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THE LEARNING GAP SERIES – TWO

Reforming Indonesia's curriculum: How *Kurikulum Merdeka* aims to address learning loss and improve learning outcomes in literacy and numeracy

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Abbreviations and Acronyms

ACER	Australian Council for Educational Research
AITSL	The Australian Institute of Teaching and School Leadership
AKM	*Asesmen Kompetensi Minimum* (Indonesian Minimum Competency Assessment)
ATP	*Alur Tujuan Pembelajaran* (Learning Objective Sequences)
BOS	*Bantuan Operasional Sekolah* (School Operational Assistance)
BSKAP	*Badan Standar, Kurikulum, dan Asesmen Pendidikan* (Standard, Curriculum and Education Assessment Bureau)
BSNP	*Badan Standar Nasional Pendidikan* (National Education Standards Agency)
CP	*Capaian Pembelajaran* (Learning Expectations)
DFAT	Department of Foreign Affairs and Trade
GPF	Global Proficiency Framework
ICT	Information and Communication Technology
INOVASI	Innovation for Indonesia's School Children
K–13	*Kurikulum 2013* (Curriculum 2013)
KBK	*Kurikulum Berbasis Kompetensi* (Competency-Based Curriculum)
KKG	*Kelompok Kerja Guru* (Teacher Working Group)
KM	*Kurikulum Merdeka* (Emancipated Curriculum)
Komnas Perempuan	*Komisi Nasional Anti Kekerasan terhadap Perempuan* (National Commission on Violence Against Women
KTSP	*Kurikulum Tingkat Satuan Pendidikan* (School-Based Curriculum)
MoECRT	Ministry of Education, Culture, Research and Technology
MPL	Minimum Proficiency Level
NTB	*Nusa Tenggara Barat* (West Nusa Tenggara)
NTT	*Nusa Tenggara Timur* (East Nusa Tenggara)
OECD	The Organisation for Economic Co-operation and Development
P4TK	*Pusat Pengembangan dan Pemberdayaan Pendidikan dan Tenaga Kependidikan* (The Centre of Development and Empowerment of Teachers and Education Personnel)
PDIA	Problem-Driven Iterative Adaptation
PIP	*Program Indonesia Pintar* (Smart Indonesia Program)
PISA	The Programme for International Student Assessment
PSKP	*Pusat Standar dan Kebijakan Pendidikan* (Centre of Education Policy and Standards)

Puskurjar	*Pusat Kurikulum dan Pembelajaran* (Centre of Curriculum and Learning)
Puslitjak	*Pusat Penelitian dan Kebijakan* (Centre for Policy Research)
RPJMN	*Rencana Pembangunan Jangka Menengah Nasiona*l (Indonesia's National Medium-Term Development Plan)
SMK PK	Sekolah Menengah Kejuruan Pusat Unggulan (Vocational School the Centre of Excellence)
TaRL	Teaching at the Right Level
UN	*Ujian Nasional* (National Examination)

1. Introduction

1.1. Purpose

Beginning in late 2019, the Indonesian government embarked on a series of systemic education reforms, collectively referred to as *Merdeka Belajar* (Emancipated Learning). These reforms are set to improve learning outcomes, promote quality, and equitable education for all Indonesian students by creating changes in the learning paradigm and practice, empowering educators and school leaders, and encouraging active engagement of the entire education ecosystem.

This report is the second in the learning gap study series[1]. It includes a case study of learning loss in INOVASI partner schools, adding to the evidence base for why this curriculum reform is necessary. The study, undertaken by the Centre for Education Policy and Standards (*Pusat Standar dan Kebijakan Pendidikan, or PSKP*) of the Ministry of Education and Culture, Research and Technology (MoECRT)[2] and INOVASI (Innovation for Indonesia's School Children)[3] highlights the need for a curriculum framework that clearly sets out the key knowledge, understanding, and skills that students need to learn as they progress through school, particularly literacy and numeracy in the early grades. Equally important is the need to develop teachers' capacities for quality teaching, differentiated learning, and assessment to determine student learning needs and to monitor progress and attainment.

The purpose of this report is to describe the key features of Indonesia's new curriculum and its development, and to provide evidence on what policy and support provision will help meet its aims, especially in the context of COVID-19 pandemic-related learning loss. The report is intended to inform planning and policy development by contributing to evidence about the need for an improved curriculum, better quality instruction, and well-designed implementation to ensure that students across the breadth and diversity of Indonesia have improved opportunities to learn at school. This is crucial if Indonesia is to address the persistent issue of low educational attainment and learning loss.

This report endorses the launch of *Kurikulum Merdeka (KM; Emancipated Curriculum*), elaborating on what, why, and how the new curriculum has come about and how its implementation is expected to contribute to better learning outcomes across regions and groups of Indonesian students.

[1] The learning gap study series consists of several reports: (1) Spink, et al. (2022) that focuses on identifying learning gaps between what the standards set for students to learn and actual student attainment; (2) a case study of why the curriculum reform is necessary that will be covered in this paper, and; (3) a case study of the effect of pandemic on student learning based on GEDSI lenses.

[2] This will be referred to as PSKP-MoECRT.

[3] INOVASI is a partnership program between the Government of Australia and Indonesia, working directly with the Ministry of Education and Culture, Research and Technology. The program is seeking to understand how learning outcomes in foundational literacy and numeracy can be improved.

1.2. Organisation of this report

The report consists of six chapters:

1. Introduction—setting out the purpose, organisation, and summary of the report.
2. Background—providing national and international data on student attainment and discussion of student background factors which contribute to lower levels of attainment. The data on student attainment highlights the need for significant improvement—overall and for groups experiencing disadvantage.
3. Curriculum Reform in Indonesia—providing an overview of four iterations of Indonesia's national curriculum since 1994—and what can be learned from them—as well as the need for and focus of the COVID-19 Emergency Curriculum.
4. *Kurikulum Merdeka*—presenting a discussion of the experience and feedback that have guided the development of the new curriculum, along with an outline of the key features of the curriculum.
5. Challenges and Opportunities—setting out the challenges and highlights the opportunities for successful implementation of *Kurikulum Merdeka*, with a priority on addressing the 'loss of learning' resulting from the COVID-19 pandemic, along with the need to improve the quality of instruction across the country. The discussion in the chapter considers the COVID-19 loss of learning and considers key ways systemic adjustments can support successful curriculum implementation.
6. Conclusion—recaps the development, design, and expectations of *Kurikulum Merdeka,* restating the opportunity and challenges for improving learning opportunities and outcomes for all Indonesian students.

1.3. Summary

The series of *Merdeka Belajar* (Emancipated Learning) initiatives emerged in 2019 from an awareness that Indonesian education has suffered from persistently low learning outcomes, even before the COVID-19 pandemic. The country has been very successful in increasing school participation, especially at the basic education level. Notwithstanding this achievement, the Indonesian education system is not yet competitive internationally. Indonesian students' performance on the Programme for International Student Assessment (PISA), for example, has not moved from the bottom of the rankings for the past twenty years. During the pandemic, the situation became even more worrying, and inequality is worsening.

The results of the learning gap study undertaken by PSKP and INOVASI provide insights into how learning losses may be recovered and how the learning crisis that existed before the pandemic might be addressed. The current report is the second in a series of reports that analyse the evidence from this learning gap study. The first report, *Beyond letters and numbers: The COVID-19 pandemic and foundational literacy and numeracy in Indonesia* (Spink et al., 2022), shows that most students did not have foundational literacy and numeracy skills such as listening, decoding, and reading comprehension (which comprises retrieving information, interpreting, and reflecting on text) that are essential if students are to become good readers. Another key finding indicates a gap among expected grade level achievements

of students (based on the 2013 Curriculum, the Emergency Curriculum, the Minimum Competency Assessment (*Asesmen Kompetensi Minimum*, or AKM) and the Global Proficiency Framework (GPF) and Sustainable Development Goals Minimum Proficiency Level[4] (SDG MPL) expectations for literacy and numeracy. For example, for numeracy, some of the Indonesian curriculum expectations were higher than global standards, as indicated by the fact that more Indonesian students achieved the GPF and SDG MPL than the Emergency Curriculum minimum standard. This confirms analysis by Pritchett and Beatty (2015) that in some countries, including Indonesia, the pace of the national curriculum is faster than students' learning pace. This was found to be true, even for the Emergency Curriculum, which was an attempt to simplify the 2013 curriculum to focus on core skills during the COVID-19 pandemic. In effect, children are left behind or even stop learning.

Nevertheless, there are some positive and optimistic findings from the ACER study (Spink et al., 2022). First, providing additional support will enable a large proportion of students to acquire the expected literacy and numeracy skills. Second, the results demonstrated the added value of more schooling and teaching, indicated by the positive proportionate increase in student performance by grade level, with the average performance of students increasing by years. For instance, while only 16 per cent of Grade 2 students met the SDG's minimum proficiency level in math, while the figure doubled up to 32 per cent for Grade 3 students. This is also the case for literacy scores which increased from 39 per cent to 55 per cent. Third, students being taught by teachers using the Emergency Curriculum literacy and numeracy modules scored better than those who did not use it. A regression analysis found that the difference between the two groups is around 0.1 standard deviation. This may be because the modules clearly defined skills learning objectives against each level of learning. In addition, the modules, which were developed as teaching and learning resources for the Emergency Curriculum, incorporate materials for parents and students to work with and have reduced competency targets and content, possibly making learning less stressful.

The PSKP-INOVASI learning gap study has highlighted the unequal distribution of learning outcomes across regions and schools. Thus, it shows the need for a curriculum to facilitate differentiated learning. Further, the study finds that poor learning outcomes are disproportionately experienced by children from families who have low literacy, speak local languages (rather than *Bahasa Indonesia*), have disabilities, or lack adequate learning facilities such as books and ICT tools. There are also gender-related differences. Although boys have lower learning outcomes than girls, the girls were found to suffer a more significant loss. The study reinforces the need for learning strategies to be adapted to address the different characteristics and needs of these children and to ensure all children benefit maximally from their learning.

Teaching students according to their needs requires a systematic approach. Besides the importance of a more focused curriculum, learning strategies that consider the diverse conditions and needs of children are also essential for improving the quality of learning processes and outcomes.

[4] The GPF aims to provide a common set of descriptors to align students' performances with the MPLs of Sustainable Development Goals (SDGs) 4.1.1 and interpreting the grade level. The GPF was developed under the auspices of UNESCO to set expectations for the respective Sustainable Development Goals and align measurements in different country's assessment instruments of the proficiency levels of the SDG's MPL (Spink, Cloney and Berry; 2022).

Indeed, Indonesia is seeking to undertake significant reform across the system in curriculum, assessment, and teacher development. The reform is potentially a game changer for the country. Indonesia's reformed curriculum, *Kurikulum Merdeka* (KM) is more than just a 'new curriculum'. It is accompanied by effort to transform the system, changing the way teaching and learning take place so that all children can succeed, according to their individual potential. The reforms focus on the foundational skills of literacy, numeracy, and character education. The potential scale of the transformative, nation-wide impact of this work is staggering - the Indonesian education system is the fourth largest in the world with more than 50 million students, three million teachers, and 300,000 schools; 170,000 of these are primary schools and madrasah.

Kurikulum Merdeka provides a clear articulation of what students are expected to know and be able to do[5]. It is structured with three main features: (1) a focus on essential competencies; (2) flexibility to enable teaching to be adapted to student learning needs; and (3) a project-based learning approach, called *Projek Penguatan Profil Pelajar Pancasila* (the Pancasila Student Profile Strengthening Project), which will allocate a significant amount of school time to enhance character education and provide real-life experiences to deepen learning and make it more relevant. This new curriculum is aligned with previous initiatives such as the simplification of requirements for lesson plans, the abolition of the high-stakes national examination (*Ujian Nasional*, or UN) and Nationally Standardized School Examination and the introduction of the National Assessment (*Asesmen Nasional*, or AN) as a government-run system evaluation on school performance in place of student individual evaluations[6]. The system evaluation assesses only literacy, numeracy, and character skills, which are believed to be three essential competencies every student must possess to become a lifelong learner and the school climate as contributing to a conducive learning environment. These three competencies have also been officially established as components of the competence standard in the new national standard document[7]. The new, sample-based AN will assess and evaluate school performance. As the AN system shifts from evaluating students to school performance, it is expected to reduce the stakes while providing important information on system performance rather than individual performance.

This ambitious new curriculum requires comprehensive implementation strategies and ongoing monitoring and refining of the curriculum based on feedback from schools and others. Given the system scale and unequal resource capacity, incremental adoption of the new curriculum is essential. Implementation of the new curriculum will require the rearrangement of existing standards and regulations to empower policymakers and educators and provide learning tools and resources to expedite the adaptation process. In addition to the earlier implementation of the Emergency Curriculum, another important modality is that the *Kurikulum Merdeka* implementation will be integrated with other *Merdeka Belajar* initiatives, particularly the *Sekolah Penggerak* (Change Agent School), *Sekolah Menengah Kejuruan Pusat Unggulan* (SMK PK or Vocational School the Centre of Excellence), and *Guru Penggerak*

[5] A more detailed explanation can be found at https://kurikulum.kemdikbud.go.id/kurikulum-merdeka/

[6] A more detailed explanation about AN can be found at https://anbk.kemdikbud.go.id/#tentang

[7] MoECRT Ministerial Regulation No. 5/2022 on Competency Standard for Early Childhood Education, Primary and Secondary School Graduates.

(Change Agent Teacher) programs[8]. The programs provide training and mentoring for teachers and schools to help them navigate this new curriculum.

