Preliminary Report

Malaysia Education Blueprint 2013-2025

September 2012

MALAYSIA EDUCATION BLUEPRINT 2013 - 2025

FOREWORD

INNOVA

Education is a major contributor to the development of our social and economic capital. It inspires creativity and fosters innovation; provides our youth with the necessary skills to be able to compete in the modern labour market; and is a key driver of growth in the economy. And as this Government puts in place measures under the New Economic Model, Economic Transformation Plan and Government Transformation Plan to place Malaysia firmly on the path to development, we must ensure that our education system continues to progress in tandem. By doing so, our country will continue to keep pace in an increasingly competitive global economy.

Our education system has been the bedrock of our development. It has provided this generation and those before it with the skills and knowledge that have driven the country's growth and, with it, our prosperity.

At the centre of this are the thousands of dedicated teachers, principals, administrators, and officers and staff at the Ministry of Education, both past and present, whose contribution can never be overstated. In the 55 years since our independence, they have overseen a dramatic improvement to the quality and provision of education. And through their efforts we have, for example, achieved near-universal access at the primary and lower secondary levels, while global organisations such as UNESCO and World Bank have recognised and lauded Malaysia's progress in education.

But in order to meet our high aspirations amidst an increasingly competitive global environment, we cannot stand still. Our country requires a transformation of its entire education system, lifting achievement for all students. Make no mistake; this will require an entirely new perspective, so that students develop skills needed for the 21st century. Rather than simply adding staff and facilities, there is now a need to understand and improve the dynamics of the teaching and learning process.

To this end, the Government has developed the Education Blueprint. It provides a comprehensive plan for a rapid and sustainable transformation of our education system through to 2025. And by building on the range of initiatives introduced as National Key Result Areas, it sets out the fundamental changes that we require. From how we approach student learning, the way we recruit, train and reward our teachers and principals right through to how the Ministry of Education itself operates, it lays out a process for that change. And in doing so, it lays out clear improvements on the factors that really matter, along every step of this journey.

These targets are ambitious, but entirely achievable. They include: ensuring universal enrolment from pre-school to upper secondary education in 10 years; halving the achievement gaps between the rich and poor, urban and rural, and between the states that form Malaysia in 10 years; rising from the bottom-third to the top-third of countries in international assessments like PISA and TIMSS in 15 years; and building an education system that gives children an appreciation for our unique identity as Malaysians. And this will be achieved with due prudence and care for the resources allocated; every ringgit spent must be directed towards improving student outcomes.

I would also like to take this opportunity to express my appreciation to the Ministry of Education and all those who contributed towards the development of this Education Blueprint. I realize that transforming the education system will not be easy and that we are likely to encounter a number of challenges along the way.

But despite this, rest assured that not only are the Government and Ministry of Education committed to delivering on these goals, I am also personally committed. And hand in hand with the rakyat, I have every confidence that we will persevere and deliver. From individual parents to members of the local community to the private sector, we all have a role to play and a personal stake in improving our education system. A role that will help sow the seeds of our children's success. A role that we should all be proud to play.

So God willing, let us take this exciting, challenging and – most importantly – this necessary journey together, as one nation.

Dato' Sri Mohd Najib bin Tun Haji Abdul Razak

Prime Minister of Malaysia

QUALIT

This Government is committed to transforming Malaysia's education system over the next one-and-a-half decades. Our goal, and the purpose of the education system, is to equip our students holistically to allow them to succeed in the 21st century, with all of the opportunities and challenges that this new era presents. In order to compete with the best in the world, our education system must develop young Malaysians who are knowledgeable, think critically and creatively, have leadership skills and are able to communicate with the rest of the world. Just as importantly, our students must be imbued with values, ethics and a sense of nationhood, enabling them to make the right choices for themselves, their families and the country with a view towards enduring and overcoming life's inevitable challenges.

Delivering the shifts in achievement we seek will require building on the progress already realised across the system; spreading it more widely, particularly to those groups for whom the system is currently not performing; and supporting all students to achieve. The Ministry of Education will focus its resources on those levers that actually make a difference to what matters most: student outcomes. Our strategy is to focus on teaching and learning quality, access to reliable and meaningful information, transparent accountabilities and appropriate learning environments and infrastructure.

The Ministry will ensure that all children entering school have already participated in early childhood education, regardless of socio-economic status. We will increase the number and diversity of preschools to make them broadly accessible, while raising the quality of early childhood education services across the board.

Quality teaching is the most effective lever available to transform primary and secondary education and deliver improved outcomes for students. The Ministry will improve the quality of teaching in our schools, building on existing good practice, and rewarding high-quality teaching with better career pathways that support teachers in the classroom. It will also revise the curriculum to embed and develop 21st Century Skills such as critical and creative thinking, as well as encourage holistic, well-rounded personal growth. Excellent professional leadership has the second-biggest effect on improving learning outcomes and so we are investing in strengthening school leadership from selection through to induction and in-role mentoring and support.

The Ministry will also provide targeted, differentiated support to every school, tailored to individual school needs. For instance, while the Ministry will support improved school infrastructure to support student learning across the education system, Sabah and Sarawak will be prioritised for infrastructure upgrades. This will ensure that every school receives the level and type of support it needs. Schools that are already high-performing will also earn greater decision rights autonomy to support continuous improvements.

Working with partners wherever necessary, we are focused on increasing opportunities for young Malaysians of all abilities, talents and interests. For instance, the vocational education pathway is being strengthened and expanded to provide students with the practical skills required to succeed in trades and other specialised occupations.

We will also further develop opportunities for religious, sports, arts, and other educational pathways. The inclusiveness of the system will also be improved, with additional opportunities and resources for gifted, special needs, indigenous and other minority groups, and other groups with specific needs.

In order to deliver on these fundamental transformations, the Ministry of Education will play a key role in leading the education sector and working with education providers and stakeholders to lift student achievement. I applaud all of our Ministry personnel for their dedicated service, their hard work and their continuous efforts to improve the education and care of our students.

Over the course of the Blueprint, we will update you regularly on this transformation journey. We will establish an Education Delivery Unit (EDU) within the ministry that will support this programme. We will also share progress through annual reports which will highlight successes and gaps, with remedial action plans for continuous improvements where needed.

On behalf of the Ministry of Education, we commit to the vision of this Blueprint and to supporting its implementation to the best of our ability. For the sake of Malaysia's children, we can do better, and we will do better.

Tan Sri Dato' Haji Muhyiddin bin Haji Mohd. Yassin

Deputy Prime Minister and Minister of Education

STUDEN

The Ministry of Education Malaysia remains committed to fulfilling the potential of students in the Malaysian education system. *Inter alia*, emphasis will be given to provide better access and quality education to every student, and eventually contribute towards bringing meaningful differences in the lives of Malaysians. The Malaysia Education Blueprint (2013-2025) provides the long term policy direction to make these improvements. It establishes a clear sequence of priorities to ensure that the return on investments is optimised in terms of the results that matter most - "student outcomes."

A key priority for this transformation is to ensure better alignment between policy formulation and implementation along the entire education value chain. Another priority is to improve resource productivity by strengthening the link between desired outcomes and the effective allocation of resources as well as efficient implementation and evaluation of relevant programmes and projects.

Leadership, guidance and support from the Ministry, state education departments, district education offices as well as schools, will be critical to achieve these aspirations. Fulfilling these crucial roles will require a fundamental transformation in the Ministry's organisational structure and operations, which needs to evolve into a more responsive, transparent and outcomes-focused organisation. The capacities and capabilities of personnel at the state and district levels will be enhanced. Greater autonomy and balanced accountability will also be provided to enable flexibility in delivering solutions tailored to the unique needs of students. This will also require constructive networking with key stakeholders across Government agencies, parents, community groups and the private sector.

I would like to express my sincere appreciation to the dedicated and hardworking Ministry personnel across Malaysia, many of whom perform their indispensable service of educating the nation's children in varying conditions. Although many challenges still lie ahead, I am confident that by working together we can deliver our shared goal: a quality education system that equips all Malaysians with the knowledge, skills and values to be successful citizens in the 21st century.

Dato' Dr. Rosli bin Mohamed

Secretary-General
Ministry of Education

INCLUSI

Education is key for personal development and it provides a myriad of life opportunities. It also underpins the development of a highly skilled, innovative workforce as a critical enabling factor for social, cultural, and economic growth. The commitment and efforts we put into education are some of the most fundamental investments we can make towards securing the future wellbeing of Malaysians. Towards achieving this, various initiatives were undertaken to identify challenges and gaps related to the education system and find ways to address them. From these findings, the Ministry has come up with a Blueprint outlining strategies and initiatives for the enhancement of the National Education System.

MENESS

The Blueprint is the result of a multitude of analyses, interviews, surveys, and research conducted with the support of national and international education experts, officials, teachers, principals, and parents all across Malaysia. In addition, through the National Dialogue conducted earlier this year, almost 12,000 members of the public and various stakeholder groups were consulted for their ideas and feedback.

