach out to others to understand it better, it became clear that teachers and principals were blaming parents for student performance, often saying that, "our teachers are well-trained, it's parents that don't get involved."

This interested the team, perhaps by starting with a problem that was accepted by the stakeholders, they could make progress on teacher training along the way. "If there is no agency, then there is no point in doing something because at the end of the day it is them who have to implement the programmes," notes Rarasati. The team therefore decided to work with the problem that the principals and teachers had identified: low parental involvement. They worked together for almost two years on increasing parental engagement, providing them with training and helping them be more involved in their children's learning. This proved to be worthwhile. As parents started to be more engaged, they began to put pressure on schools to improve. Teachers felt they had more responsibilities, since parents cared more about their children's education. Rarasati remembers that there was a change in behaviour, highlighting the importance on working on a problem accepted by stakeholders. "This is the beauty of [working on the accepted problem]. Sometimes as an outsider, after doing a diagnosis, you find that the biggest problem is X, and it is X, but the insider or stakeholder thinks that there is another more binding issue, even if it is small. The lesson here is that you should work on the binding constraint before addressing the bigger challenge, and it works."

The experiences in Yogyakarta and Bukittinggi

Yogyakarta and Bukittinggi are urban districts: their education systems perform much better than the Way Kanan and Kebumen systems, and they have better access to resources. "It's more like working with university people in terms of quality of knowledge" says Suryadarma. Given this context, where high level of capability was already in place, the SMERU team took on less work as tasks and responsibilities could be delegated onto government officials and schools. They still deployed the PDIA approach to break down problems and engage with stakeholders, but the team found it relatively easy and quick to come up with proposals for interventions and test if they had the intended effects. Suryadarma recalls spending less time in designing, testing, and doing iterations, but more time working on measuring policy impact.

In Yogyakarta, for example, district officials wanted to test to see if they could come up with a policy to increase the diversity of student enrollment by reaching out more proactively to poorer children. SMERU researchers helped them define and test a policy. Suryadarma recalls that there has been some initial success, as this is still on-going. When conducting surveys, they have found that the change in policies had no effect on the efficiency of admission processes, yet it has increased public school access for poorer kids.

These two districts have helped SMERU researchers gain insights about the effect of different policies on education. They view these districts as a place where they can test policies and generate new ideas and knowledge about increasing systems of education.

Measuring success

Generating knowledge and evaluating the impact of interventions is a core component of SMERU's agenda. As they work with districts to increase capabilities and implement policies using PDIA, they pair this work with impact evaluation, including randomised controlled trials to study the effects of new policies. This takes time. Since most of this work started in 2018 and 2019, and COVID-19 interrupted some of the work, evaluation and results are still on-going. "The

verdict is still out there,” says Suryadarma, “but we do see some positive indicators.”

Rarasati and Suryadarma have observed changes in behaviour in the districts. In Way Kanan and Kebumen, they observed increasing levels of trust among stakeholders.

“It is usually not easy to approach district governments and offer help in education, but in the districts we have worked in, it is now easy for us to talk to the heads of the offices, they are very open. And they now contact us instead of us contacting them, asking for advice and feedback.”

– Niken Rarasati

In another positive development, SMERU has been able to relay their experiences engaging at the district level to the Ministry of Education. Impressed by the outcomes of their work, the ministry has begun to think differently about policy making. SMERU researchers have observed several instances where the central government is willing to adopt differentiated policies across districts, rather than the previous approach of universal adoption of policy. “We were surprised to see that this policy was being presented to parliament by the minister,” Suryadarma recalls. “It is a long process, it’s been two years and there’s still a long way to go, because for 30 years they’ve been doing things one way, even if it hasn’t worked.”

The outcomes of SMERU’s engagement with government on this project demonstrates the way PDIA can be used as part of a strategically incremental approach to systems change. Rather than attempting to improve practices by outside interventions—either with donor funding or NGO intervention, or through new de jure policies or top down changes, the PDIA approach changes the way of thinking and working of those inside the organisations. It spurs them to nominate and tackle problems, and the innovations that emerge can be ingrained as accepted and implementable practices and then get embodied into policies and laws in a way that have scale and permanence. In this way, it builds the capability to make change by first making small changes that come from inside government.

Table 1: Summary of results in each district

District	Type of Area	Access to resources	Problem worked on	Results at time of writing case study
Way Kanan	Rural	Low	Teacher absenteeism	<ul style="list-style-type: none"> Increased trust among stakeholders. Better data collected on education levels below Grade 9. Principles are keeping better track of teacher presence in schools.
Kebumen	Semi-urban	Medium	Parental engagement	<ul style="list-style-type: none"> Parents were more vested in children’s education. Teachers’ behaviour changed into caring more about education.
Yogyakarta and Bukittinggi	Urban	High	Increase diversity of enrollment	<ul style="list-style-type: none"> Increased access to schools for poorer children.

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At the time of writing this case study, Indonesia was suffering from high COVID-19 infection rates, making it impossible to travel into the country to gather information and speak with different stakeholders. The work in Way Kanan, for example, had to stop due to the pandemic, the district had limited budget and resources were shifted into other areas. Work in the other areas continues to this day. SMERU keeps using PDIA in their work, and they are still running evaluations on the effects of the policies the districts are adopting to measure the impacts. The author is extremely grateful to Niken Rarasati and Daniel Suryadarma for lending much of their time and offering the knowledge that went into the writing of this case study, and to Lant Pritchett, Salimah Samji, and Marla Spivack for thoughtful comments.

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