A core challenge for Indonesia will be to sustain fidelity of implementation across all schools in Indonesia, with districts assuming responsibility for guiding and supporting implementation and the diversity of school settings across the country. Challenges (discussed in detail in Chapter 5) will range from the capacity of district personnel to communicate the opportunities that the new curriculum provides for schools to identify and respond to student needs and interests; to building the capabilities of school leaders and teachers to provide instruction that is engaging and 'at the right level'; to ensuring that all schools have access to the resources, both online and offline, that have been developed to support schools and teachers.

While one of the greatest challenges will be to implement *Kurikulum Merdeka* across the country, early experience of implementation of the curriculum provides a sense of optimism, with evidence of teachers' belief and engagement with the new curriculum, and its focus on students (see Section 5.6). Teachers have welcomed the opportunity to assist their students to develop important general competencies and have indicated progress with developing school-based curriculum, implementing project-based learning and applying the flexibility that the new curriculum provides.

Moreover, INOVASI's work as a partner to districts and schools has provided convincing evidence of how capability and confidence can be developed at the local level, which will be key to leading and managing curriculum change and implementation, as well as a process of continuous improvement.

[8] SMK PK (Sekolah Menengah Kejuruan Pusat Keunggulan) is one of MoECRT programs for developing specific technical expertise to improve the quality and performance of the industrial and labor forces. https://vokasi.kemdikbud.go.id/read/yuk-mengenal-smk-pk

2. Background

2.1. Educational attainment in Indonesia

Indonesia has one of the largest education systems in the world, serving over 50 million students and employing over three million teachers (World Bank, 2020). The country's school enrolment has increased dramatically over the past few decades. Universal primary school enrolment was achieved in 1988, and secondary school enrolment increased significantly from 50 per cent to 71 per cent in 2002 and 2017, respectively (Beatty et al., 2020; World Bank, 2020). According to Indonesian statistics, the secondary enrolment rate in 2021 was around 73 per cent(BPS, 2022).

The increase in enrolment in Indonesian education could be attributed to several progressive policies implemented over the past few decades. Since 2009, the country has made significant progress in increasing education spending, with the goal of allocating at least 20 per cent of the annual state budget to education. With this policy, the country has launched programs such as School Operational Assistance *(Bantuan Operasional Sekolah*, or BOS), "One Roof" primary and junior secondary schools *(Sekolah Satu Atap,* or *Satap)*, local school grants, Smart Indonesia Program (*Program Indonesia Pintar*, or PIP)[9], and others. These policies are widely believed to have reduced household spending on education, resulting in increased access to school, particularly among disadvantaged households (World Bank, 2020).

Despite significant increases in access, the quality of Indonesian education remains low. This phenomenon is not unique to Indonesia and has been referred to as “schooling ‘aint learning” (Pritchett & Banerji, 2013): students attend school but do not learn much from the teaching process. As the Indonesian’s Minister of Education, Culture, Research, and Technology, Makarim (2022), stated during the launch of *Kurikulum Merdeka* that a large number of students in Indonesia lack the ability to understand simple stories and perform simple calculations. This is a problem that affects not only students in the early grades but also ones in the upper grades. Furthermore, a recent study by Beatty et al., (2020) reveals that the typical Grade 7 student in 2014 demonstrated the same level of numeracy mastery as the typical Grade 4 student in 2000. According to this finding, the quality of education in Indonesia has actually declined over the past 14 years.

2.2. Indonesia’s performance on international measurements

According to the most recent PISA[10] test results from 2018, students in Indonesia do not perform well in the three subjects measured: literacy, mathematics, and science (OECD, 2019a). PISA establishes a baseline level, level 2 proficiency on a scale of 1 to 6, from the lowest to the highest respectively. At level 2, students begin to demonstrate the competencies needed to participate effectively and productively in life as continuing students, workers, and citizens (OECD, 2014). According to the latest PISA result, the percentage of Indonesian

[9] Smart Indonesia Card (*Kartu Indonesia Pintar, or* KIP) guarantees and ensures that all school-aged children from disadvantaged families receive financial assistance for education up to the completion of high school/vocational school (TNP2K, n.d.).

[10] Triennial survey of 15-year-old students that assesses the extent to which they have acquired the key knowledge and skills for full participation in society. The assessment focuses on proficiency in reading, mathematics, and science (OECD, 2019a).

students who have achieved level 2 proficiency in all subjects is significantly lower than that of students in OECD countries.

In terms of literacy, only 30 per cent of students achieved at least Level 2 proficiency in reading, compared to 77 per cent of students on average across OECD countries (OECD, 2019a, 2019b). In other words, only a small percentage of Indonesian students can identify the main idea in a moderate-length text; locate information based on explicit; albeit sometimes complex criteria; and reflect on the purpose and form of texts when explicitly directed. A less favourable situation was discovered in numeracy because only 28 per cent of Indonesian students achieved Level 2 or higher in mathematics, while on average across OECD countries, 76 per cent of students attained Level 2 or higher in mathematics (OECD, 2019b, 2019a). These students can interpret and recognize, without direct instruction, how a (simple) situation can be mathematically represented (e.g., comparing the total distance across two alternative routes or converting prices into a different currency). Although Indonesian students' performance in science is slightly better than for the literacy and mathematics, it still lags behind that of other developed economies. In Indonesia, 40 per cent of students have achieved a Level 2 or higher in science while on average across OECD countries, 78 per cent of students have attained a Level 2 or higher in science (OECD, 2019b, 2019a). At level 2, students can recognize the correct explanation for familiar scientific phenomena and use this knowledge to determine whether a conclusion is valid based on the data provided in simple cases.

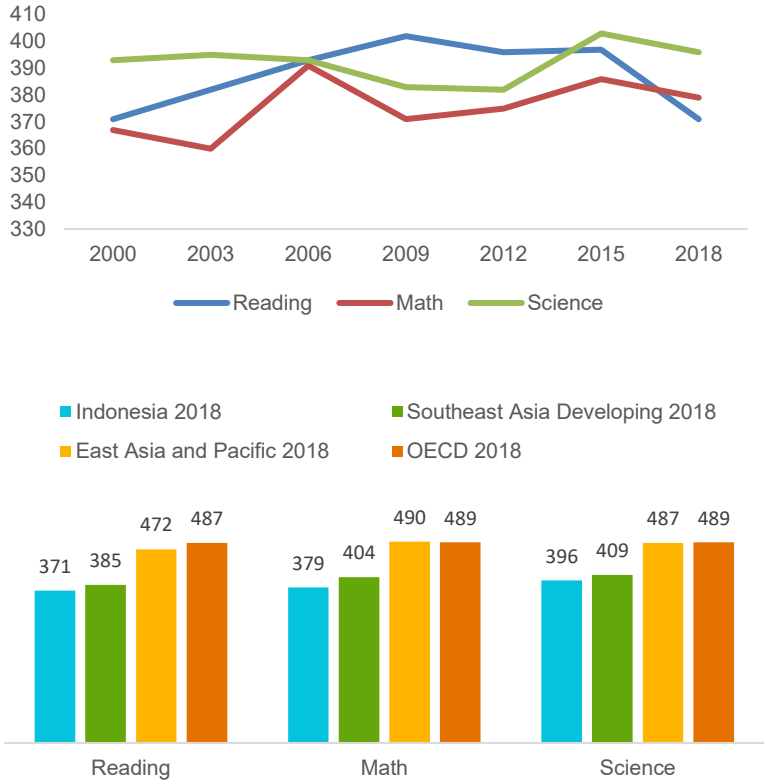
Arguably, these disappointing results among fifteen-year-olds may reflect a failure in the curriculum and teaching in early grades and primary schools—especially for the foundational skills of literacy and numeracy. When pupils do not master basic skills in elementary school, it becomes more difficult for them to acquire more complicated literacy and numeracy skills in subsequent years. The phenomenon is frequently referred to as the "Matthew effect", which suggests a positive correlation between early reading and numeracy performance and later reading and numeracy competency (Cilliers et al., 2019). Students who read more proficiently in the first two grades maintain a higher level of accomplishment throughout their education because of the reciprocal relationship between improved reading and increased learning across the curriculum. In comparison, pupils who struggled in early grades with reading and numeracy continue to struggle in these areas and other subjects across the curriculum in later years.

Moreover, as demonstrated in the charts below, Indonesia’s trend for the PISA test has fluctuated from when first participating in 2000 to the latest PISA test in 2018[11]. However, there is a decline in the most recent cycle compared to the previous PISA test in 2015. The drop is consistent for all three subjects tested, with literacy as the subject with the most significant decrease between 2015 and 2018. Furthermore, the second chart shows that Indonesia's 2018 performance was lower than the average of Southeast Asian countries such as Brunei Darussalam, Malaysia, Philippines, and Thailand. When data from Indonesia are compared to other East Asian and OECD countries, the significant gap becomes even more pronounced. Although the overall PISA results of Indonesian students are significantly lower than those of neighbouring countries and the OECD average, students in Jakarta and Yogyakarta nearly match the OECD average (Pusat Penelitian Pendidikan, 2019). To summarize, the quality of education in Indonesia is not only below the national standard, but also far below that of other

[11] Data were organized by the World Bank (2020)

countries, according to international comparisons. However, the trend in two major Indonesian cities, Jakarta and Yogyakarta, is different. This demonstrates that inequality is another critical issue in Indonesian education that must be addressed.

Figure 1: Indonesian Students' Performance on PISA and Its Comparison with Students in Other Countries



2.3. Inequality remains a significant problem

In addition to the quality issues, inequality is a significant challenge for Indonesian education. Data from various sources consistently show that educational outcomes, as measured by access and quality, vary by location. Consider the findings of the OECD and the Asian Development Bank (2015), which discovered regional and district disparities in Indonesian education. For instance, at primary school level, the net enrolment rate ranges from 94.7 per cent in Bali to 83.1 per cent in West Papua, while for lower secondary school enrolment, the provincial disparity in net enrolment rates is wider, from 94.7 per cent in the Special Capital Region (DKI) of Jakarta to 31.6 per cent in Papua.

During the launch of *Kurikulum Merdeka*, the government also acknowledged the inequality in Indonesian education (Makarim, 2022). Furthermore, a 2019 study conducted by the current director of MoECRT's Standard, Curriculum and Education Assessment Bureau (*Badan Standar, Kurikulum, dan Asesmen Pendidikan,* or BSKAP) revealed inequality is also apparent at the school level, and students in the better performing schools have better learning outcomes that are 2.5 —4 years ahead of other students in other schools (Aditomo & Felicia, 2019). This finding is consistent with the analysis of Indonesian PISA test results, which show

that low-performing and high-performing students are clustered in different schools (OECD, 2019a), suggesting that disparities can be found at both the regional and school levels.

Furthermore, individual variation contributes to the significant disparities in education in Indonesia with socioeconomic status, gender, disability, and mother-tongue language as significant background factors that contribute to educational inequality. It should be noted that the effects of these variables on educational outcomes are not exclusive. In fact, when one variable intersects with another, it can further marginalize students. For example, female students in remote areas with limited Bahasa Indonesia skills may face different challenges than female students in cities.

2.3.1. Socioeconomic status

Socioeconomic status plays a significant contribution in children's education. Although the overall enrolment has substantially increased in recent years, The World Bank (2020) discovered a significant gap in school enrolment between students from the lowest-quintile households and students from the highest-quintile households in 2019 by using a socioeconomic survey (around 50 per cent compared to just over 60 per cent). In addition to differences in access, the gap between students coming from different socioeconomic background remains evident in learning quality as measured by academic tests. According to the PISA 2018 results, in reading, socioeconomically advantaged students outperformed disadvantaged students by 52 points, which was higher than the previous PISA by 44 points (OECD, 2019a). This suggests the gap between the 'have' and 'have-not' students has widened in recent years. The increased enrolment of poor students in schools may contribute to the widening gap between students from different economic backgrounds.

2.3.2. Gender

In Indonesia, as in other countries, girls tend to outperform boys in both literacy and numeracy subjects (OECD, 2019a)[12]. This finding from the most recent PISA results is consistent with INOVASI data, despite the fact that students are at different levels of schooling[13]. The INOVASI data show that female students in the early grades outperformed male students in every INOVASI district on basic and comprehensive literacy tests (Arsendy & Sukoco, 2020). In addition, girls outperformed boys not only in literacy but also in numeracy. This contradicts the stereotype that girls have lower numerical abilities. Having said that, female students face more challenging situations in secondary schools. Evidence shows that child marriage will reduce female students' access to education in later years. This is particularly true during a period of crisis, such as the COVID-19 pandemic. Data from Komnas Perempuan (2021) indicate that the marriage dispensation proposal has increased during the pandemic from 23 thousand to 64 thousand. According to the INOVASI Child Marriage Study, which focuses on

[12] In all countries and economies that participated in PISA 2018, girls significantly outperformed boys in reading—by 30 score points on average across OECD countries. Regarding the mathematics subject, across OECD countries, boys outperformed girls by five score points but In Indonesia, girls scored higher than boys in mathematics by 10 score points. Lastly, while girls slightly outperformed boys in science (by two score points) on average across OECD countries in PISA 2018, in Indonesia girls outperformed boys in science by seven score points.

[13] PISA test includes students at junior high school, while INOVASI study samples primary school students.

a small sample of female students married during the pandemic[14], only about 10 per cent of female students are still able to attend school after marriage. (Fajriyah et al., 2022).

2.3.3. Disability

Students with disabilities are among the most marginalized in Indonesia. INOVASI's research in Central Lombok, which declared itself an inclusive district in 2019, discovered that a significant number of children with disabilities were not attending school (INOVASI, 2019). A recent analysis found the average years of schooling for children with disabilities with access to school is only 4.7 years, while the national average is 8.8 years (Hata et al., 2021). This demonstrates the significant disparity between students with and without disabilities. The outcome highlights the challenge for the Indonesian government's intention to promote inclusive learning, particularly for children with disabilities. Among the many factors contributing to this reality, it is clear Indonesian schools are not adequately prepared to accept students with disabilities, leaving them with no choice but to attend special schools. Furthermore, the number of special schools in Indonesia is very limited. In some areas, these schools are available only in cities, which makes it difficult if not impossible for many students to attend them.