In this Blueprint, we have set ourselves ambitious, yet achievable and feasible tasks to build a strong and efficient education system by 2025 that features universal access all the way through to secondary education, that will produce students who perform in the top third of international student assessments, to provide equal and quality educational opportunities for all students regardless of background or socioeconomic status and to instill a sense of common Malaysian identity amongst all students.

These changes will necessitate the implementation of strategic support systems to engage students in the learning process. Our schools will be able to provide quality teaching, guidance, and support for our students. Placements of strong, school-based leaders will help to ensure schools comply with the high performance standards as prescribed by the Ministry of Education Malaysia. Furthermore, I am confident that with the cooperation from all internal and external stakeholders the implementation of this Blueprint will provide a sustainable and rapid transformation of Malaysia's Education System.

Tan Sri Abd. Ghafar bin Mahmud

Director-General
Ministry of Education

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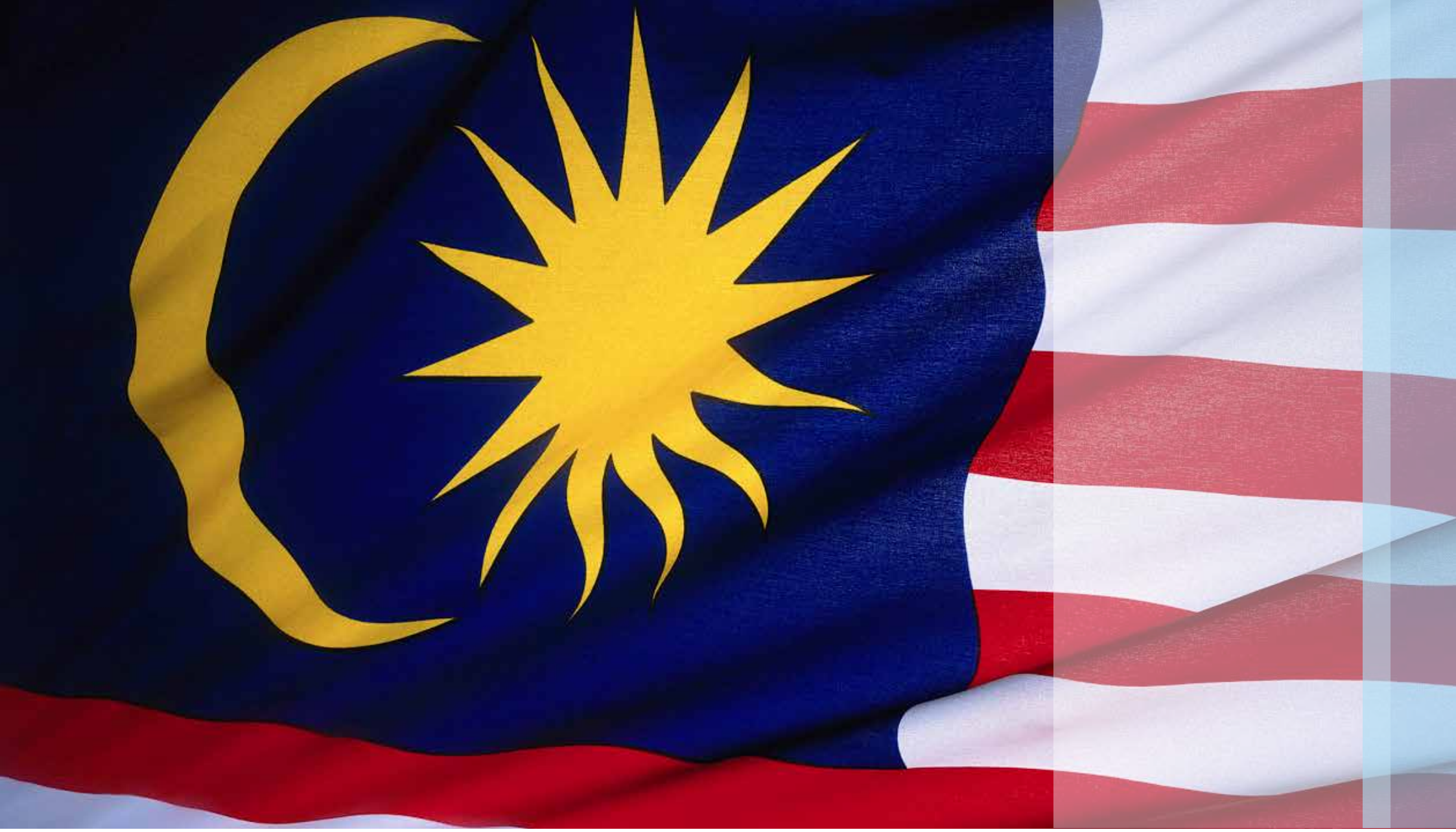
EXECUTIVE SUMMARY

Executive Summary

In October 2011, the Ministry of Education launched a comprehensive review of the education system in Malaysia in order to develop a new National Education Blueprint. This decision was made in the context of rising international education standards, the Government's aspiration of better preparing Malaysia's children for the needs of the 21st century, and increased public and parental expectations of education policy. Over the course of 11 months, the Ministry drew on many sources of input, from education experts at UNESCO, World Bank, OECD, and six local universities, to principals, teachers, parents, and students from every state in Malaysia. The result is a preliminary Blueprint that evaluates the performance of Malaysia's education system against historical starting points and international benchmarks. The Blueprint also offers a vision of the education system and students that Malaysia both needs and deserves, and suggests 11 strategic and operational shifts that would be required to achieve that vision. The Ministry hopes that this effort will inform the national discussion on how to fundamentally transform Malaysia's education system, and will seek feedback from across the community on this preliminary effort before finalising the Blueprint in December 2012.

Education plays a central role in any country's pursuit of economic growth and national development. There is no better predictor of a nation's future than what is currently happening in its classrooms. In today's global economy, a nation's success depends fundamentally on the knowledge, skills and competencies of its people. It is no surprise that nations with higher education levels tend to enjoy greater economic prosperity. Education is also fundamental to nation building and unity. It provides individuals with the opportunity to improve their lives, become successful members of the community and active contributors to national development. Through interacting with individuals from a range of socio-economic, religious and ethnic backgrounds – and learning to understand, accept and embrace differences – a shared set of experiences and aspirations for Malaysia's future can be built. It is through these shared experiences and aspirations that a common national identity and unity is fostered.

In recent years, the Malaysian education system has come under increased public scrutiny and debate, as parents' expectations rise and employers voice their concern regarding the system's ability to adequately prepare young Malaysians for the challenges of the 21st century. Given the nature of the education system, it will take several years for fundamental changes to be felt. This makes the need for ambitious actions now both important and urgent.



OBJECTIVES AND APPROACH OF THE REVIEW

This preliminary Education Blueprint ("Blueprint") is the result of extensive research and public engagement carried out by the Ministry of Education ("Ministry"). The Blueprint was developed with three specific objectives:

1. **Understanding the current performance and challenges** of the Malaysian education system, with a focus on improving access to education, raising standards (quality), closing achievement gaps (equity), promoting unity amongst students, and maximising system efficiency;

2. **Establishing a clear vision and aspirations** for individual students and the education system as a whole over the next 13 years; and

3. **Outlining a comprehensive transformation programme for the system, including key changes to the Ministry** which will allow it to meet new demands and rising expectations, and to ignite and support overall civil service transformation.

The approach to this Blueprint was ground-breaking in many ways. Multiple perspectives were gathered from various experts and international agencies to evaluate and assess the performance of Malaysia's education system. This includes the World Bank, the United Nations Educational, Scientific, and Cultural Organisation (UNESCO), the Organisation for Economic Co-operation and Development (OECD), and six local universities. The Ministry also worked with other government agencies to ensure alignment with other public policies related to education. For example, the Ministry has worked closely with the Performance Management and Delivery Unit (PEMANDU) to develop the Government Transformation Programme (GTP) 2.0 initiatives on education so they reflect the priority reforms in the Blueprint from 2013 to 2015.

Furthermore, the Ministry engaged with the *rakyat* on a scale never seen before. Over the course of a year, over 50,000 Ministry officials, teachers, principals, parents, students, and members of the public across Malaysia, were engaged via interviews, focus groups, surveys, National Dialogue townhalls, and roundtable discussions. The Ministry also appointed a 12-member Malaysian panel of experts, and a 4-member international panel of experts to provide independent input into the review findings.

SIGNIFICANT AND SUSTAINED INVESTMENTS IN EDUCATION

The support and resources that a system provides to schools play a critical role in how schools perform as they enable teachers and principals to focus on their core business of delivering effective teaching and learning. A country's investment in its education system is therefore an important measure of its commitment.

The Malaysian Government has sustained high levels of investment in education over the 55 years since independence. As early as 1980, the Malaysian federal government's spending on primary and secondary education, as a percentage of Gross Domestic Product (GDP), was the highest in East Asia. In 2011, the amount spent, at 3.8% of GDP or 16% of total government spending, was not only higher than the OECD average of 3.4% of GDP and 8.7% of total public spending respectively, but also at par with or more than top-performing systems like Singapore, Japan, and South Korea (Exhibit 1). In 2012, with an education budget of RM37 billion, the Government has continued to devote the largest proportion of its budget, 16% to the Ministry. This demonstrates the very real commitment the Government has to education as a national priority.

DRAMATIC PROGRESS ON IMPROVING ACCESS TO EDUCATION

The education system has made tremendous progress since 1957. At the time of Independence, over half the population had no formal schooling, while only 6% of Malaysian children had been educated to secondary level, and a paltry 1% to the post-secondary level. Five and a half decades later, access to education has been transformed beyond recognition.

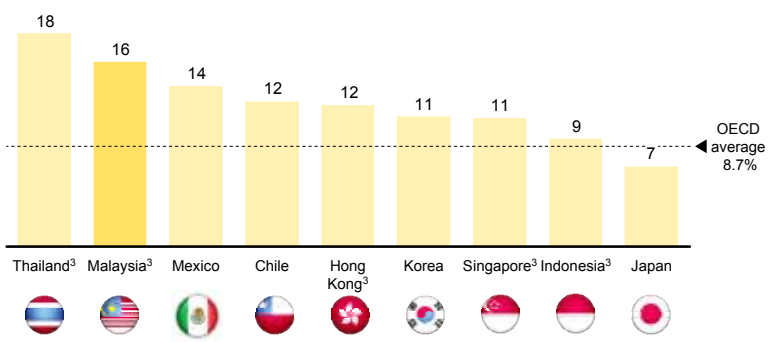
In 2011, Malaysia had achieved near universal enrolment at the primary level at 94%, and the percentage of students who dropped out of primary school had been significantly reduced (from 3% in 1989 to just 0.2% in 2011). Enrolment rates at the lower secondary level (Form 1 to 3) had risen to 87%. The greatest improvement was undoubtedly at upper secondary level (Form 4 to 5), where enrolment rates had almost doubled, from 45% in the 1980s, to 78% in 2011. These enrolment rates are even higher once enrolment in private schools is factored in: 96% at primary, 91% at lower secondary, and 82% at upper secondary level. These rates are higher than most developing countries, although they are still lower than that of high-performing education systems like Singapore and South Korea. In parallel, there has been rapid expansion in preschool education. Around 77% of students are now enrolled in some form of preschool education (either public or private), and the target is for universal enrolment through the Education National Key Results Area (NKRA) in the GTP.

The significant improvement in access to education is echoed by a similar improvement in attainment. Youth literacy has risen from 88% in 1980 to near-universal literacy of 99% today, while adult literacy has increased even more dramatically, from less than 70% to over 92% in the same time frame. Further, the proportion of the adult population (aged 15+) with no schooling has declined, from 60% in 1950 to less than 10% in 2010, while the proportion (aged 15+) that has completed secondary education has risen from around 7% in 1950 to almost 75% over the same time period (Exhibit 2). These are achievements of which Malaysia can be proud.

EXHIBIT 1

Basic education expenditure[1] as a percentage of total government expenditure for Malaysia and peers[2]

Percent (2008)



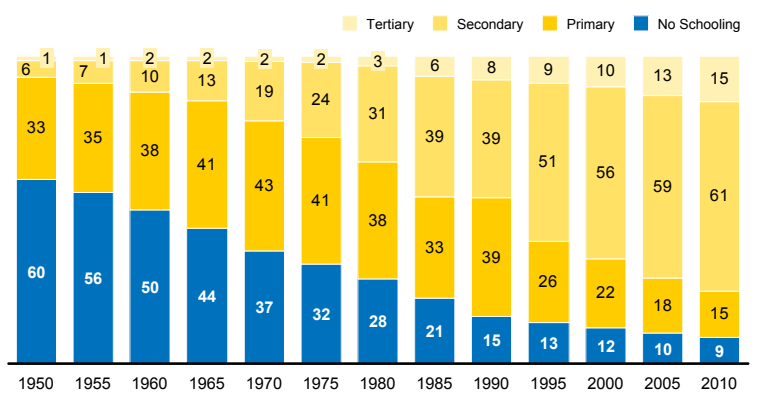
1 Includes operating expenditure and capital/development expenditure for basic education (primary and secondary)
2 Peers based on the following categorisation: Asian Tigers (Hong Kong, Singapore, S. Korea, Japan); SEA neighbours (Indonesia, Thailand Singapore), and comparable GDP per capita (Mexico and Chile)
3 Data for 2010
Note: Data from 2008 or 2010 depending on latest available data

SOURCE: Ministry of Education Malaysia; OECD – Education at a Glance 2011; Singstat; Ministry of Finance Thailand; Ministry of Finance Indonesia; Education Bureau of Hong Kong.

EXHIBIT 2

Highest educational attainment of population aged 15 and above (1950-2010)

Percent of population



SOURCE: Barro and Lee, 2010 (Eurostat, UN)

SYSTEM REMAINS COMMITTED TO DEVELOPING STUDENTS HOLISTICALLY

The Malaysian school curriculum is committed to developing the child holistically along intellectual, spiritual, emotional, and physical dimensions, as reflected in the National Education Philosophy. Programmes and initiatives to develop non-academic components are present both during formal class time as well as through a variety of after-school co-curricular activities. For example, Islamic Education or Moral Education is compulsory for all students from Year 1 through to Form 5. The Ministry also has a requirement that every student participate in at least 1 sport, 1 club, and 1 uniformed body activity as a means of fostering individual talents and interests, along with building leadership skills. Available data suggests that student enrolment in such co-curricular activities is high.

The National Education Philosophy

The National Education Philosophy for Malaysia, written in 1988 and revised in 1996, enshrines the Ministry's and Government's vision of education as a means for the holistic development of all children: intellectually, spiritually, emotionally, and physically.

"Education in Malaysia is an ongoing effort towards further developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally, and physically balanced and harmonious, based on a firm belief in and devotion to God. Such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who possess high moral standards, and who are responsible and capable of achieving high levels of personal well-being as well as being able to contribute to the harmony and betterment of the family, the society, and the nation at large."

STUDENT COGNITIVE PERFORMANCE AGAINST INTERNATIONAL STANDARDS

A fundamental objective of any education system is to ensure that its students are being equipped with the knowledge and skills required for success in life. Historically, the Malaysian education system, like others around the world, has emphasised the development of strong content knowledge in subjects such as science, mathematics, and language. There is, however, increasing global recognition that it is no longer enough for a student to leave school with the 3 Rs (Reading, wRiting & aRithmetic). The emphasis is no longer just on the importance of knowledge, but also on developing higher-order thinking skills.

While Malaysian student performance has improved over several decades, those remarkable gains may be at risk in both relative and absolute terms. Firstly, other systems are improving student performance more rapidly, and have found ways to sustain that momentum. The gap between Malaysia's system and these others is therefore growing. Secondly, international assessments suggest that Malaysian student performance is declining in absolute terms.

Over the past two decades, international student assessments, such as the Programme for International Student Assessment (PISA) and the Trends in International Mathematics and Science Study (TIMSS), have emerged as a means of directly comparing the quality of educational outcomes across different systems. These assess a variety of cognitive skills such as application and reasoning.

When Malaysia first participated in TIMSS in 1999, its average student score was higher than the international average in both Mathematics and Science. By 2007, the last published cycle of results, the system's performance had slipped to below the international average in both Mathematics and Science with a commensurate drop in ranking. Critically, 18% and 20% of Malaysia's students failed to meet the minimum proficiency levels in Mathematics and Science in 2007, a two to fourfold increase from 7% and 5% respectively in 2003. These students were identified as possessing only limited mastery of basic mathematical and scientific concepts.

The results from PISA 2009+ (the first time Malaysia participated in this assessment) were also discouraging, with Malaysia ranking in the bottom third of 74 participating countries, below the international and OECD average (Exhibit 3). Almost 60% of the 15-year-old Malaysian students who participated in PISA failed to meet the minimum proficiency level in Mathematics, while 44% and 43% did not meet the minimum proficiency levels in Reading and Science respectively. A difference of 38 points on the PISA scale is equivalent to one year of schooling. A comparison of scores shows that 15-year-olds in Singapore, South Korea, Hong Kong, and Shanghai are performing as though they have had 3 or more years of schooling than 15-year-olds in Malaysia.

TIMSS and PISA International Assessments

TIMSS is an international assessment based on the Mathematics and Science curricula of schools around the world. It assesses students in Grades 4 (the Malaysian equivalent is Year 4) and 8 (the Malaysian equivalent is Form 2) along two aspects: content such as algebra and geometry, and cognitive skills, namely the thinking processes of knowing, applying, and reasoning. The test was first administered in 1995. Today, over 59 countries participate in the assessment which is conducted every four years. Malaysia has participated in TIMSS since 1999, although only with Form 2 students.