2.3.4. Mother-tongue language

Despite the fact that *Bahasa Indonesia* is the official language in Indonesia, it is the primary language of only 20 per cent of the Indonesian population (Translators without Borders, 2020). This indicates that approximately 80 per cent of Indonesians speak their mother tongue as their first language. However, according to Pinnock (2009), only 10 per cent of the Indonesian population receives education in their mother-tongue language. This has a significant impact on the educational outcomes of students who do not speak *Bahasa Indonesia* fluently when they commence school and especially affects early grade students at the primary level (Grades 1–3). For example, INOVASI's 2020 study discovered that early grade students who speak their mother-tongue tend to have lower results in both numeracy and literacy subjects than students who speak *Bahasa Indonesia* (Sukoco et al., 2020). This resulted from the fact that many teachers, including those in remote areas, do not use their mother-tongue language for instruction, although the law, at both national and regional levels, permits them to, especially for the Grades 1–3 (Listiawati & Arsendy, 2022). Furthermore, learning and teaching materials are not readily available in a language that students understand.

[14] The study was conducted in Probollinggo, Sumenep, Central Lombok, East Lombok, Southwest Sumba, Central Sumba, and East Sumba, and involved 33 female students who engage in child marriage.

3. Curriculum Reform in Indonesia

3.1. Iterations of Indonesian curriculum

Since its independence in 1945, the Indonesian curriculum has changed roughly every ten years (OECD & Asian Development Bank, 2015)[15]. Throughout this history, the development of a new curriculum has always been expected to improve the overall quality of Indonesian education since 1994 by promoting active learning as the core of teaching practices (Sopantini, 2014). In this section, we briefly review the changes since 1994. There have been some similarities and some differences with each iteration of curriculum implemented in recent decades.

1994 curriculum

The main goal of the 1994 curriculum (also referred to as K-94) was to tailor instruction to the unique environments where students live. One of the curriculum's flagship features was the implementation of Local Content Curriculum (*Kurikulum Muatan Lokal,* or KML), which required schools to devote 20 per cent of instructional hours to locally designed subject matter (Bjork, 2005). The development and implementation of local curriculum content was delegated to the local level, under the supervision of the regional offices of the national ministry. Unfortunately, the K-94 content was seen to be excessive and the subject content overly complex, placing an undue burden on students (Kompas, 1998). According to an ethnographic analysis conducted by Bjork (2005), the reform did not result in significant changes at the school level with few schools taking up the opportunity to tailor the curriculum to local contexts and little change in teaching practice. This may have been because of a lack of teacher/school confidence and capacity to develop local content.

2004 and 2006 curricula

There were two significant features of the 2004 and 2006 curricula (OECD & Asian Development Bank, 2015). First, the focus of the curriculum changed from being content-based to competency-based *(Kurikulum Berbasis Kompetensi,* or KBK). Second, the new curriculum, unlike the previous ones, allowed schools and teachers to provide a curriculum that was best suited to the needs of their context and specific students.

The move to a competency-based curriculum involved a shift from the expectation that teaching would involve students reproducing knowledge and memorizing facts (a traditional knowledge-based approach) to having them develop competencies that involve “a combination of integrated skills, knowledge, attitudes, and values displayed in the context of task performance” (Bourgonje & Tromp, 2011). The KBK was never fully implemented; however, and was replaced in 2006 by what became known as the ‘school-based curriculum’ *(Kurikulum Tingkat Satuan Pendidikan*, or KTSP). The KTSP was launched alongside school-based management as the main feature of Indonesia’s education decentralisation policy (Sopantini, 2014), building on the National Education System Law (*Udang-Undang No.* 20/2003) and government regulation No. 19/2005 on national education standards. These

[15] 1947, 1952, 1964, 1968, 1975, 1984, 1994, 2004, 2006, 2013, and the latest is 2022.

regulations mandated the development of a school-based curriculum with reference to national standards for content and competencies *(standar isi* and *standar kompetensi lulusan)*. This was supported by guidelines issued by the National Education Standards Agency (*Badan Standar Nasional Pendidikan*, or BSNP).

The reform required significant change, expecting teachers to take the lead in developing their own curricula. However, a study conducted in Maluku by Sopantini (2014) discovered a different reality, revealing that schools lacked the capacity and motivation to develop their own curriculum. In general, teachers and schools were overwhelmed; this was understandable given the long history of a very centralised system in which teachers followed central instructions.

Another difference introduced with the 2004 curriculum was a thematic approach: subjects were to be delivered "thematically" in Grades 1-2. This was extended to include Grade 3 in 2006, and minimum instruction times were reduced to five 35-minute lessons each for Bahasa Indonesia and mathematics per week in Grades 4–6. According to Beatty et al. (2020), the reduction in instruction time may have had an impact on the learning decline observed a decade later.

2013 curriculum

The 2013 curriculum, known as K-13, was built on the foundation of the 2004 and 2016 curricula, and as a result, there were similarities between K-13 and KBK, such as a focus on competency[16] and the promotion of a thematic approach (OECD & Asian Development Bank, 2015). However, there were also differences in the later curriculum. First, the 2013 curriculum placed a greater emphasis on religious instruction and character education. Second, it emphasised achieving an optimal balance between the development of cognitive skills, particularly critical thinking and problem-solving skills, and the development of student character and behaviour. Third, the most significant shift observed was the reduced autonomy provided to schools for designing teaching materials, Rather, the ministry mandated schools and teachers to adopt rigidly standardized lesson plans and teaching materials, including textbooks to implement the new curriculum. This centralized control may have provided some assurance about the quality of learning materials. However, it may also have discouraged schools from developing their own learning materials and adapting instruction to meet student needs and interests. Despite the changes, there was a lack of explicit specification of what students should learn in literacy – such as how to read and how to write. Furthermore, the thematic approach focused on how literacy and numeracy could be used without the necessary attention to the teaching of essential skills in literacy and numeracy.

Emergency curriculum

The implementation of an optional Emergency Curriculum in 2020 was one of the most significant education policies the Indonesian government implemented during the pandemic.

[16] K-13 divides competencies into two categories: core competencies and basic competencies. The first competency focuses on the level of competency required to meet the minimum standard of competence for graduates that students at various levels of study should meet. Core competencies comprise of spiritual, social, knowledge, and skill competencies. Second, fundamental competencies are the minimum competencies that students should possess for specific subjects at a particular level of study (Permendikbud 24/16 Tentang Kompetensi Inti Dan Kompetensi Dasar Pelajaran Pada Kurikulum 2013, 2016).

The curriculum, essentially a sub-set of K13, was formally introduced following the issuance of Ministry Decree 719/P/20. In addition to better corresponding to students' needs, the implementation of the Emergency Curriculum was expected to reduce the burden on teachers and students during the pandemic by focusing on essential competencies (adjusted from K-13 competencies[17]). Support to implement the Emergency Curriculum included literacy and numeracy modules for preschool and elementary school, which are available on the MoECRT websites. The modules were divided into sections for teachers, students, and parents. INOVASI monitoring revealed that the modules were well received by teachers and parents working with students who were able to read, despite the fact that their use is still limited (Handayani & Sukoco, 2020).

3.2. Emergency curriculum and a sharpened focus on essential learning

In response to the COVID-19 pandemic and to mitigate the risk of learning loss and address the learning gap, the MoECRT adopted several policy responses, including:

1. Providing guidance on learning from home;
2. Adjusting the BOS[18] fund policy that give schools more flexibility to allocate it during the pandemic;
3. Providing an internet quota for teachers and students;
4. Issuing a simplified Emergency Curriculum, with support materials such as student, teacher, and parent modules for literacy and numeracy.

The Emergency Curriculum provides a simplified version of the 2013 Curriculum, with a reduced content load in subjects such as mathematics, *Bahasa Indonesia,* science, and religion, and a strong focus on essential competencies, such as literacy and numeracy, which are prerequisites for continuing learning in the next grade.

This sharpened focus on essential learning is consistent with studies on student attainment. Pritchett and Beatty (2015), suggest that one of the main factors contributing to poor learning outcomes in developing countries is that the curricula are too ambitious for the students' current learning abilities. Banerjee and Duflo (2011) came to a similar conclusion, discovering that curriculum and learning design in many developing countries is more relevant to the elite (privileged students) and, consequently, does not provide the same opportunities for all students (especially vulnerable groups). A 'too much too soon' and overambitious curriculum forces teachers to focus on children who can achieve the curriculum expectations, while most of the children who cannot achieve them are left behind.

[17] The list of essential competencies can be found here; https://bersamahadapikorona.kemdikbud.go.id/kompetensi-inti-kompetensi-dasar-pada-kurikulum-2013-pada-paud-dikdas-dan-dikmen-berbentuk-sekolah-menengah-atas-untuk-kondisi-khusus/

[18] *Bantuan Operasional Sekolah* (BOS) is a MoECRT program that provides funding to schools to support their operational expenditures.

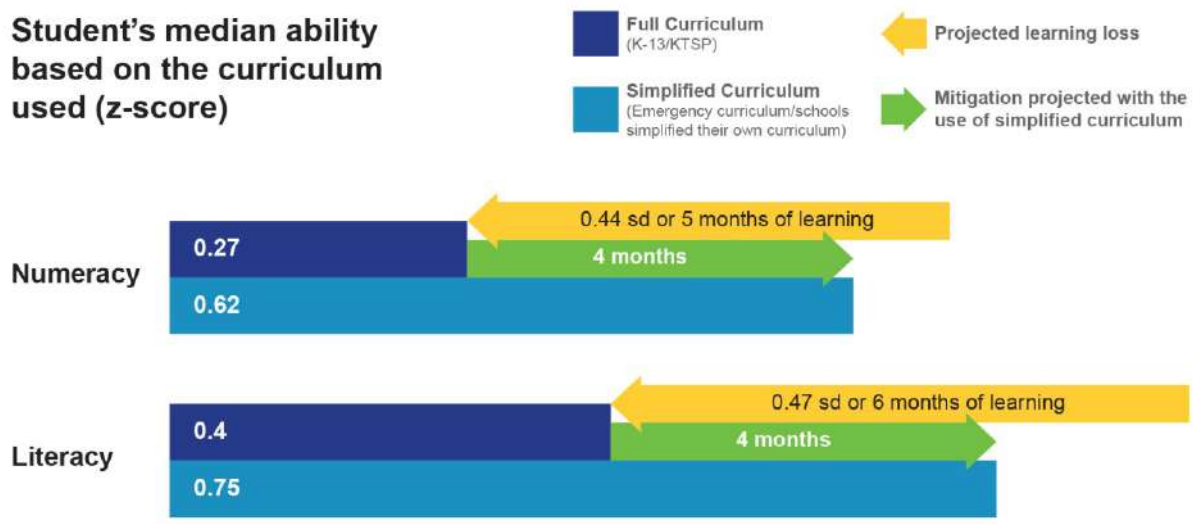
"If the curriculum can be radically simplified [and focused on basic competencies] while the teacher's job is to make sure all children can master it and all children are given time to study the curriculum at their own pace ... the majority of children will benefit from the time they spend in school."

Banerjee and Duflo, Poor Economics (2011)

The ACER study (Spink et al., 2022) also found that Indonesia's 2013 curriculum was overambitious and non-systematic. For example, in literacy, the 2013 curriculum framework for *Bahasa Indonesia* does not articulate the essential skills for reading literacy that students need to develop to become good readers: listening, decoding, and reading comprehension (which comprises retrieving information, interpreting, and reflecting on text). Students who are likely to become effective independent readers will typically demonstrate listening comprehension skills in Grades 1–3 that are well in advance of their reading comprehension skills (typically two years ahead). If students cannot comprehensively process a short piece of oral text, it is likely that in reading they will be limited to matching words in the text to the comprehension question, with little attention to the overall meaning of the text.

In numeracy, some of the expectations in the 2013 mathematics curriculum appear to be too high compared to global standards. For instance, (1) computing the addition of numbers up to 20 is a competency that must be mastered by Grade 1 students in the Indonesia Emergency Curriculum and the AKM, but by Grade 2 in the Global Proficiency Framework[19] (GPF); and (2) describing and determining the relationship between standardized units (e.g., kg, g, m, and cm) is a competency that must be mastered by Grade 3 students based on Indonesia's Emergency Curriculum and the AKM, but it is allocated to Grade 6 level in the GPF.

Figure 2: Student's Learning Outcome Based on Curriculum Used

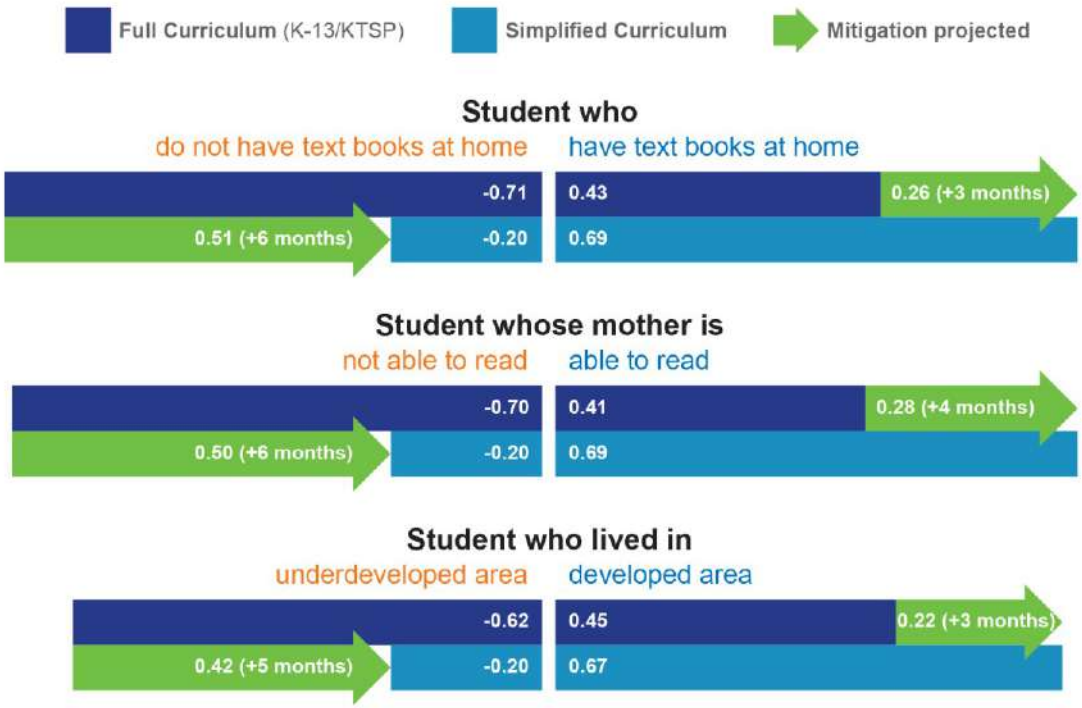


[19] The Global Proficiency Framework (GPF) defines for both reading and mathematics, the minimum proficiency levels learners are expected to obtain at the end of each of grades two through six. The GPF was developed by UNESCO and involved reading and mathematics specialists from around the globe.

Data collected from more than 18,000 students in eight provinces for the PSKP and INOVASI learning gap study provides encouraging feedback for the path taken by the MoECRT. The study found that students in schools that implemented the simplified curriculum[20] are likely to achieve better outcomes than those in schools that implemented the full 2013 curriculum (see Figure 2).[21] The difference is around 0.35 standard deviations for both literacy and numeracy, or equivalent to four months of learning progress[22]. The use of the simplified curriculum thus has the potential to reduce the impact of learning loss caused by the pandemic.

Disaggregation of the data also found a simplified curriculum may have a greater positive effect for students from vulnerable groups, such as students who live in underdeveloped areas, whose mother cannot read, and students who do not have access to textbooks[23] (see Figure 3).

Figure 3: Student's Numeracy Learning Outcome Based on Curriculum Used and Subpopulation Groups



[20] We define a simplified curriculum as a curriculum that focuses on essential competencies or skills. It is either the school used the Emergency Curriculum, or it simplified the curriculum independently.

[21] Student's learning outcome data were calibrated, scaled and determined using Item Response Theory (IRT) approach. The different results between groups were analysed using descriptive analysis and statistical significance test.

[22] The conversion to months of learning progress was approximated using the following education endowment foundation reference:

https://educationendowmentfoundation.org.uk/evidence-summaries/about-the-toolkits/attainment

[23] The results are consistent for student's literacy and numeracy learning outcomes, students whose mother-tongue is not Bahasa Indonesia, students with low executive function, students from poor families, and students with physical disabilities.

3.3. Lessons learned from the previous curriculum implementation

Although each iteration of curriculum was intended to improve the quality of Indonesian education, analysis shows that education quality has remained stagnant or declined (see Chapter 2). A similar situation exists in terms of educational equality because some disadvantaged groups are still falling behind their more advantaged counterparts.

Some lessons learned from previous curriculum changes can be applied to prevent similar lost opportunity with the implementation of future curriculum. First, although the content and approach of the new curriculum are critical, the success of its implementation depends on the effort of teachers to understand and implement the changes. In other words, teachers must be capable of applying the new curriculum and delivering learning that meets its minimum standards. Additionally, teachers should understand the rationale underlying the curriculum changes, meaning that mindset changes are required in to motivate teachers to support the curriculum reform. According to evaluations, many teachers did not understand the rationale for the previous curriculum changes (Bjork, 2005). To accomplish this, the government should actively engage diverse teachers from various backgrounds in curriculum dialogues. Teachers should be encouraged and supported to take ownership of curriculum changes because they are the primary actors in the field.

Second, granting a degree of autonomy to districts, schools, principals, and teachers is necessary in education service delivery because they tend to have a better understanding of what works best in their context (Ingersoll, 2006). However, previous reforms indicate that the delegation of autonomy is insufficient. This is especially true for schools in less-developed areas and with less-experienced principals and teachers. Although allowing for autonomy sounds good on paper, giving it to less skilful teachers and school principals could risk quality teaching and learning. Despite their best efforts, teachers with limited knowledge and understanding of what is expected from the curriculum may not perform well. As a result, autonomy must be delegated alongside support for teachers. Schools and teachers may require a variety of resources, including training and mentoring, teaching and learning materials, and additional funding. Given the diversity of Indonesian teachers and schools and the Indonesian government's limited resources, the level of support should be adjusted based on the quality of Indonesian teachers and schools. To prevent inequality, under-resourced schools and teachers should also receive more support.

Finally, curriculum reform may take a long time to implement because it is common for major systemic changes to need significant time to take root, greater than the timeframe of one government administration. For example, K-13, which was introduced by Minister Muhammad Nuh in 2013, improved during the tenure of Anies Baswedan, and is still being implemented during the era of the current minister, Nadiem Makarim, who has given schools the option to continue using K-13 in 2022-23. To be effectively implemented, curriculum must always be improved and adjusted. These adjustments also consider changes that occur outside of schools, such as technological advancements, new skills required to address social problems, and the skill set demanded by the labour market, among other things. In this case, an iterative continuous improvement process is critical for developing better curriculum implementation and achieving better learning outcomes. As a result, monitoring, evaluation, and research must be incorporated into the curriculum design to assists the government in identifying challenges that must be addressed and lessons learned that must be scaled up.

4. Kurikulum Merdeka

The previous chapter outlined four iterations of Indonesia's national curriculum since 1994. During the pandemic, a fifth iteration, the Emergency Curriculum, was developed and made available to use in schools across Indonesia. The sixth iteration, *Kurikulum Merdeka,* is the subject of discussion in this chapter.

4.1. Learning from experience and feedback to inform the development of *Kurikulum Merdeka*

The 2013 version of the national curriculum (K-13) was subject to several evaluations, including a key evaluation in 2019. Key findings (Anggraena et al., 2022) included:

1. The focus on the coverage of content was at the expense of students' understanding of what was taught.
2. Too much attention has been paid to meeting national process and compliance standards, detracting from the preparation and delivery of engaging lessons.
3. There is a common expectation and application of a 'one size fits and suits all' approach, rather than the promotion of flexibility so schools and teachers can adapt the curriculum to respond to student needs and interests, including special needs learners.

As discussed in the Chapter 3, the Emergency Curriculum was a simplification of the K-13 Curriculum, intended to focus the attention of schools and teachers on essential skills during the pandemic. This took account of feedback that the '2013 curriculum is too broad and too difficult to understand and implement by the teacher' and 'is difficult to adjust to the situation and needs of educational units, regions, and learners because the mandatory material is very dense, and the structure is detailed and inflexible' (Anggraena et al., 2022).

Moreover, a comparison undertaken by INOVASI in 2021 of the 2013 Curriculum and early iterations of the *Kurikulum Merdeka,* with curricula from other countries, highlighted that for numeracy 'too much was expected too soon', and in *Bahasa Indonesia* there was insufficient explicit attention paid to the teaching of reading (Randall, 2021). The design of a new curriculum, *Kurikulum Merdeka,* has been informed by learning from the 2019 evaluation of the 2013 Curriculum, the experience of responding to the pandemic, and from frameworks and experiences of other countries, combined with the drive to improve student learning in essential knowledge and skills and competences. This has resulted in Indonesia developing a curriculum with the following features:

1. It is arguably simpler, easier to understand and implement than previous curricula; while promoting the professional judgement of teachers.
2. It gives greater attention to the development of foundational skills in literacy and numeracy, with more explicit attention to essential knowledge, understandings, and skills that students need to learn, and more reasonable expectations about what will be learned by particular stages.

3. It focuses on the learning of important competencies, including the 21st century skills, higher-order thinking skills and the development of character for all learners.

4. A focus on the capabilities detailed in Pancasila Student Profile – to be taught through subject instruction and through project-based learning.

5. It is flexible because of the expectation that the curriculum will be adapted to account for the needs and interests of students, realising the goal of teaching at the right level.

6. It is aligned and coherent, with a common framework applying nationally while also expecting that schools and teachers will design a school curriculum that accounts for local context and the needs and interests of learners.

7. It embraces the Indonesian concept of '*Gotong royong'* (mutual cooperation), encouraging collaboration in the development of the new curriculum and in the development and implementation of school-level curriculum. In this regard, schools are being encouraged to involve parents, learners, and the broader school community.

8. It can be continuously improved, based on feedback and evidence from the local and national level.

These moves will bring Indonesia further in line with the design features and mode of operation, which have been implemented elsewhere in the world, to improve school systems so they are high performing (Mourshed et al., 2010), while also seeking to create a high-quality curriculum that reinforces Indonesia's culture, history, and diversity.

4.2. The Kurikulum Merdeka model

The *Kurikulum Merdeka* model[24] reflects design features that are common to national curricula in many developed and improving countries. The model establishes learning expectations for all young Indonesians while also applying the principle that schools are best placed to organise and provide learning opportunities to accommodate the context within which the school operates and the needs and interests of the students attending the school[25].

The national education goals and education standards establish high-level expectations for what students should learn and quality standards for the provision of education within Indonesia. However, from the point of view of school principals and teachers—the people who will provide the learning opportunities to students—other documents in the model meet three key functions:

1. Establishing **expectations** for what students should learn through the Pancasila Student Profile and the learning expectations (*Capaian Pembelajaran*, or CP)—with some elaboration of detail and sequencing provided through the learning objective sequences *(Alur Tujuan Pembelajaran*, or ATP) provided in support material).

[24] A more detailed explanation can be found at https://kurikulum.kemdikbud.go.id/kurikulum-merdeka/

[25] This was also the approach adopted in previous iterations of Indonesian curriculum, although its implementation was considered rather unsuccessful.

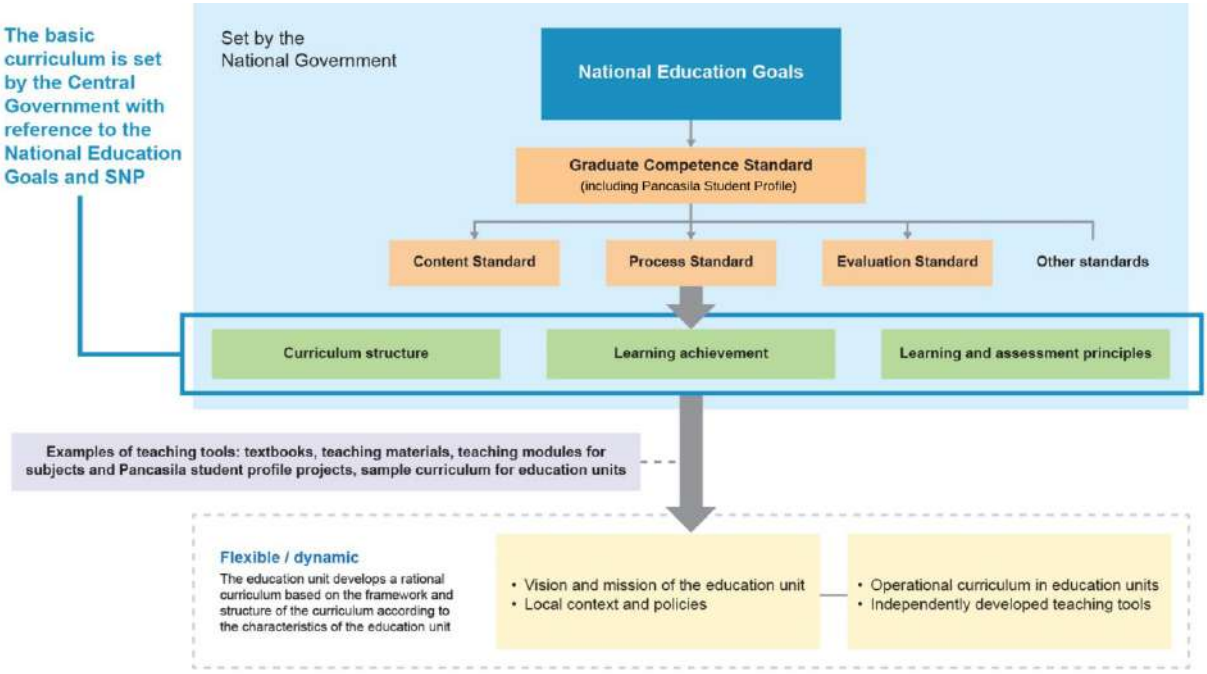
2. Providing **advice and guidance** on the delivery of teaching and learning programs through documents that consider principles of learning and assessment, and provide guidelines for operational curriculum development for schools and projects to strengthen the Pancasila Student Profile. This component of the curriculum, focusing broadly on character education and the development of 21st Century skills, comprises 30 per cent of the learning over a year within the prototype of *Kurikulum Merdeka*. This is to be implemented through various themes, such as science, culture, and religion.

3. Providing **support material for teachers** that instruct students through resources such as teaching modules, textbooks (student books and teacher books), and other teaching materials as well as microlearning content for teachers available on the *Merdeka Mengajar* platform.