PISA, coordinated by the OECD, is another widely recognised international assessment. Conducted every three years, PISA aims to evaluate proficiency in Reading, Mathematics, and Science in students aged 15 years old. Its focus is not on curriculum content, but on students' ability to apply their knowledge in real-world settings. Participant countries extend beyond OECD members, with 74 countries taking part in the most recent assessment in 2009. Malaysia participated for the first time in 2010, as part of the 2009 PISA assessment cycle.

EXHIBIT 3

Comparison of Malaysia's PISA 2009+ ranking against other countries

Regional peers

1 Reading

Rank	Country	Mean score
1	Shanghai-China	556
2	Korea	539
3	Finland	536
4	Hong Kong	533
5	Singapore	526
⋮		
18	United Kingdom	494
	OECD Average	
19	Germany	497
⋮		
42	Russian Fed.	459
	International Average	
43	Chile	449
⋮		
53	Thailand	421
⋮		
55	**MALAYSIA**	**414**
⋮		
62	Indonesia	402

2 Mathematics

Rank	Country	Mean score
1	Shanghai-China	600
2	Singapore	562
3	Hong Kong	555
4	Korea	546
5	Taiwan	543
⋮		
20	Austria	496
	OECD Average	
21	Slovak Republic	497
⋮		
41	Croatia	460
	International Average	
42	Israel	447
⋮		
52	Thailand	419
⋮		
57	**MALAYSIA**	**404**
⋮		
68	Indonesia	371

3 Science

Rank	Country	Mean score
1	Shanghai-China	575
2	Finland	554
3	Hong Kong	549
4	Singapore	542
5	Japan	539
⋮		
20	Ireland	508
	OECD Average	
21	Czech Republic	500
⋮		
40	Greece	470
	International Average	
41	Malta	461
⋮		
51	Thailand	425
⋮		
52	**MALAYSIA**	**422**
⋮		
66	Indonesia	383

Note: Countries are ranked in descending order of the percentage of top performers (Level 5 or 6)

SOURCE: PISA 2009+

EXCELLENT EXAMPLES EXIST ACROSS THE SYSTEM

While the most recent TIMSS and PISA results are a cause for concern, there are still numerous instances of students and schools across Malaysia that are performing on a level comparable to international standards, in terms of both academic and non-academic measures. Exhibit 4 offers a snapshot of some of these achievements. The Ministry also has awarded 66 schools with the designation of being a High Performing School (HPS). These are the best schools in Malaysia that have a distinctive character, consistently produce excellent academic and non-academic student outcomes, and are capable of competing internationally.

The system also has examples of schools, districts, and states that are improving at an unprecedented pace. For example, five years ago, Johor was one of the bottom five states in its performance on the Year 6 Primary School Education Test or *Ujian Penilaian Sekolah Rendah* (UPSR) national examination. The state launched a comprehensive school improvement programme and was able to turn its performance around in just five years. Johor is now in the top third of all states in terms of student performance. Similarly, there are remote schools, like SK Ulu Lubai in Sarawak and SK Bakalalan in Sabah, both of which support low-income communities, that have swept Commonwealth Good Practice Awards for their impressive turnaround efforts. This suggests that there are opportunities to learn from these examples, and scale up good practices to the rest of the system.

EXHIBIT 4

Examples of Malaysian students' international achievements

Jul 2012	8th International Exhibition for Young Inventors, Thailand	The Malaysian team won a gold medal for their invention.
	Genius Olympiad 2012 International High School Project Fair on Environment, New York	Two 14-year old students bagged third prize in the competition.
	2nd International Folk Song and Dance Festival, Georgia	The Malaysian team of 15 performers won the Gold and Silver Diploma prizes.
	5th Asian Schools Badminton Championship, Hong Kong	The Malaysian team of 16 players won 3 gold medals and 4 silver and bronze medals respectively.
Jun 2012	The Invention and New Product Exposition, USA	The Malaysian team won a gold model in the category of education inventions
	4th ASEAN School Games, Indonesia	The Malaysian team of 200 athletes bagged a total of 100 medals, claiming the third spot overall
May 2012	English Speaking Union International Public Speaking Competition, London	A 17-year-old emerged as the first Malaysian champion.
Oct 2011	ASEAN Primary School Sports Olympiad, Indonesia	Team of 36 clinched second place overall, winning a total of 6 gold, 2 silver, and 3 bronze medals.
Jul 2011	52nd International Mathematical Olympiad, Netherlands	Stellar performance by a Form 4 student who clinched the first gold medal for Malaysia. Another four students attained commendable results.
	42nd International Physics Olympiad, Thailand	A Malaysian student attained a gold medal and special prize awarded by the European Physics Society.
Dec 2010	International Competitions and Assessments for Schools (ICAS)[1]	68 Malaysian students achieved a total of 94 gold medals and were commended as being of world-class standard.
Nov 2009	World Robot Olympiad (WRO), South Korea	Malaysia was the overall champion, a second win in two consecutive years.

1 Australian-based independent diagnostic assessments conducted annually

SOURCE: Educational Policy, Planning and Research Division, Sports Division

CHALLENGES REMAIN IN ACHIEVING EQUITABLE STUDENT OUTCOMES

An equally important objective for the system is to ensure that student outcomes are equitable. Unfortunately, to date, the outcomes have been uneven. States with a higher proportion of rural schools, like Sabah and Sarawak, on average, perform poorer than states with less rural schools. In the UPSR examinations, the gap between urban and rural schools is 4 percentage points in favour of urban schools. By the Malaysian Certificate of Education or *Sijil Pelajaran Malaysia* (SPM), the gap has grown to 8 percentage points. Both these gaps, however, have reduced by 5 and 2 percentage points respectively over the past six years.

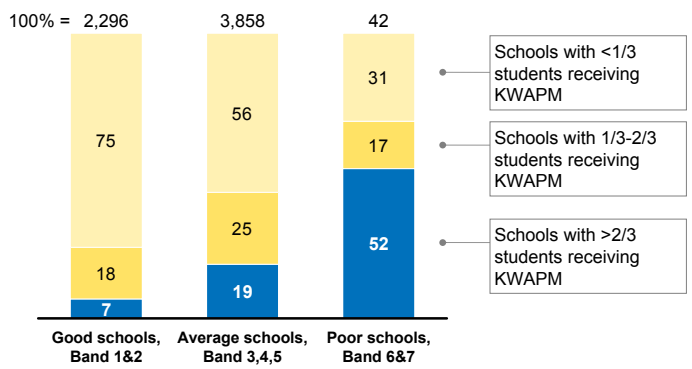
The achievement gap between National and National-type primary schools is also closing. The difference between National schools or *Sekolah Kebangsaan* (SK) and National-type Chinese schools or *Sekolah Jenis Kebangsaan (Cina)* (SJK(C)s) is insignificant. Over the past 5 years, National-type Tamil schools or *Sekolah Jenis Kebangsaan (Tamil)* (SJK(T)s) have more than halved the gap between themselves and both SJK(C)s and SKs, and are now less than 4 percentage points behind.

In contrast, the gender gap is both significant and increasing, having widened over the last five years. Girls consistently outperform boys at every level; the gap in performance is already evident at UPSR level and increases over a student's lifetime up to university level, where females comprise approximately 70% of the cohort. While this phenomenon is not unique to Malaysia, it does require attention to ensure that the country does not have a cohort of "lost boys" who either leave school early or with low attainment levels.

EXHIBIT 5

Distribution of student population receiving KWAPM[1] by school band

Percent of schools (2011)



1 Only primary schools were included, with the exception of 1,060 schools in Sabah and 418 schools in other states due to incomplete data

Finally, the largest equity gaps remain socio-economic in origin. This has been observed using three proxies: parents' highest level of educational attainment, states' average household income, and the percentage of students receiving basic financial assistance under the Poor Students' Trust Fund, or *Kumpulan Wang Amanah Pelajar Miskin* (KWAPM). For all three proxies, the evidence consistently demonstrates that students from poor families are less likely to perform as well as students from middle-income or high-income homes. As Exhibit 5 illustrates, only 7% of Band 1 and 2 schools have student populations where more than a third receive KWAPM, as compared to 69% of under-performing Band 6 and 7 schools.

RANGE OF SCHOOLING OPTIONS ARE CREATING ETHNICALLY-HOMOGENEOUS ENVIRONMENTS

With many public and private schooling options at the primary and secondary levels, the Malaysian education system provides an unparalleled degree of choice for parents. Concern has grown over the increasing ethnic homogenisation of schools, and the reduced opportunities for interaction with individuals from wide a range of backgrounds that homogenisation may lead to. These interactions are important as they help individuals develop a shared set of experiences and aspirations for Malaysia's future, through which a common national identity and unity are forged.

The best available data shows that more Indian and Chinese students enrolled in National-type primary schools in 2011, in comparison to enrolment 10 years ago. The proportion of Chinese students enrolled in SJK(C)s increased from 92% in 2000 to 96% in 2011. The shift for Indian students was even more dramatic, showing an increase from 47% to 56% enrolment in SJK(T)s. As such, 90% of students in SKs are now ethnically Bumiputera. At the secondary level, the presence of a single secondary school format, *Sekolah Menengah Kebangsaan* (SMK), does create convergence. Nevertheless, there are still students who receive limited exposure to diversity, such as a child who transfers from a SJK(C) to an Independent Chinese school, or one who moves from an SK to a religious secondary school.

To achieve unity, it is imperative for students to interact with and learn from fellow students and teachers of every ethnicity, religion, culture, and socio-economic background. The Ministry has programmes like the Student Integration Plan for Unity, or *Rancangan Integrasi Murid Untuk Perpaduan* (RIMUP) which fosters interaction across different school types through co-curricular activities. A review by the Schools Inspectorate and Quality Assurance or *Jemaah Nazir dan Jaminan Kualiti* (JNJK) found that where RIMUP was run, there was good evidence of inter-ethnic mixing both inside and outside the classroom. However, funding for RIMUP has dropped significantly, reducing the frequency and intensity of these programmes.

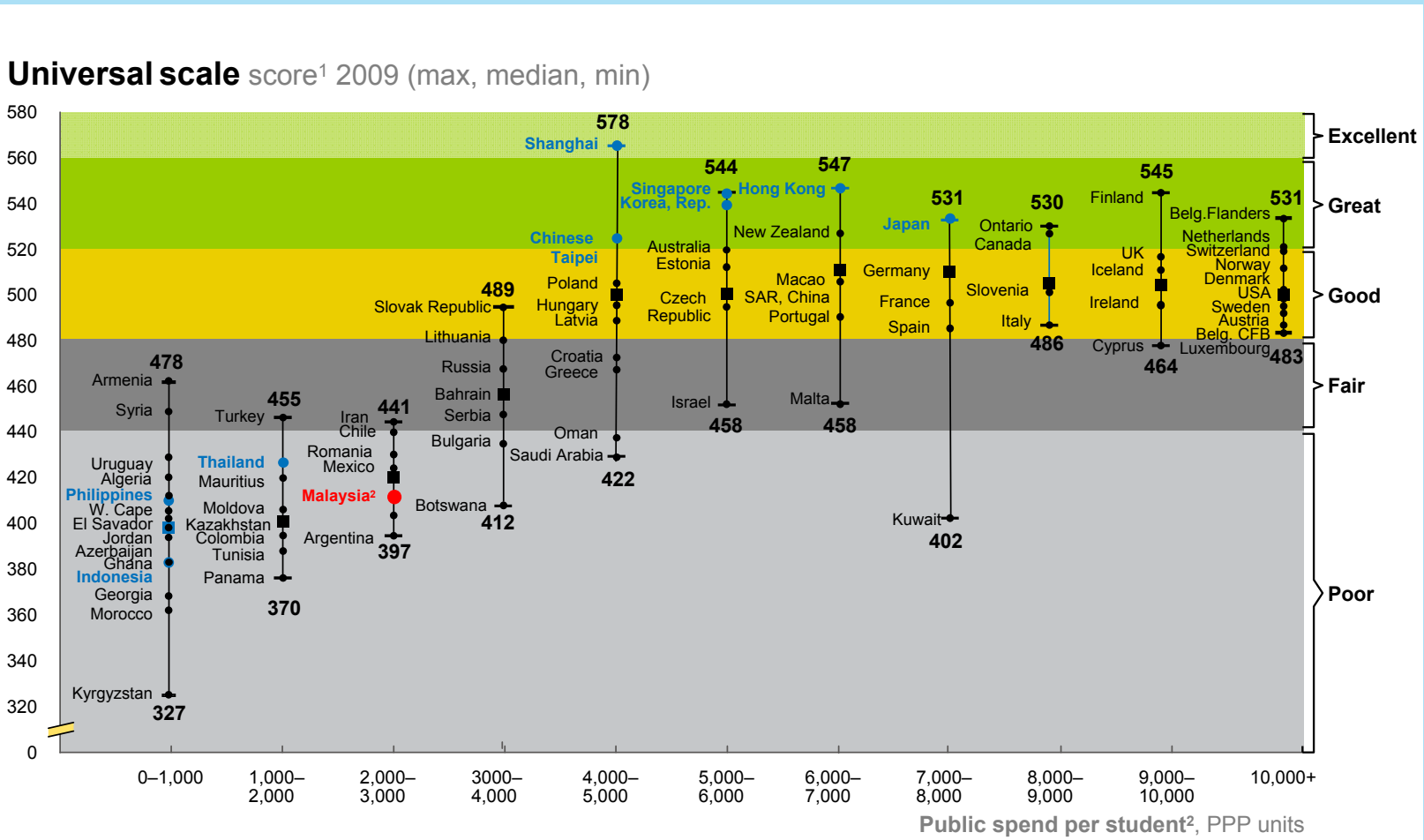
RETURN ON INVESTMENT IS NOT AS HIGH AS DESIRED

Malaysia's consistently high levels of expenditure on education have resulted in almost universal access to primary education, and significant improvements in access to secondary education. However, there remains room for improvement on the dimensions of quality, equity, and unity.

Exhibit 6 compares the performance of different countries in international assessments with their education spending per student. The difference between each performance band (Poor, Fair, Good, Great, and Excellent) represents the equivalent of one year of schooling. Data as of 2010 indicates that Malaysia's performance lags behind other countries that have similar or lower levels of expenditure per student, such as Thailand, Chile, and Armenia. This suggests that the system may not be allocating funds towards the factors that have the highest impact on student outcomes, such as the training and continuous upskilling of teachers. High-performing systems like Singapore, South Korea, and Shanghai, however, do spend more per student than Malaysia. The education system is also about to embark on a major transformation effort. Consequently, Malaysia's expenditure levels should be maintained but the efficiency and effectiveness of how funds are allocated and spent should be reviewed.

EXHIBIT 6

Country performance in international assessments relative to public spend per student



1 Universal scale based on Hanushek & Woessmann methodology, to enable comparison across systems.
2 Public spend per student for basic education (pre-school, primary, and secondary school levels) for 2008 current prices
Note: Malaysia 2008 public spend is US$3000

SOURCE: World Bank EdStats; IMF; UNESCO; PISA 2009+, TIMSS 2007; PIRLS 2006; Global Insight; McKinsey & Company

ASPIRATIONS FOR THE MALAYSIAN EDUCATION SYSTEM AND MALAYSIAN STUDENTS

In order to properly address the needs of all Malaysians, and to prepare the nation to perform at an international level, it is important to first envision what a highly-successful education system must accomplish, particularly in the Malaysian context. What kinds of students are best-prepared to meet the challenges of a 21st century economy? What kind of education prepares them for this rapidly globalising world? These aspirations comprise two aspects: firstly, those for the education system as a whole, and secondly, those for individual students. This vision, and these aspirations, will set the stage for the transformation of the Malaysian education system.

System aspirations

There are five outcomes that this Blueprint aspires to for the Malaysian education system as a whole: access, quality, equity, unity, and efficiency (Exhibit 7). These outcomes are in line with the aspirations articulated by participants during the National Dialogue, and are comparable to outcomes set by other high-performing education systems. Action across all five areas is important, and no initiative in one area should detract from or undermine progress in another.

- **Access:** Every child in Malaysia deserves equal access to an education that will enable that child to achieve his or her potential. The Ministry thus aspires to ensure universal access and full enrolment of all children from preschool through to upper secondary school level (Form 5) by 2020.

- **Quality:** All children will have the opportunity to attain an excellent education that is uniquely Malaysian and comparable to the best international systems. The aspiration is for Malaysia to be in the top third of countries in terms of performance in international assessments, as measured by outcomes in TIMSS and PISA, within 15 years. (TIMSS and PISA currently test for literacy, Mathematics, and Science only. Additional assessments that address other dimensions of quality that are relevant to the Malaysian context may be included as they are developed and become accepted international standards).