4.2.1. Expectations for student learning

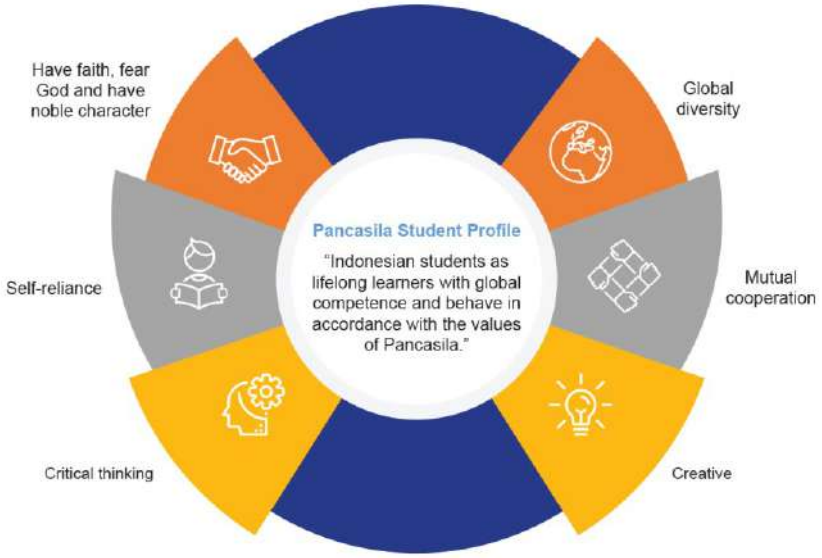
The curriculum framework sets out the competencies students need to learn, the character traits they need to develop, and the subject matter they will learn.

Figure 4: Indonesia's Education System Framework



The Pancasila Student Profile provides more explicit descriptions and expectations than previous iterations of curriculum about the character and capabilities that students are expected to learn and develop as they progress through school, subjects, and student projects.

Figure 5: Pancasila Student Profile



The MoECRT has developed guidelines on project-based learning, explaining its importance and value for Indonesian student learning and providing guidance on how projects can be included in the school-based curriculum. Particular attention is given to allowing students to investigate contemporary issues that interest them and that deepen their understanding of what they have learned in subjects, acquire the capabilities outlined in the Pancasila Student Profile, and engage with and learn from members of their local communities. Project-based learning is intended to make learning more relevant to students.

In addition to the capabilities, the curriculum sets out the subject knowledge, understandings, and skills that students are expected to learn in each phase of schooling – presented as learning expectations (*Capaian Pembelajaran,* or CP). The presentation of the CP by phases breaks the tight nexus that existed between curriculum and grades in previous models while encouraging teachers to focus more on students' current level of learning and take a longer-term view of teaching for deep understanding and helping students apply the knowledge they have acquired. This was assisted by the curriculum development process that encouraged writers of the CP to focus on essential subject matter, seeking to reduce the volume of the curriculum, and the need to rush teaching to cover the curriculum.

To meet these learning expectations set out in the CP, guidance is provided through the model that outlines two components of learning programs, namely (1) subject-based learning that deals with the subject matter as well as the Pancasila learning capabilities where they reasonably fit, and (2) learning through projects for developing the general competencies outlined in the profile of Pancasila students. Although not part of the formal statement of curriculum expectations, learning objective sequences (ATP), that developed as support material for teachers, also provide some explications of what students are expected to learn.

To know what Indonesian students are expected to learn as they progress through school, one can simply look at the profile of Pancasila students and the subject learning achievement descriptions – Capaian Pembelajaran (CP).

4.2.2. Providing advice and guidance on the delivery of teaching and assessment

A key change from the 2013 Curriculum to the current *Kurikulum Merdeka* is that directions and technical instructions have been replaced by advice and guidance documents. This change has been made to provide flexibility for schools and teachers to develop a school curriculum that accounts for the needs and interests of students while still working towards attainment of national learning expectations. Some flexibility is necessary for allowing teachers to contextualise their teaching and learning processes.

The flexibility provided in the *Kurikulum Merdeka* model is accompanied by the provision of support and guidance. This is key to realising the goal of teaching students based on their current level of attainment, rather than on the grade they are in. This practice has come to be known as teaching at the right level (TaRL), which has been proven through rigorous evaluations to produce significant and cost-effective benefit for improving learning outcomes, especially in early grade students (Banerjee et al., 2016).

Kurikulum Merdeka provides guidance to school leaders and teachers in documents containing principles of learning and assessment, operational curriculum development guidelines for schools, and guidelines for projects to strengthen the profile of Pancasila. The principles and guidelines have been designed to communicate to teachers how they might prepare and provide lessons and assess student learning while describing which matters they might consider when making decisions about this work. This approach recognises that school leaders and teachers are best placed to make these decisions because they know their students and the context within which their schools operate. It also promotes flexibility for school leaders and teachers through a coherent framework of learning expectations, advice, and guidance. The principles and guidelines are accompanied by examples to help reinforce the idea of flexibility to make decisions with in an aligned and coherent framework.

To understand how student learning might best be planned and delivered and the discretion that school leaders and teachers now have, one can simply look at the principles of learning and assessment and accompanying guidelines documents.

4.2.3. Support material for teachers to provide instruction to students

Learning from the Indonesian government response to the pandemic highlights how effective quality support materials can be for improving teaching and, in turn, student learning. The development and use of the Emergency Curriculum teaching modules, developed to guide teaching about essential skills during the pandemic, is a strong illustration of the value of accessible and quality support materials.

Building on the principles and guidance materials discussed in Section 4.2.2, *Kurikulum Merdeka* is also providing schools and teachers with a variety of resources that are directly related to student instruction . The materials include learning objective sequences (ATP), teaching modules, teaching ideas and resources that can be accessed via the *Merdeka Mengajar* platform[26] (https://guru.kemdikbud.go.id/) and textbooks. The ATP resources, in particular, elaborate on what students are expected to learn in *Bahasa Indonesia* and mathematics—providing more detail to enable teachers to teach students important literacy and numeracy knowledge, understanding, and skills.

Teachers might use these support materials directly, might adapt them to better suit the needs and interests of their students, or might simply take them as examples and develop their own plans and lessons. These resources will also provide opportunities for teachers to improve their understanding of what is to be taught via brief notes in modules, digital links to explanations, and video resources in modules and the ability to share their own teaching ideas and resources.

The approach that school leaders and teachers take to the use of these support materials will likely reflect their experience and confidence with the content of the lessons. Less experienced and/or less confident teachers are advised to use the provided plans, modules, and textbooks to support the implementation of the curriculum or seek professional development/training support. Having used them once or improved their understanding of the content and teaching strategies, they might amend or adjust the resource material for the next time they are used.

More experienced and confident teachers may not need the support material (although they would probably look at it for new or better ideas). They would draw on their own experience to plan lessons that take account of what should be learned, combined with knowledge of where individual students are at, as well as recollection of what has worked well for them in the past.

The support for schools and teachers has been designed to reflect the flexibility and opportunity that is available to them, while also providing direct assistance to those who might not be capable of and confident to interpret the national curriculum expectations and adapt them to meet the needs and interests of students at their school.

Resources developed for use by schools and teachers through Kurikulum Merdeka provide a foundation on which all teaching could be based. Although it is expected that some will use the support material directly, more experienced, confident teachers will go beyond them to respond to school context and student needs and interests.

[26] As discussed in Chapter 5, the provision of materials and resources online presents a challenge for the significant number of schools that have little or no internet access.

5. Challenges and Opportunities

Kurikulum Merdeka is, at one level, another iteration of the national curriculum to be implemented in Indonesian schools. However, it can be argued this iteration of curriculum is significantly different because it is different in actual design and the approach being taken (at least in the initial phase) for implementation. Chapters 3 and 4 discussed the features of *Kurikulum Merdeka* and provided some comparisons with previous versions of the curriculum. The development of *Kurikulum Merdeka* has drawn on an evaluation of the previous curriculum (K-13), learned from the design and application of the Emergency Curriculum, and engagement with educators and other stakeholders in the Indonesian education system.

Implementation of *Kurikulum Merdeka* presents opportunities and challenges for teachers, principals, school leaders, and the education system as a whole. This chapter sets out the challenges and highlights the opportunities in six sections. The first presents the immediate and fundamental challenge of addressing the 'loss of learning' resulting from the COVID-19 pandemic. The next five sections—a system approach to change; alignment between curriculum and national assessment; roles that are key to the change; stages and focus of implementation; and lessons learned from the early stage of *Kurikulum Merdeka* implementation are more typical matters to consider in curriculum change. They are, however, founded in the context of COVID-19 learning loss, which raises the stakes for successful implementation of the new curriculum.

The current plan is for a period of prototyping, with schools that opt into the implementation of the *Kurikulum Merdeka* (2022–2023 and 2023–2024 school years), before deciding on full implementation in subsequent years.

5.1. COVID-19 – learning loss in foundational skills

The COVID-19 pandemic affected educations systems around the world and forced them to close schools to reduce the spread of the virus. Several studies have identified the negative effects of these school closures. According to INOVASI data, access to education decreased during school closures, particularly in marginalized communities (Arsendy et al., 2022). For example, the enrolment of first graders in primary school dropped by three per cent between the 2019–2020 and 2020–2021 school years. Furthermore, the Asian Development Bank (2021) estimates 506,130 more students dropped out of school during the pandemic in 2020 in developing countries in Asia. It is difficult to gauge true participation in schooling during periods of school closures, however. It is likely that a much larger percentage of children were formally enrolled but disengaged from schooling and were effectively not participating during the pandemic. One test will be to determine how many of these students resume their educations as schools reopen.

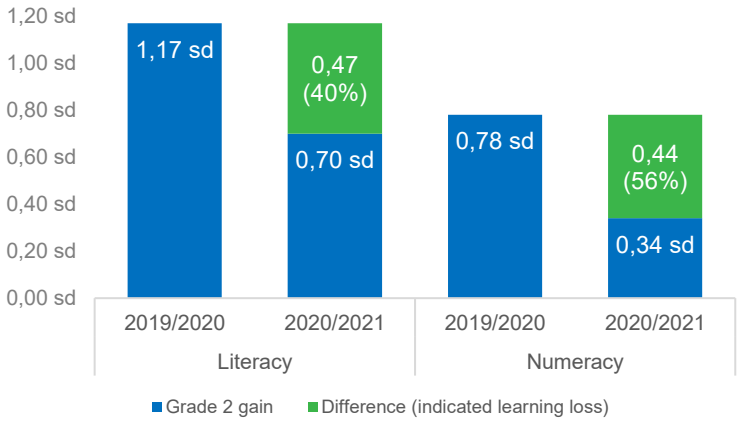
In April through May 2021, INOVASI and MoECRT's PSKP assessed student learning outcomes[27] in 69 INOVASI panel schools involving 3,391 early grade students from seven districts[28]. These panel schools participated in INOVASI activities during the 2019–2020 school year. INOVASI collected student learning outcome data in those schools during

[27] The instrument used was the Student Learning Assessment (SLA), previously tested by the INOVASI team and psychometrically reviewed by ACER. The data was analysed using item response theory analysis.

[28] Probolinggo, Sumenep, Bima, West Sumba, Southwest Sumba, Bulungan, and Malinau.

January 2020 (before the pandemic- for the purpose of endline) and in April–May 2021 (after the pandemic). The analysis found that student's learning progress decreased by 0.47 standard deviation (sd) in literacy (equivalent to six months of learning progress) and 0.44 sd in numeracy (equivalent to five months of learning progress[29]) one year into the pandemic. Other studies from the World Bank (2020) and the World Bank et al. (2021) estimated eight months of school closures equates to six months of learning loss and, in the long term, will see this generation lose an estimated $17 trillion in lifetime earnings.

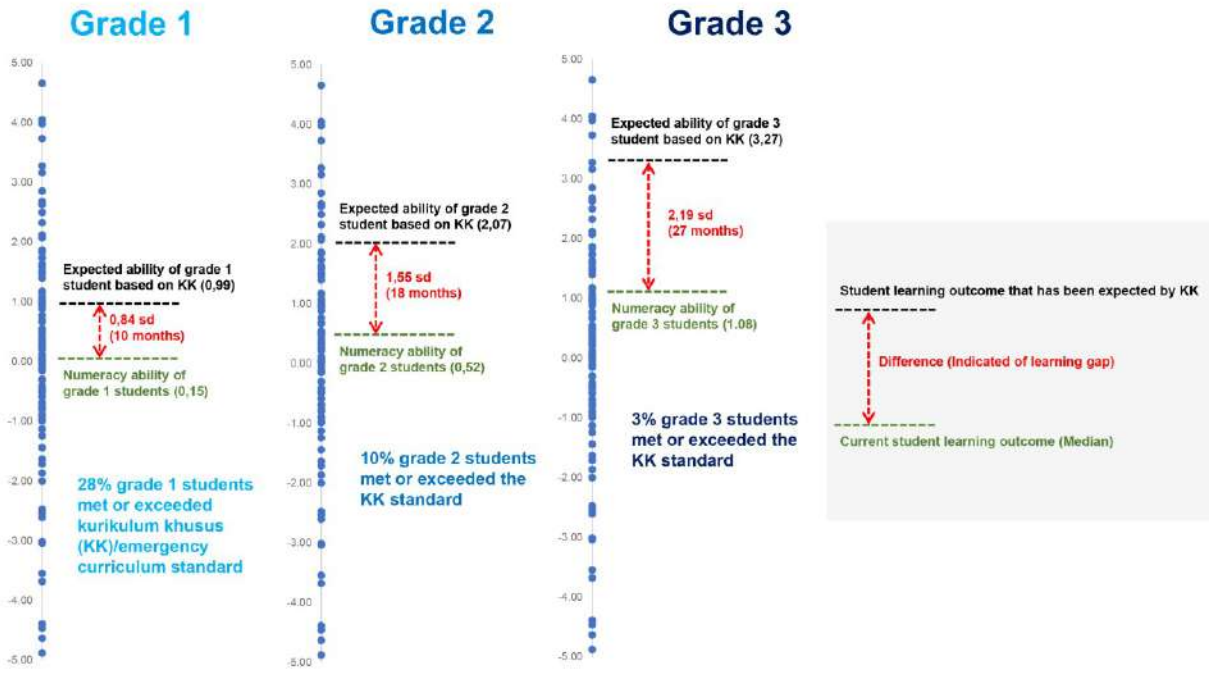
Figure 6: Literacy and Numeracy Score Difference between Grades 1 and 2 in 2019–2020 and 2020–2021



Learning loss contributes to a widening learning gap in subsequent years of schooling. Further analysis, using a larger dataset from INOVASI and PSKP learning gap study (18,000 early grade students in eight provinces across Indonesia), identified a learning gap between what the curriculum sets for students to learn and actual student attainment. Not mastering what should be learned in one year will have compounding effect on what a student can learn in the following year (see Figure 7). If not addressed, the gap will continue to grow, and this effect is likely to be especially severe for Grade 1 children who effectively missed the first year of schooling in the academic year of 2020–2021.