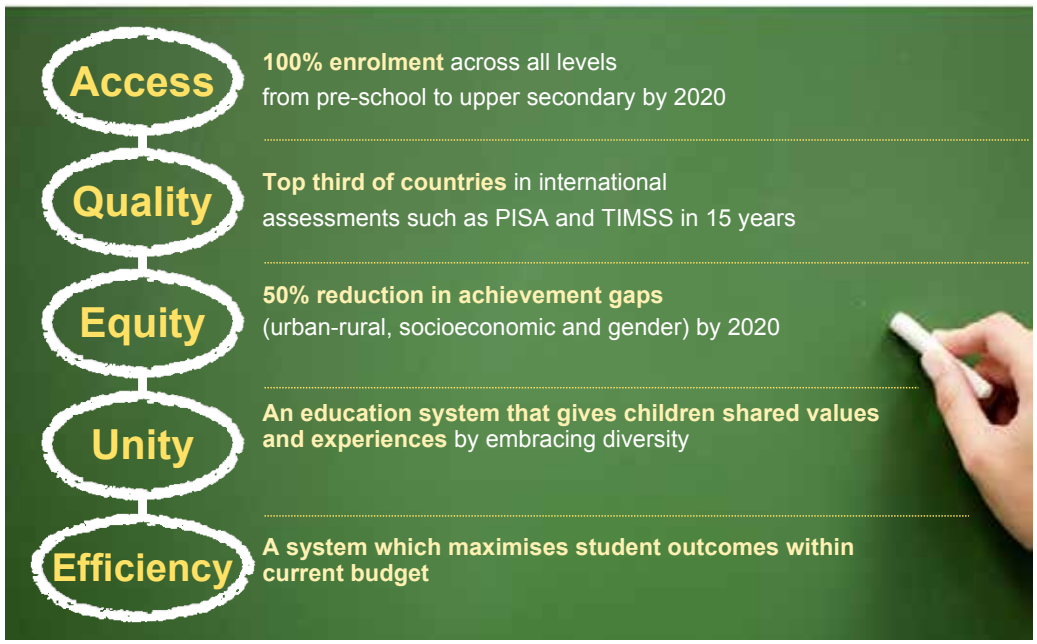
- **Equity:** Top-performing school systems deliver the best possible education for every child, regardless of geography, gender, or socio-economic background. The Ministry aspires to halve the current urban-rural, socio-economic, and gender achievement gaps by 2020.

- **Unity:** As students spend over a quarter of their time in school from the ages of 7 to 17, schools are in a key position to foster unity. Through interacting with individuals from a range of socio-economic, religious, and ethnic backgrounds—and learning to understand, accept and embrace differences—a shared set of experiences and aspirations for Malaysia's future can be built. The Ministry aspires to create a system where students have opportunities to build these shared experiences and aspirations that form the foundation for unity.

- **Efficiency:** The Malaysian education system has always been well-funded, yet improvements in student outcomes have not always matched the resources channelled into the system. While the Government will maintain current levels of investment, the aspiration is to further maximise student outcomes within the current budget levels.

EXHIBIT 7

Five system aspirations for the Malaysian education system



Student aspirations

Beyond these system-wide outcomes, stakeholders were also very clear on what "quality" should be at the individual level. In a nutshell, educators, parents, students, and other members of the public were united in a vision of education as a vehicle for the holistic development of children–intellectually, spiritually, emotionally, and physically. This is the same vision that has underscored all education improvement efforts since the National Education Philosophy for Malaysia was written in 1988.

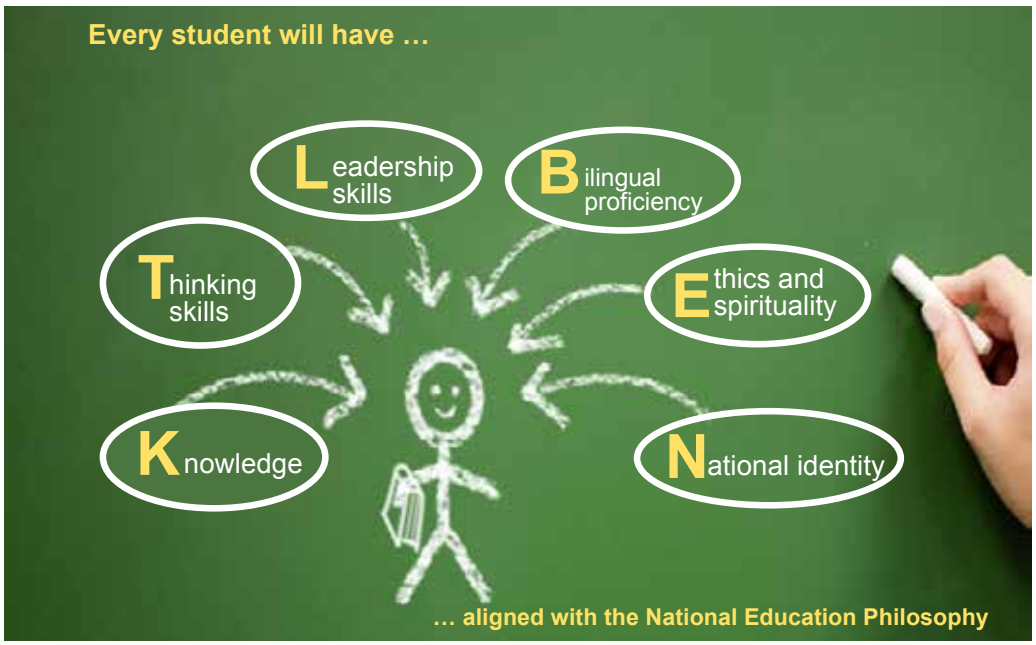
Looking ahead, the Blueprint will continue to use the National Education Philosophy's vision of a balanced education as its foundation for individual student aspirations. It has also drawn on learnings from other high-performing systems to develop a refined articulation of the specific skills and attributes that students would need to thrive in tomorrow's economy and globalised world (Exhibit 8):

- **Knowledge:** At the most basic level, every child will be fully literate and numerate. Beyond this, it is important that students master core subjects such as Mathematics and Science, and are informed with a rounded general knowledge of Malaysia, Asia, and the world—their histories, people, and geography. Students will also be encouraged to develop their knowledge and skills in other areas such as the arts, music, and sports.

- **Thinking skills:** Every child will learn how to continue acquiring knowledge throughout their lives (instilling a love for inquiry and lifelong learning), to be able to connect different pieces of knowledge, and, most importantly in a knowledge-based economy, to create new knowledge. Every child will master a range of important cognitive skills, including problem-solving, reasoning, creative thinking, and innovation. This is an area where the system has historically fallen short, with students being less able than they should be in applying knowledge and thinking critically outside familiar academic contexts.

EXHIBIT 8

Six key attributes needed by every student to be globally competitive



- **Leadership skills:** In our increasingly inter-connected world, being able to lead and work effectively with others is critical. The education system will help every student reach his or her full potential by creating formal and informal opportunities for students to work in teams, and to take on leadership roles. In the context of the education system, leadership encompasses four dimensions: entrepreneurship, resilience, emotional intelligence, and strong communication skills.

- **Bilingual Proficiency:** Every child will be, at minimum, operationally proficient in Bahasa Malaysia as the national language and language of unity, and in English as the international language of communication. This means that upon leaving school, the student should be able to work in both a Bahasa Malaysia and English language environment. The Ministry will also encourage all students to learn an additional language.

- **Ethics and Spirituality:** The education system will inculcate strong ethics and spirituality in every child to prepare them to rise to the challenges they will inevitably face in adult life, to resolve conflicts peacefully, to employ sound judgement and principles during critical moments, and to have the courage to do what is right. The education system also seeks to nurture caring individuals who gainfully contribute to the betterment of the community and nation.

- **National identity:** An unshakeable sense of national identity, tied to the principles of the *Rukunegara*, is necessary for Malaysia's success and future. Every child will proudly identify as Malaysian, irrespective of ethnicity, religion or socio-economic status. Achieving this patriotism requires that every child understands the country's history, and share common aspirations for the future. Establishing a true national identity also requires a strong sense of inclusiveness. This can be achieved through not only learning to understand and accept diversity, but to embrace it.

ELEVEN SHIFTS TO TRANSFORM THE SYSTEM

Over the course of the past year, the Ministry has sought input from a broad range of stakeholders, from educationists and academics to parents and students, on what would be required to deliver on the aspirations identified above. Given the volume of input, there was a surprisingly high degree of consensus on some topics such as the importance of raising the quality of teachers. There were also topics, such as the future of language education, where there were mixed responses.

The Ministry reviewed these suggestions carefully, and integrated them into the Blueprint based on four criteria. Firstly, any action undertaken had to contribute to the system and student aspirations described above. This meant that initiatives that delivered one outcome at the expense of another, or that would lead to a different aspiration, were deprioritised. Secondly, the Ministry drew on international evidence to identify and prioritise the factors that would make the most difference in system and student improvement. Thirdly, the proposals had to be relevant to the system's starting point and be within the Ministry's ability to deliver. Initiatives were thus sequenced to evolve in complexity as the capabilities and capacity of the Ministry officers, teachers, and school leaders were developed. Fourthly, the benefits of implementing the proposal had to outweigh the financial and operational downsides.

The Ministry has identified 11 shifts that will need to occur to deliver the step change in outcomes envisioned by all Malaysians. Each shift will address at least one of the five system outcomes of access, quality, equity, unity, and efficiency, with quality as the common underlying focus across all shifts due to the fact that this is the dimension which requires the most urgent attention. Some of these shifts represent a change in strategy and direction. Others represent operational changes in the way the Ministry and schools have historically implemented existing policies. Regardless of whether it is a strategic or operational shift, they all represent a move away from current practices.

Collectively, these shifts address every stakeholder and the main concerns of the public. The Ministry hopes that this inclusiveness will provide the basis for a common focus that can be embraced by all Malaysians. The following section summarises each of these shifts and provides examples of game-changing initiatives that will be launched.