[29] The conversion to months of learning progress was approximated using the education endowment foundation reference:
https://educationendowmentfoundation.org.uk/evidence-summaries/about-the-toolkits/attainment

Figure 7: Illustration of Compounding Learning Gap in Early Grades (Numeracy)



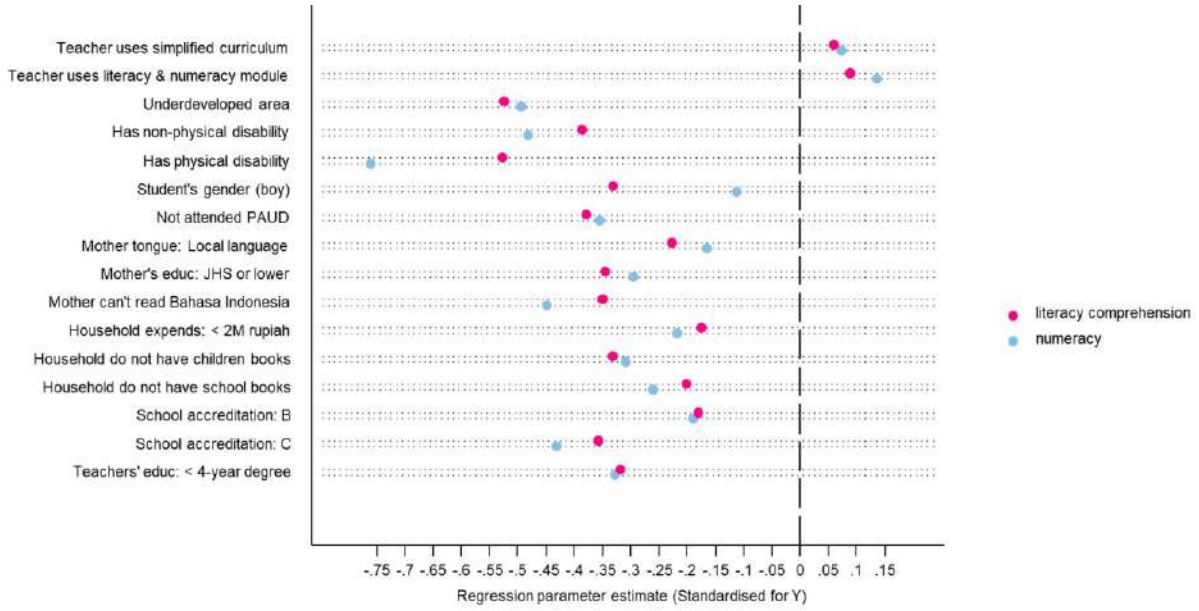
To mitigate the risk of learning loss and address the learning gap, the MoECRT developed and issued a simplified Emergency Curriculum which focussed on essential competencies in subjects which are prerequisites for continuing learning in the next grade[30].

Literacy and numeracy modules were also developed by the MoECRT (and partners) to complement the Emergency Curriculum to help teachers, learners, and parents focus on foundational skills during school closures. These modules included end-of-lesson reflective and self-assessment tasks to determine the level of understanding the student has for each activity and, importantly, provided resources and materials for parents to help with home-based learning initiatives.

Analysis of student attainment data found that the numeracy and literacy modules had a significant positive correlation with student achievement. This may be because of the clearly defined continuous learning objectives against each level of learning and the end of lesson reflection and self-assessment tasks.

[30] As mentioned in Section 3.2, the issuing of the emergency curriculum was also accompanied by several other policies designed to support the new curriculum and support learning while attendance at school was disrupted or stopped. These included providing guidance for learning from home; adjusting the BOS fund policy that gave schools more flexibility to allocate funding during the pandemic and providing an internet quota for teachers and students.

Figure 8: Regression Parameter Estimate (Standardised for Y) on Student's Learning Outcome



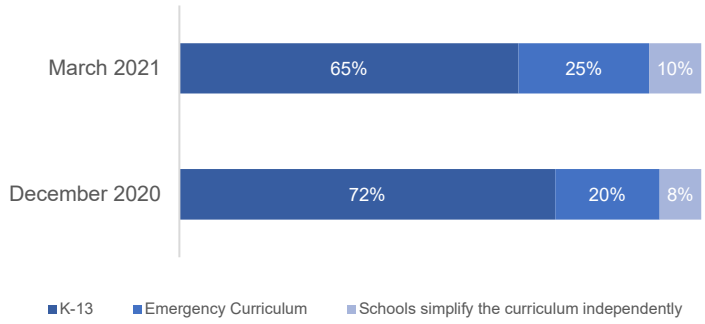
Another significant policy issued in response to the pandemic was the autonomy provided to schools to choose the curriculum they would use to inform instruction. Schools could continue to implement the 2013 Curriculum in full, implement a simplified curriculum (Emergency Curriculum), or simplify the curriculum independently.

However, despite the promising results for the simplified curriculum (please refer to the Section 3.2), PSKP surveys conducted in December 2020 and March 2021[31] (see Figure 9) found that most of the schools surveyed continued to use the K-13 Curriculum and only a small portion of schools (three out of ten) used a simplified curriculum (either the school used the Emergency Curriculum, or it simplified the curriculum independently). A monitoring survey conducted by INOVASI found that the use of Emergency Curriculum is more limited in less developed area (Handayani & Sukoco, 2020). Lack of internet access and budget along with geographical challenges limited schools' capacity to obtain the curriculum information, and to print and distribute the curriculum modules.

The challenge arising from the COVID-19 pandemic is the need to address the loss of learning, on top of the persistently poor outcomes of Indonesian schooling before it. The opportunity is to apply the learning from the response to the pandemic—the need to adjust the curriculum to focus on essential competencies or skills, along with the guidance and support for flexibility so schools and teachers can focus on meeting student needs (avoiding the need to cover a centrally prescribed curriculum too quickly) and support for principals, teachers, and parents to support student learning.

[31] https://kurikulum.kemdikbud.go.id/wp-content/unduhan/Kajian_Pemulihan.pdf

Figure 9: Curriculum that Has Been Used by Schools during the COVID-19 Pandemic



5.2. A system approach to change

A consideration of some of the literature on high-performing education systems provides a reference point for assessing the challenges and opportunities for Indonesia will face in the short period of prototyping *Kurikulum Merdeka* before deciding about system-wide implementation.

Mourshed et al. (2010) in *McKinsey's: How the worlds most improved school systems keep getting better* demonstrated that 'significant improvement in educational attainment can be achieved within as little as six years'. Through an extensive study of improving education systems, they proposed that attention needs to be given to the system's current standing in relation to student outcomes; the interventions necessary to make the desired improvements; and the adaptation of the interventions to take account of the history, culture, politics, and structure of the country's school system.

Mourshed et al. (2010) found that at each stage of their improvement journey, the improving systems selected a critical mass of interventions to be implemented with fidelity. Some of these interventions were stage-dependent and reflected the current circumstances and settings of the system. All six interventions were present at each stage of the improvement journey, although they varied in focus and the specific actions taken. These six interventions were as follows:

1. Revising the curriculum and standards
2. Ensuring an appropriate reward and remuneration structure for teachers and principals
3. Building the technical skills of teachers and principals
4. Assessing students
5. Establishing data systems
6. Facilitating improvement through the introduction of policy documents and education laws

Indonesia's education improvement journey reflects some of the observations made by Mourshed et al. (2010), with attention being given to history, culture, and structure of the system in the development of the improvement strategy. Also, the new curriculum model currently being 'prototyped' in Indonesia, *Kurikulum Merdeka*, and the simplification of the K-13 curriculum during the pandemic reflect revisions to the interventions described by

Mourshed et al. (2010)—developing curriculum and standards, developing skills of teachers and principals, assessing students, establishing data systems, and changing policy and laws to facilitate improvement. While there is more work to be done in Indonesia, particularly to ensure that districts enable to support implementation of the curriculum with fidelity across the diversity of schools, the changes being made are multidimensional and being applied across levels of the education system—as is evident in improving education systems elsewhere.

More recently, Schleicher (2018) in his work on high-performing school systems, drew on the work of Marc Tucker at the National Center for Education and the Economy (NCEE), who observes that high-performing education systems are characterised by the following:

1. leaders in high-performing education systems having convinced their citizens that it is worth investing in the future through education
2. the belief that every student can learn
3. the diversity of student needs is addressed with differentiated pedagogical practice – without compromising on standards
4. careful selection and education of teaching staff
5. ambitious goals that are clear about what students should be able to do and enable teachers determine what they need to teach their students
6. high-quality education across the entire system so every student benefits from excellent teaching
7. policies and practices that are aligned across the entire system

Recent work in Indonesia on curriculum and system improvement has not yet addressed these factors. However, a quality education is perceived to be important for each young Indonesian and the country; high expectations and standards are being set for all students and greater attention is being given to supporting schools and teachers to address student needs and interests; and the difference that can be made by actors in various parts of the education system are receiving more attention and support. These and other actions reinforce the view that Indonesia does seek to be a high performing education system, while also recognising the current state of student attainment and the significant work that needs to be undertaken across the country to increase access and opportunity.

An opportunity for Indonesia exists to use the prototyping period to increase the extent of coherence and alignment across the levels of the education system and across programs designed to support implementation and improve student learning. The challenge is to make these changes, that go beyond just a new curriculum, with fidelity so that implementation of *Kurikulum Merdeka* will result in substantive improvements in student progress and attainment.

5.3. Alignment between curriculum and national assessment

There have been significant changes to the national assessment system that reflect the key directions of *Kurikulum Merdeka*. The cancellation of Ujian Nasional (UN) and the implementation of a school-zone policy as the primary mode of school selection[32]

[32] This policy is intended to reduce the use of prior academic achievement in order for children to enter the public school system. In the new system, schools prioritize students who live near schools, regardless of students' academic background.

(Kemendikbud RT, 2019, 2021) preceded the implementation of the new curriculum. These two policies appear to be in accordance with the current curriculum reform.

A study conducted in Japan by Bjork (2015) provides compelling evidence about the significant role of assessment in the success of curriculum reform. Although an education reform introduced in Japan in the 2000s produced positive results at the elementary level, this was not the case at the secondary level. Bjork discovered the reform in Japan did not align with middle school priorities, which were organized around a single focal point: the school entrance examination. This test caused students, parents, and teachers to be concerned about students' grades because they determined which schools and institutions the students would attend in the future. As a result, teaching and learning were more concerned with grades than with students' understanding.

This has also been the case in Indonesia, where high-stakes national examinations haveresulted in time being given to exam preparation rather than teaching the curriculum. Care needs to be taken to ensure there is alignment between what the curriculum sets out for students to learn and what is being assessed nationally.

Care also needs to be taken with how the data from the national assessment is used. Although the national examination was cancelled in 2020, there are two obstacles that must be anticipated. First, while national assessment results are not formally used for secondary school placement, school examinations remain high-stakes for a significant majority of students because the results are used to apply for secondary school. Second, while the national assessment (including AKM, character survey, and learning environment survey) is intended to be low-stakes *(Pusat Asesmen dan Pembelajaran,* 2021), some people regard it, especially the AKM as high-stakes. In some cases, students were prepared by schools for AKM, distorting, and limiting what students were expected to learn. Some private companies even offer services to students in order for them to achieve good AKM results (*Kementerian Agama, 2021)*. If this practice continues, AKM may have the same influence as the UN and may prevent students from receiving the benefits of *Kurikulum Merdeka*. This challenge needs to be addressed through clear and consistent communication about the purpose of AKM; ensuring alignment between the curriculum and AKM (so that good instruction of the curriculum is sufficient preparation for AKM); and the improvement of school assessment to guide teaching and learning and to provide useful information to students and caregivers.

The prototyping period for the new curriculum provides an opportunity for Indonesia to provide quality advice and support on diagnostic and formative assessment, which will help teachers and schools improve student learning. There should also be communication with schools and the broader community about the new purpose of (and the limitations of) the national assessment.

5.4. Roles that are key to the change

The approach being taken for the implementation of *Kurikulum Merdeka* is consistent with directions in other countries that give devolved degrees of authority or control (agency) to principals and teachers in schools. (Anggraena et al., 2022).

As a result, school principals and teachers in Indonesia will be key players in implementing the new curriculum, and improvements in student learning will come about at the school level.

They will need to examine the new curriculum (and work to understand what is the same and different) and then plan for instruction to help students learn the desired knowledge and skills. A key element of this planning will involve how current levels of student attainment will be assessed to identify the starting point for instruction.

Other key roles in the Indonesian education system will facilitate (or hinder) the change. For example, school supervisors (*pengawas*) are responsible for assessing and supervising the academic and managerial performances of schools and will have key responsibilities for successful implementation. Other actors in the Indonesian learning system could also assume responsibility for supporting the change if they are prepared to undertake such a role, such as universities and teacher training institutions, quality assurance agencies, and MoECRT's province-level teacher development centres[33].