Shift 1: Provide equal access to quality education of an international standard

Why it is needed: The foundation for the success of a school system lies in its definition of what its students must know, understand, and be able to do. Malaysian students have historically excelled at reproducing subject content. However, this skill is less valuable in today's ever-changing economy. Instead, students need to be able to reason, to extrapolate, and to creatively apply their knowledge in novel, unfamiliar settings. They also need attributes such as leadership to be globally competitive. As the TIMSS and PISA international assessments have demonstrated, our students struggle with higher-order thinking skills. Surveys of Malaysian and multinational companies also suggest that our students fall short on the soft skills looked for by prospective employers.

At the same time, education is often seen as an enabler for social mobility, enabling children born in poor families to earn higher incomes as adults. As long as socio-economic status remains the greatest predictor of academic success, and the factor behind the largest of all student outcome gaps in Malaysia, this promise will remain elusive for many Malaysians.

What success will look like. Firstly, standards for student outcomes and learning practices will be benchmarked and aligned with that of high-performing education systems so that the students Malaysia produce are globally competitive. Secondly, students who need more help will be given access to the right levels of support to succeed at school.

Benchmark the learning of languages, Mathematics, and Science to international standards. Every student will receive a strong grounding in literacy and numeracy—the foundational skills for all further learning—as well as in Science, a key growth area for the Malaysian economy. They will be taught a curriculum that has been benchmarked to the standards of high-performing education systems, and this benchmarking will be validated by an independent party to build parents' confidence. The Ministry will also set and monitor performance targets for its performance on the PISA and TIMSS international assessments. Additional assessments that address other dimensions of quality that are relevant to the Malaysian context may be added as they are developed, and become accepted international standards.

Launch new Secondary School Standard Curriculum or *Kurikulum Standard Sekolah Menengah* (KSSM) and revised Primary School Standard Curriculum or *Kurikulum Standard Sekolah Rendah* (KSSR) in 2017. The school curriculum at both primary and secondary levels will be revised to embed a balanced set of knowledge and skills such as creative thinking, innovation, problem-solving, and leadership. This curriculum will still stress student-centred and differentiated teaching, but have a greater emphasis on problem-based and project-based work, a streamlined set of subjects or themes, and formative assessments. The new curriculum will also support an accelerated learning pathway for high-performing students to complete SPM in four rather than five years, and UPSR in five rather than six years. Additionally, clear learning standards will be laid out so that students and parents understand the progress expected within each year of schooling.

Revamp national examinations and school-based assessments to gradually increase percentage of questions that test higher-order thinking. By 2016, higher-order thinking questions will make up 80% of questions for UPSR, 80% of the Form 3 central assessment, 75% of the questions for SPM core subjects and 50% of the questions for SPM elective subjects. This change in examination design means that teachers will focus less on predicting what topics and questions will come out and drilling for content recall. Instead, students will be trained to think critically and to apply their knowledge in different settings. Similarly, school-based assessments will also shift their focus to testing for higher-order thinking skills.

Raise quality of all preschools and encourage universal enrolment by 2020. Every child aged 5+ will be enrolled in a registered preschool, be it public or private. Low-income families that would otherwise not be able to afford preschool will receive need-based financial support from the Ministry. All preschools will follow a set of national quality standards, including a provision that every preschool teacher has a minimum diploma qualification. These schools will also be inspected regularly by the Ministry or the Early Childhood Care and Education Council of Malaysia to ensure that they meet minimum standards.

Move from 6 to 11 years of compulsory schooling, starting at age 6+, supported by targeted retention programmes and job-ready vocational training. By 2020, every student will leave formal schooling with a minimum SPM or equivalent vocational qualification. This means that compulsory schooling will increase from 6 to 11 years, and that approximately 5%, 10%, and 20% more students will be enrolled at the primary, lower, and upper secondary levels respectively (based on 2011 enrolment numbers for public and private schools). Students who are at risk of dropping out will be supported through a variety of retention initiatives, from remedial coaching to parent and student counselling. Students will also be able to choose from a variety of education pathways based on their specific interests and potential. This includes expanded vocational streams that offer industry-recognised qualifications and hands-on practicum opportunities, through close partnerships with the private sector.

Increase investment in physical and teaching resources for students with specific needs. Students from indigenous and other minority groups, as well as students with physical or learning disabilities, will receive more support in order to level the playing field. By 2025, these students will all go to schools with the facilities and equipment needed to create a conducive and supportive learning environment. They will be taught by teachers who have received additional training to help them understand their students' specific contexts and challenges, and the teaching strategies required to address them. These students will also be supported by an expanded network of counsellors, therapists, and teaching assistants, as required.

Shift 2: Ensure every child is proficient in Bahasa Malaysia and English language

Why it is needed: Malaysia's multicultural society makes it a natural environment for producing students who are proficient in more than one language. The current system produces commendably strong Bahasa Malaysia learning outcomes. There is widespread operational proficiency in Bahasa Malaysia among students, with 75% students achieving a minimum credit in the 2010 SPM examination. Bahasa Malaysia also consistently shows the strongest pass rates out of the core subjects in the UPSR, Lower Secondary Evaluation or *Penilaian Menengah Rendah* (PMR), and SPM examinations. Operational proficiency in English is, however, much lower. Only 28% of students achieved a minimum credit in the 2011 SPM English paper against Cambridge 1119 standards. Poor English proficiency among fresh graduates has, since 2006, also been consistently ranked as one of the top five issues facing Malaysian employers.

As the ethnic groups move through different primary schools, there are differences in outcomes by ethnicity. Bumiputera students perform very strongly on Bahasa Malaysia proficiency with 84% achieving a minimum credit at SPM, in contrast to 63% of Chinese students, and 57% of Indian students. For English, only 23% Bumiputera, 42% Chinese, and 35% Tamil students score at a level equivalent to a Cambridge 1119 credit or above (all results based on the 2010 SPM examination).

What success will look like: Boosting all students' proficiency in Bahasa Malaysia and English language will be the most immediate priority. After three years of schooling, every child will achieve 100% basic literacy in Bahasa Malaysia and English language. By the end of Form Five, 90% of students will score a minimum of a credit in SPM Bahasa Malaysia, and 70% in SPM English (against Cambridge 1119 standards). Further, the provision of other language subjects at all primary and secondary schools will be strengthened so that every child can have the opportunity to learn an additional language by 2025.

Introduce a standard Bahasa Malaysia curriculum at the primary level, with intensive remedial support for struggling students. Every primary school student, regardless of whether they are in a National or National-type school, will use a standard Bahasa Malaysia curriculum starting from the Year 4 cohort in 2014. At National-type schools, students who are struggling to cope with this change will receive remedial after-school Bahasa Malaysia classes from Years 4 to 6 (after the completion of the Literacy and Numeracy Screening (LINUS) 2.0 programme). The objective is to intervene early and often to allow for the removal of the "Remove" or *Peralihan* class from 2017 onwards.

Expand the LINUS programme to include English literacy. Every student in Years 1 to 3 will be screened twice a year to determine if they are progressing in Bahasa Malaysia and English literacy at an expected pace. Students who fall behind will be given remedial coaching until they are able to return to the mainstream curriculum. Teachers working with such students will also receive dedicated coaching from district level teacher coaches.

Upskill English teachers and expand opportunities for greater exposure to the language. Every student will be taught English by a teacher who is proficient according to international standards. This will be achieved by having all 70,000 English teachers pass the Cambridge Placement Test (CPT) within two years. Teachers who have yet to meet this standard will receive intensive upskilling. Beyond that, students will have greater exposure to the language, for example via an expanded, compulsory English Literature module at the secondary level. International research indicates that more exposure time than the current 15-20% is required for students to achieve operational proficiency.

Encourage every child to learn an additional language by 2025. Currently, many students already learn additional languages apart from Bahasa Malaysia and English language, which equip them well for entering the workforce in a globalising world. The aspiration is therefore for every child to have the opportunity to learn an additional language from primary through to secondary school. During the early years, the Ministry will focus on building up its cadre of Chinese, Tamil, and Arabic language teachers to ensure that the supply of teachers matches student demand. As the system builds up capacity and capability, the Ministry will also expand the provision of other important languages such as Spanish, French, and Japanese.

Shift 3: Develop values-driven Malaysians

Why it is needed: Today's students will inherit a world fraught with challenges, from environmental degradation to armed conflict, on a scale that has never been seen before. Successfully navigating these issues will not only require students to have leadership skills, but strong universal values such as integrity, compassion, justice, and altruism, to guide them in making ethical decisions. At the same time, it is important to balance the development of global citizenship with a strong national identity.

What success will look like: Every student leaves school as a global citizen imbued with core, universal values and a strong Malaysian identity. The values they have learnt are applied in their day to day lives, leading to more civic behaviour such as an increase in volunteerism; a willingness to embrace peoples of other nationalities, religions and ethnicities; and a reduction in corruption and crime. Every student also leaves school prepared to act as a leader, whether in their own lives and families, or as part of the broader community and nation.