Although there are some significant changes in what will be taught that the individuals in these key roles will need to understand, the changes in *Kurikulum Merdeka* are also about how the curriculum is organised and presented, and it provides increased flexibility and responsibility for schools (school leaders and teachers) to ensure instruction addresses student needs and interests.

The roles and responsibilities of these key roles may need to be clearly described so that individuals know what is expected of them and any differences from current roles and responsibilities; these differences may require professional development to help them in the new context.

For example, the Australian Institute of Teaching and School Leadership (AITSL) describes leadership requirements and practices for school leaders, and the 'leading teaching and learning' practice statement includes the following:

> *Principals create a positive culture of challenge and support, enabling effective teaching that promotes enthusiastic, independent learners, committed to lifelong learning. Principals have a key responsibility for developing a culture of effective teaching [and] for leading, designing and managing the quality of teaching and learning and for students' achievement in all aspects of their development. They set high expectations for the whole school through careful collaborative planning, monitoring, and reviewing the effectiveness of learning.* (AITSL, 2017)

This statement presents principals as leaders of learning who are responsible for the quality of teaching and learning in the schools. If similar roles are expected of Indonesian school leaders, then consideration will need to be given to how they might be supported to understand what is required, and how any new knowledge, skills, and capabilities might be developed.

Attention will need to be paid to individuals in any of the key roles to ensure they understand what changes need to be made and are provided with advice about why making these

[33] The former *Lembaga Penjaminan Mutu Pendidikan* (LPMP) was restructured on March 21, 2022, as (1) *Balai Guru Penggerak* (BGP) and *Balai Besar Guru Penggerak* (BBGP); and (2) *Balai Penjaminan Mutu Pendidikan* (BPMP).

changes is likely to lead to improved student learning, how changes will be made, and the degree of decision-making that resides with school leaders and individual teachers in implementing the curriculum.

For example, for teachers to improve student learning through the implementation of *Kurikulum Merdeka*, attention should be paid to their content knowledge, pedagogical skills, and ability to identify current levels of student attainment and develop lessons that build on this learning. INOVASI has examples of how this can successfully occur.

As mentioned by Cannon (2020) INOVASI's strategy for improving learning outcomes for students in early grades is through problem-driven iterative adaptation (PDIA). Strategies begin with understanding local challenges (particularly with reference to student learning data), designing, implementing, and testing contextually relevant practices to improve learning and teaching; they also involve continuous work with local communities of practice, which is believed to contribute to the increased learning outcomes, especially for early grade learners (Fearnley-Sander, 2020). In INOVASI projects, the PDIA approach is commonly taught to teachers, principals, and supervisors through school cluster-based teachers' working groups (Cannon, 2020).

Indonesia has an opportunity is to identify the roles in the education system that are particularly critical to the implementation of the curriculum (as well as the ongoing process of review and improvement). The challenge, particularly during the prototyping over the next few years, will be to identify small but representative groups of people in the key roles and work with them to better understand what changes are to be made, develop and trial strategies to assist them to make these changes and then have support and advice ready for the system wide implementation of the new curriculum. A clear understanding of the why, how, and when of the change, and how key roles can contribute to success will be significant in ensuring successful implementation of *Kurikulum Merdeka*. In turn, as the curriculum is being implemented across all schools, it will be critically important that school leaders and teachers in all schools will have opportunities, and will be supported, to develop understanding about the why and how of the change.

5.5. Stages and focus of implementation

The Organisation for Economic Co-operation and Development (OECD) (2020) states that *to accomplish education change in schools, policy makers need to shape a coherent, actionable and well-communicated implementation strategy that engages stakeholders early on and takes into account the environment as part of the policy design process*.

The OECD's framework was designed to support leaders in analysing what is involved in moving from an intended change to action—in this case, in schools and classrooms across Indonesia. The framework considers three dimensions that need to be considered to develop an effective implementation strategy: (1) smart policy design, (2) inclusive stakeholder engagement, and (3) conducive environment. While not working comprehensively through these dimensions, this section considers several matters that should be addressed in implementation planning—reasons for change; stages of implementation; different levels of skill, experience, and confidence; needs analysis and responding to needs; and student assessment.

5.5.1. Reasons for change

Ultimately, the implementation of the new curriculum is intended to improve the quality of teaching which, in turn, is expected to improve student learning. The design of *Kurikulum Merdeka* reflects features that need to be accounted for during implementation—differences from the previous curriculum, why changes have been made, how new features are evident in the curriculum framework and what expectations there are of school leaders and teachers.

One way to present the new curriculum is to highlight the design features of *Kurikulum Merdeka* and what they mean for teachers, school leaders, and others. The explanation of the design features could also include a discussion of how they are different from the previous iteration(s), or a separate explanation could be provided on how the new curriculum is different and why the changes have been made.

The design features include the following:

1. Clarity and coherence—the curriculum sets out expectations for what students should learn in different stages of schooling and provides additional advice and support material for teachers on how instruction can be planned and delivered

2. Opportunity and time—the design of the curriculum seeks to provide opportunity and time for all students to acquire the essential knowledge, understanding, and skills and for teachers to teach (while also providing opportunities for student learning to be deepened and extended), and building on current levels of attainment so that teachers can teach at the right level (TaRL)

3. Flexibility and adaptability—schools and teachers can focus on meeting student needs and interests and creating connections to local contexts (rather than being driven by the need to cover the curriculum too quickly)

4. Advice and support—the curriculum model includes the provision of materials on how to teach and assess the essential knowledge, understanding, and skills, assess student learning and reteach content when necessary

5. Support— the curriculum also provides national, provincial, and district support to assist schools in providing quality education to students (noting that the capacity to provide such support with fidelity and integrity is still to be realised)

5.5.2. Stages of implementation

Three distinct stages of the implementation of *Kurikulum Merdeka* can be envisaged—the period of prototyping, national adoption of the new curriculum and a period of monitoring and refinement after the change has been made in all (or the majority of) schools.

1. The prototyping stage was implemented in 2,500 *Sekolah Penggerak*. This stage, in which only schools that have opted in will be using the new curriculum, provides opportunities to refine and finalise an array of support strategies and materials, so that all materials have been field-tested and improved based on feedback from teachers and other users.

2. The adoption stage will span from when schools start using the new curriculum to when all students are learning via programs based on the new curriculum. Decisions may need to be taken about the sequence of the take-up and whether it will be the same across the country. Whereas some schools with experienced and capable teachers might make the change in a few years; other schools, collaborating with districts and networks of schools might take a bit longer and build teacher capability and confidence as they go. Consistent with the respective roles and responsibilities of national and provincial/district authorities, the national government might set an end date for when all teaching programs should be based on the new curriculum, with the local government establishing implementation plans that suit local circumstances and which are sustained across the time it takes to implement the new curriculum.

3. After schools have moved to using of the new curriculum across all grades, a period of monitoring and refinement should commence with opportunities to provide feedback and seek guidance on how the curriculum can be best used to improve student learning. Depending on the matters raised, the feedback might be used at the school or the district level to improve teaching and learning strategies and/or to provide professional development or other support for teachers and school leaders. Further, the ministry could monitor the feedback to identify opportunities to refine the curriculum informed by user feedback. In this way, the implementation of *Kurikulum Merdeka* provides an opportunity to introduce a process of continuous improvement to the national curriculum rather than periodic wholesale change. It also allows for greater ongoing attention to be paid to improving the quality of teaching through district strategies, supported by national efforts.

5.5.3. Different levels of skill, experience, and confidence

There is significant variation in the skill, experience, and confidence of teachers and school leaders across the country. This will also be the case for people in key roles in district and provincial offices. Given the important role that school principals and teachers will have in the successful implementation of *Kurikulum Merdeka*, implementation planning and support (including professional development and other support strategies) needs to take this range of skill, experience, and confidence into account and address it as directly as possible and in a sustained way until implementation has been realised.

During the prototype stage of implementation, there is an opportunity for the ministry to work with some provinces, districts, and partners to identify priority areas for teacher professional development and what has worked well in the past and refine existing, or develop new resources to be made available for schools, provinces, and districts.

For example, INOVASI has worked with provincial teams to develop modules to increase capacity for literacy instruction. A study on the outcomes of this work observed the following: *the model prioritises teachers' pedagogical knowledge of literacy: how to help children decipher the codes of written language; and how to help them access the literal and implied meaning in texts. In a context where know-how for the teaching of reading is often absent, it emerged as the priority. The program's main literacy pilot—Literacy 1 and 2—are professional development pilots. An integral objective in these pilots is to strengthen Indonesia's*

established professional development system and develop the personnel to ensure it works (Fearnley-Sander, 2020).

5.5.4. Needs analysis and responding to needs—different strategies for different schools

Although some schools will have the resources and experience to undertake needs assessments and initiate strategies to improve teacher content knowledge and pedagogical practices and/or assessment strategies to support TaRL, other schools won't have the resources and/or experience to do so. Typically, these may be small schools, but this won't exclusively be the case.

One challenge will be whether all schools and teachers can access the internet and the advice and resources being provided online. The degree of teacher skills and confidence to use the internet and the infrastructure to access it, warrants particular attention during planning for implementation.

During the prototype period of *Kurikulum Merdeka* implementation, the MoECRT, working in collaboration with some provinces / districts and other partners, might develop a tool to help guide schools and districts in the needs assessment and the response development process focused on building school capacity (staff capability and school resources) to implement the new curriculum. The process might also provide guidance to smaller or less experienced schools that would benefit from working with district teams and/or with other schools—building communities of practice which support the dissemination of knowledge and skill and build confidence and capability.

A likely area of need will be the development of strategies to help students learn the capabilities detailed in Pancasila Student Profile through subject instruction and through project-based learning. This is one area of the new curriculum for which there is a significant change from current practice. To successfully implement this new element of the curriculum, a range of guidance and illustrations of practice will be needed—from advice on which capability naturally fits with which subjects to balancing direct teacher instruction with inquiry-based activities. Detailed plans will help many teachers be confident to take up this new element.

The process would be an important first step in the longer-term goal of building a collaborative learning system with districts and provinces and across the country. Having tested the process, it should be refined and make it available for application during the second stage of *Kurikulum Merdeka* implementation.

5.5.5. Assessment—diagnostic, formative, and summative

Assessment can have a positive or negative influence on curriculum implementation. Ideally its influence will be positive, and assessment will help teachers identify what students currently know so that instruction can build on it. However, assessment can also cause a narrowing down of what is to be taught.

UNESCO (2016) defines diagnostic assessment as ones aimed at identifying a learner's strengths and weaknesses with a view to take necessary action to enhance learning. This

assessment is used before the teaching and learning process to appraise the learner's readiness or level of achievement, and formative assessment is conducted throughout the educational process to enhance student learning. It implies eliciting evidence about learning to close the gap between current and desired performance (so that action can be taken to close the gap), providing feedback to students, and involving students in the assessment and learning process. Lastly, summative assessment evaluates learners' achievements at the end of a term, stage, course or program usually, although not necessarily, involving formal testing or examinations. Summative assessment is most often used for ranking, grading and/or promoting students, as well as for certification purposes.

During the prototype stage of implementation, the following actions warrant particular attention:

1. Development of diagnostic assessment instruments for the early years of schooling in key skill areas, particularly for literacy and numeracy. These might include assessments for use by schools to identify the extent of learning that students bring to school, including, for example, the extent of their reading ability. The aim of the diagnostic assessments will be to provide teachers with quite detailed information about what students already know and can do and what areas require attention. These data would provide the starting points for instructional programs. The data are very likely to illustrate that differentiated teaching (TaRL) is required from the first term of school in areas such as reading with, for example, significant variation in student reading attainment.

2. Development of advice on and examples of formative assessment to guide teachers on using relevant assessment data to judge the success of teaching strategies and inform next steps for student learning. Information about where modules are being developed to accompany the new curriculum advice on formative assessment should be provided. In addition, information about new areas of the curriculum, such as project-based learning formative assessment advice and examples, will assist teachers in understanding curriculum intentions.

3. Alignment of national assessment programs to the new curriculum, to ensure the program and its reporting scales reflect the expectations of the new curriculum and that data resulting from the national assessment will make positive contributions to discussion about the new curriculum, its implementation and possible refinement.

5.6. Lessons learned from early stage of *Kurikulum Merdeka* implementation

This section describes findings generated from an evaluation of the *Sekolah Penggerak* Program in its first semester implementing the *Kurikulum Merdeka* prototype[34] and, secondly, from what INOVASI has done in supporting partner districts in North Kalimantan and West Nusa Tenggara to prepare for independent implementation of *Kurikulum Merdeka*. The findings provide insights, confirming the opportunities and challenges that have been

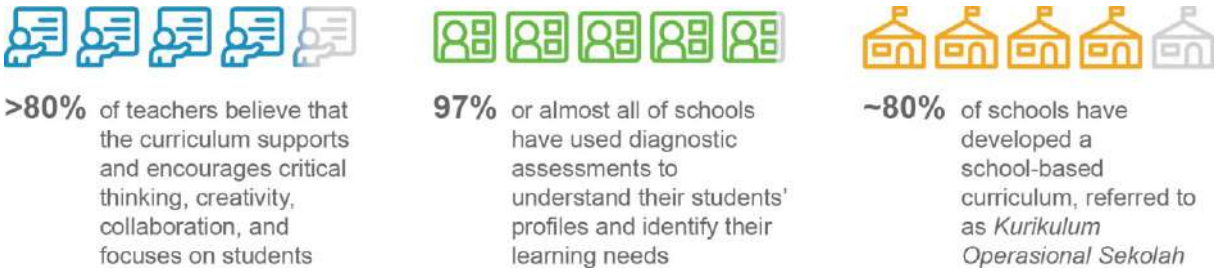
[34] The *Sekolah Penggerak* (change agent school) represents groups of school in four categories, namely poor, fair, good, and great. This is also a distinctive characteristic of piloting *Kurikulum Merdekat*, because previous curriculum trials targeted schools with good performance.

elaborated in Section 5.4. This is useful for local policy and education actors who are supporting teachers and schools to implement *Kurikulum Merdeka*.

A limited implementation of *Kurikulum Merdeka* in 2,499 *Sekolah Penggerak* was evaluated through three mechanisms of interviews, an ethnographic study, and surveys (Anggraena et al., 2022). More than 8,000 teachers[35] and more than 1,700 school principals participated in the survey, with proportional school samples in developed and less-developed regions. Interviews were undertaken in three developed districts and seven less-developed districts, while an ethnographic study was undertaken in ten districts, selected to represent urban or rural, less-developed or developed, and regional characteristics.

The study concluded that implementation of *Kurikulum Merdeka* is feasible for schools in both developed and less-developed areas, and for both schools with adequate and less-adequate facilities. Teachers were able to apply the core features of *Kurikulum Merdeka*: student-centred learning, flexibility in teaching strategies to allow contextual learning that fits their students' needs, and support for student creativity. In the long run, these teacher abilities are expected to enable teachers to be flexible and to manage ongoing and continuous adaptation of the curriculum.

The findings produce insights on opportunities and challenges. The optimistic findings include the following:



1. More than 80 per cent of teachers believe that the curriculum supports and encourages critical thinking, creativity, collaboration, and focuses on students.
2. Almost all (97 per cent) of schools have used diagnostic assessments to understand their students' profiles and identify their learning needs, which is a substantial progress because diagnostic assessment is not commonly practiced by teachers in Indonesia.
3. About 80 per cent of schools have developed a school-based curriculum, referred to as *Kurikulum Operasional Sekolah*. Schools applied different strategies to develop their curriculum; some schools got technical training delivered by the Centre of Development and Empowerment of Teachers and Education Personnel (*Pusat Pengembangan Pemberdayaan Pendidik dan Tenaga Kependidikan*, or P4TK) and there were schools worked independently through internal discussions, led by principals and teacher learning committees.

[35] In line with the intervention, the survey was administered for teachers in Grade I, IV, VII and X.

4. Most schools have implemented project-based learning, based on *Penguatan Profil Pelajar Pancasila* (Strengthening Pancasila Student Profile). Some schools demonstrated innovations and strong collaboration among teachers in delivering learning through this project. Furthermore, both teachers and students reported that the project-based learning generated new experiences, more fun, and more encouraging.

5. Teachers have applied flexible and adaptable learning approaches.

6. In organising learning, more than half of the schools continued to apply subject-based learning; however, there were indications of diverse and innovative practices, including multi-subject based, theme-based, inquiry-based learning, and combined learning approaches.

7. Teachers used different approaches, such as outdoor learning, rearranging classrooms to allow more dialogue and greater interactions, working with groups to encourage collaboration, and using school environments as learning resources.

In addition to these promising results, the studies also identified some challenges that may compromise the quality of the *Kurikulum Merdeka* implementation, noting that the study captured only the early implementation phase:

1. Seventy per cent of teachers reported that their understanding of the curriculum was not comprehensive or equally shared across the implementors. Insufficient training was considered one reason because of limited internet access and limited resources for joining online training, inadequate participation in the training, and limited dissemination internally within or among schools.

2. Teachers experienced difficulties in applying overall elements of *Kurikulum Merdeka*, such as applying findings from diagnostic assessment to teaching practices to meet students' needs or undertaking assessments for project-based learning, particularly when the project involved multiple subjects.

3. Some specific challenges were identified at secondary school level. The respondents commented that more preparation was needed to adapt to the new policy because the *Kurikulum Merdeka* has implications on school management and governance. This includes, for example, abandoning major-based divisions of science, social science, and language which, in turn, has implications on student selection to enter universities, subjects that few students were interested in, and operational issues such as the management of classrooms and schedules.

Although *Sekolah Penggerak* is a MoECRT-driven program for implementing the *Kurikulum Merdeka* prototype, with the launch of the new curriculum, the government expects non-*Sekolah Penggerak* schools to implement *Kurikulum Merdeka* independently. As a partnership with national and subnational governments, INOVASI works together with interested districts to support curriculum implementation, in conjunction with the existing initiatives.[36] Current initiatives in responding to and recovering from COVID-19 pandemic are relevant as

[36] INOVASI currently is working in four provinces of West and East Nusa Tenggara, North Kalimantan, and East Java and in a range of districts across these provinces.

INOVASI's support in responding to and recovering from COVID-19 eventually has built a foundation for partner districts and schools for adopting the new curriculum. *Kurikulum Merdeka* features a focus on essential competencies and flexibility, enabling the learning to be adapted to student learning needs. Extensive experience gained by teachers and schools during the response and recovery periods will enable them to adopt the new curriculum.

INOVASI's advice to partner districts, which put teachers and schools in a strong position to implement *Kurikulum Merdeka*, included (1) how to adjust and manage learning during the pandemic and districts could allocate and reallocate budgets, and provide directions to schools; and (2) how to facilitate districts and schools to train teachers to apply different methods of teaching, such as hybrid learning, diagnostic assessments and differentiated teaching through the Emergency Curriculum and its literacy and numeracy modules that focus on foundational skills. Teachers could also adapt the learning resources with local materials.

Following the launch of *Kurikulum Merdeka* in February 2022, INOVASI is expanding its support to partner districts in North Kalimantan and West Nusa Tenggara interested in implementing *Kurikulum Merdeka*. Although partner districts in West Nusa Tenggara plan to fully implement the new curriculum, the partner districts in North Kalimantan opted to continue the primary focus on learning recovery and adopt relevant elements of the new curriculum to support these recovery efforts. The preparation stages in both provinces, however, are similar, and both indicate early progress; for example, there is an indication of improved understanding of the new curriculum that may affect schools' decisions to participate and adopt the curriculum.

The illustration below shows the initial stages done by partner districts in North Kalimantan and West Nusa Tenggara for implementing *Kurikulum Merdeka*:

1. Each province has set up a technical team that will be responsible for managing the preparation for the implementation of *Kurikulum Merdeka*.

2. The priority is to disseminate the new curriculum to teachers and schools in the province. Before this dissemination, the technical teams have built their own understanding and knowledge of the new curriculum and have developed information packages for dissemination.

3. In West Nusa Tenggara, dissemination is being conducted by the technical team, involving local facilitators and a teacher training institute (TTI) as resource persons. In North Kalimantan, INOVASI is facilitating a series of workshops, involving a key speaker from the Centre of Curriculum and Learning (*Pusat Kurikulum dan Pembelajaran*, or *Puskurjar*) – MoECRT. This is to allow direct discussions between the districts, the Educational Quality Assurance Council (*Lembaga Penjaminan Mutu Pendidikan*, or LPMP), and MoECRT personnel, to seek technical advice on how to integrate the new curriculum within the province's learning recovery initiatives. The activities in both provinces are helpful in ensuring correct messages are given, emphasising the need for mindset changes, apart from understanding the technicality of the new curriculum. At the same time, it enables MoECRT to get input and feedback from practitioners and administrators in the districts.

4. In parallel to this stage, INOVASI will support partner districts to register online to adopt the new curriculum. This is an important step, enabling MoECRT to assess the

applications and map the implementation categories to correspond to schools' readiness and capacities.

The early progress with the implementation of *Kurikulum Merdeka* highlights the importance of building a supportive environment for the implementation of the new curriculum. School principals and teachers will be key actors; their roles are essential in providing high quality education at the school level to enable improvements in student learning. Other key players are in district and/or provincial governments with responsibility to support schools and teachers with necessary policies or resources, including preparing and coordinating school supervisors to have the capacity for assessing and supervising school performance based on the new curriculum.

A vital issue to be addressed is the uneven access to internet and online support for implementation. Around 61 million Indonesians do not have access to the internet (UNICEF, 2021), and nearly all of these are poor and remote families. Given that MoECRT's support for teachers is provided online, many teachers will be unable to access it. Among those who can access the internet, many are unskilled in using online resources and may be challenged to understand what they need and what is relevant to their classroom teaching. INOVASI's work with districts, schools, and teachers has demonstrated that teachers learn best in groups—communities of practice. The limited access to training and professional development presents a risk to the curriculum implementation that has yet to be addressed. The use of teacher working groups (*Kelompok Kerja Guru,* or KKG) as a mainstream system for teacher development provides an obvious answer to this challenge. Districts can empower teachers to use the online materials in the supportive context of KKG. INOVASI is working with districts in North Kalimantan, West Nusa Tenggara, and East Java to explore effective ways to deliver training using the online materials in groups. For instance, in East Java, INOVASI collaborated with the district in developing numeracy learning management system, while in West Nusa Tenggara, we developed online training mechanism to train literacy volunteers (RELASI). In North Kalimantan, the work includes exploring ways of providing teacher training in remote areas without internet access.

Additional implementation challenges include the challenge of delivering the curriculum to children with a disability, language, or gender disadvantage, as discussed in Chapter 2. INOVASI is working with MoECRT, teacher training institutions, and districts in East Java, NTB and NTT to explore ways to address these issues and adapt the curriculum to meet the needs of children with different learning needs. Use of formative assessment and approaches to teaching at the right level will go a long way to addressing the challenge. Ensuring that textbooks and teaching materials are gender sensitive, providing separate toilet facilities for girls and boys[37], and enabling children who marry early to continue their schooling will also help. Providing adjusted learning progressions (CP) or *alur tujuan pelajar* (ATP) for early-grades children who start school without fluency in Bahasa Indonesia may also provide a solution.

A final challenge worthy of note is the need to incentivize teachers to participate in the training required, and to make the substantial effort needed to change their practice and implement

[37] Research has shown that adequate and gender-separate water, sanitation, and hygiene (WASH) facilities in schools promote girls' attendance and reduce the risk of sexual harassment (Plan International, 2020; Plan International & the International Center for Research on Women (ICRW), 2015)

the new ways of assessment, teaching and learning associated with *Kurikulum Merdeka*. Such incentives do not necessarily need to be financial but can take the form of credits towards career advancement.

Learning from the *Sekolah Penggerak* Program and early steps of implementing *Kurikulum Merdeka* independently, there are opportunities ahead. However, challenges have been identified that need to be addressed to ensure a smooth and successful implementation of the new curriculum.

6. Conclusion

Indonesia recognises the nexus between high quality education and the well-being and prosperity of Indonesians and the country. Improving education outcomes and Indonesia's human resources is a key element in the government's plan to improve the economy *(Rencana Pembangunan Jangka Menengah Nasional* - RPJMN, 2020–2024, 2019).

Like many other countries, Indonesia continues to strive to improve its education system and has a goal that all young Indonesians will have access to and benefit from a quality, engaging learning system that provides them with the knowledge, understanding, skills, and character traits to learn successfully at school and continue to learn after they have left school, especially for the essential skills of literacy and numeracy.

The design of *Kurikulum Merdeka* sets expectations for all students as they progress through school. It also provides flexibility for schools and teachers to identify and respond to the learning needs of students. In this way *Kurikulum Merdeka* seeks to address equity, not by assuming all students will be treated equally, rather by expecting and enabling schools and teachers to identify, understand and respond to the needs of individual learners through 'teaching at the right level'. As noted earlier this is a challenge if Indonesia is to improve learning outcomes for all students. The COVID-19 pandemic caused the Indonesian government to instigate emergency measures to mitigate the loss of learning that resulted from the pandemic. These measures also provided the impetus to change the learning system to fulfil a longer-term view and goal. As part of these changes, the government has set to reform the design and implementation of a new curriculum.

The results of a learning gap study (Spink et al., 2022) provided insights into how learning losses can be recovered and how the general learning crisis that existed before the pandemic might be addressed. The report reinforced the need to act. It also drew on data to highlight actions that mitigated learning loss and that could be used for the design and implementation of a new curriculum. These insights, combined with research and design work undertaken by MoECRT and learning from previous curriculum changes, have informed the designing and drafting of *Kurikulum Merdeka*.

The *Kurikulum Merdeka* framework does the following:

1. Establishes expectations for what all students should learn through the Pancasila Student Learning Profile and the learning expectations (CP).

2. Provides advice and guidance on the delivery of teaching and learning programs through documents about principles of learning and assessment and that provide guidelines for operational curriculum development for schools and guidelines for projects to strengthen the Pancasila Student Profile.

3. Provides support for teachers to instruct students through resources such as teaching modules, textbooks (student books and teacher books), and other teaching materials available on the *Merdeka Belajar* platform.

The framework has been designed to be flexible – to meet the learning expectations for all young Indonesians, and delivered in a way that meets student learning needs and interests. Implementation of the new curriculum will be incremental, which will allow schools to decide

when they will implement it based on their resources and capacities. To support this approach, MoECRT reportedly plans to give attention to implementation strategies and ongoing monitoring and refinement of the curriculum based on feedback from schools and others. Implementation of the new system will also require the rearrangement of existing standards and regulations, empowering policymakers, and educators, and providing learning tools and resources to expedite the adaptation process. In addition to curriculum, attention has also been given to other elements of the learning system - implementation of *Kurikulum Merdeka* will be linked with other *Merdeka Belajar* initiatives such as the *Sekolah Penggerak,* Centre of Excellence Vocational School (SMK PK), and *Guru Penggerak* programs. The programs provide training and mentoring for teachers and schools to help them navigate this new curriculum and improve the entire learning system.

This new curriculum change is built on a firm foundation constructed through experience, local and international research, learning from other places, and engagement and consultation with the education community. However, given the scale and diversity of the Indonesian education system, care will need to be taken to manage the challenges that currently exist and those that will arise to ensure that the goal of improving learning opportunities and outcomes for all Indonesians can be realised.

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