Strengthen Islamic Education, Moral Education and civics elements by 2017. The new KSSM will require that every primary and secondary school student participate in community service. For secondary school students, this community service element will be a pre-requisite for graduation. Islamic Education curriculum for Muslim students will include a greater focus on understanding the core values and underlying philosophies of Islam and other main religions in Malaysia. Similarly, for non-Muslim students, Moral Education will include an understanding of the core values of all main religions in Malaysia. The Ministry will also look into having Moral and Islamic Education students share certain classes together when common universal values are taught.

Develop students holistically by reinforcing the requirement for every student to participate in 1 Sport, 1 Club, and 1 Uniformed Body. Co-curricular involvement provides students with opportunities to develop their individual talents and interests outside of a formal classroom setting. Such activities also provide excellent leadership opportunities for students. Every child will therefore still be expected to participate in at least 1 sport, 1 club, and 1 uniformed body. The Ministry will also look into making participation a requirement for graduation and scholarships for further education. To improve the quality of activities offered at each school, the Ministry will provide targeted training to teachers who act as advisors for these different activities, and partner with more community organisations and the private sector in the delivery of these programmes.

Enhance and scale up RIMUP from 2016 to facilitate interaction across school types. The Ministry currently runs a cross-school activity programme, RIMUP, to foster greater interaction across students from different school types. In the future, the frequency and intensity of the programme will be increased and targeted at schools with more homogeneous student populations, such as National-type and religious schools. The Ministry will also expand this programme to include private schools.

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Shift 4: Transform teaching into the profession of choice

Why it is needed: International research shows that teacher quality is the most significant school-based factor in determining student outcomes. The quality of a system cannot exceed the quality of its teachers. While there are certainly many excellent teachers in the Malaysian education system, a 2011 research study found that only 50% of lessons are being delivered in an effective manner. This means that the lessons did not sufficiently engage students, and followed a more passive, lecture format of content delivery. These lessons focused on achieving surface-level content understanding, instead of higher-order thinking skills. This statistic is particularly challenging as an estimated 60% of today's teachers will still be teaching in 20 years' time.

What success will look like: Teaching will be a prestigious, elite profession that only recruits from the top 30% of graduates in the country. Teachers will receive the best training possible, from the time they enter their teacher training programmes, through to the point of retirement. They will have access to exciting career development opportunities across several distinct pathways, with progression based on competency and performance, not tenure. There will be a peer-led culture of excellence wherein teachers mentor one another, develop and share best practices and hold their peers accountable for meeting professional standards.

Raise the entry bar for teachers from 2013 to be amongst top 30% of graduates: In the future, only the best candidates will be recruited as teachers. This means that the Ministry will rigorously enforce entry standards to ensure that 100% of every teacher training intake meet the minimum academic requirement. The Ministry will also work with the Ministry of Higher Education (MOHE) to ensure that the same standards are put in place in the Public Higher Education Institutes or *Institut Pengajian Tinggi Awam* (IPTAs) teacher training programmes. Additionally, the Ministry will work with Teacher Education Institutes or *Institut Pendidikan Guru* (IPGs) and MOHE to ensure that the quality of the curriculum and lecturers are upgraded to deliver the kind of teachers desired. The Ministry will also introduce more stringent graduation requirements so that only the best trainees can graduate and be guaranteed placement in Malaysian schools.

Upgrade the quality of continuous professional development (CPD) from 2013. Teachers will receive greater support to help them achieve their full potential. When they enter the profession, teachers will develop an individualised CPD programme with their supervisors. This CPD programme will include common training requirements expected of all teachers, as well as electives that teachers can pursue based on their own developmental needs. It will mostly be run at school, as school-based training has proven to be the most effective form of CPD. It will use a network of peers including teacher coaches, senior teachers, and principals to disseminate best practices. The training will allow teachers to continuously build their skill levels against each of the competencies expected of a teacher. The Teacher Education Division or *Bahagian Pendidikan Guru* (BPG) will be responsible for providing this CPD.

Focus teachers on their core function of teaching from 2013. Teachers will enjoy a reduced administrative burden, so that they can focus the majority of their time on their core function of teaching. This will be achieved by streamlining and simplifying existing data collection and management processes. Some administrative functions will also be moved to a centralised service centre or to a dedicated administrative teacher at the school level.

Implement competency and performance-based career progression by 2016. Teachers will be assessed annually by their principals, with input potentially being provided by peers. This assessment will be done using a new evaluation instrument that focuses on teachers' ability to deliver effective instruction in and out of the classroom. This new tool is more reflective of the fact that a teacher's primary role is helping students learn. High-performing teachers will enjoy faster career progression. The very best teachers may even be promoted from DG41 to DG54 in a faster time period than the current average promotion time of 25 years. Teachers who are struggling to meet the minimum quality will receive extra coaching support to help them get back on track. Teachers who consistently underperform even with the extra support will be redeployed to other school-based functions such as administration, discipline management or co-curricular management. Over time, the Ministry will gradually reduce the total cohort size of teachers through improvements in teacher time utilisation and productivity.

Enhance pathways for teachers into leadership, master teaching and subject specialist roles by 2016. Teachers will also be able to pursue attractive pathways based on their performance, potential and interests. For example, they may wish to pursue a leadership role at the school, district, state, or federal level. They may choose to become subject specialists focused on developing curriculum, assessment, and training programmes for the broader system. They may work as master teachers in schools. Regardless of the pathway chosen, the commitment to investing in their development and in building an environment of professional accountability will be maintained across their careers. There will also be comparable opportunities for promotion across these pathways.

Develop a peer-led culture of professional excellence and certification process by 2025. The Ministry will focus on ensuring that all teachers fully utilise the flexibilities accorded to them over professional issues related to curriculum timetabling and lesson organisation, pedagogical approaches and school-based assessment. The Ministry will also facilitate teacher-driven CPD activities to enable teachers to mentor one another, develop and disseminate best practices and hold each other accountable for meeting professional standards. As an extension of the competency-based progression system, the Ministry may also consider setting up a certification scheme linked to the mastery of the teacher competencies described above. As with all measures, the Ministry will work collaboratively with teacher representatives to achieve these aims.

ELEVEN SHIFTS TO TRANSFORM THE SYSTEM

SHIFT 1

PROVIDE EQUAL ACCESS TO QUALITY EDUCATION OF AN INTERNATIONAL STANDARD

- Benchmark the learning of languages, Mathematics and Science to international standards
- Launch new Secondary (KSSM) and revised Primary Curriculum (KSSR) in 2017
- Revamp examinations and assessments to increase focus on testing higher-order thinking skills by 2016
- Raise quality of preschools and push to 100% enrolment by 2020
- Move from 6 to 11 years of compulsory schooling, starting at age 6+; supported by retention initiatives and job-ready vocational training
- Increase investment in physical and teaching resources for students with specific needs

SHIFT 2

ENSURE EVERY CHILD IS PROFICIENT IN BAHASA MALAYSIA AND ENGLISH LANGUAGE

- Introduce a common Bahasa Malaysia curriculum at the primary level, with earlier intensive remedial support for students that struggle to allow for removal of *peralihan* class
- Expand the LINUS programme to include English language literacy
- Upskill English language teachers and expand opportunities for greater exposure to English language
- Encourage every child to learn an additional language by 2025

SHIFT 3

DEVELOP VALUES-DRIVEN MALAYSIANS

- Strengthen civics elements by making community service a pre-requisite to graduation by 2017
- Enhance Islamic and Moral Education with greater focus on core values and underlying philosophies of major religions by 2017
- Develop students holistically by reinforcing requirement to participate in 1 Sport, 1 Club and 1 Uniformed Body
- Enhance and expand RIMUP from 2016 to facilitate interaction across school types, ethnicities and socio-economic groups

SHIFT 4

TRANSFORM TEACHING INTO THE PROFESSION OF CHOICE

- Raise entry bar for teachers from 2013 to be amongst top 30% of graduates
- Upgrade the quality and personalisation of CPD from 2013 with greater emphasis on school-based training
- Focus teachers on their core function of teaching from 2013 by reducing administration burdens
- Implement competency and performance-based career progression by 2016
- Enhance pathways for teachers into leadership, master teaching and subject specialist roles by 2016
- Peer-led culture of excellence and certification process by 2025

SHIFT 5

ENSURE HIGH-PERFORMING SCHOOL LEADERS IN EVERY SCHOOL

- Competency-based selection criteria and enhanced succession planning processes for principals from 2013
- New Principal Career Package rolled-out in waves from 2013, with greater support (for example via coaches, on-boarding programmes), greater operational flexibility for school improvement, curriculum and co-curricular planning, and sharper accountability for improving student outcomes

EMPOWER JPNs, PPDs, AND SCHOOLS TO CUSTOMISE SOLUTIONS BASED ON NEED

- Accelerate school improvement through systematic, district-led programmes in all states by 2014
- Allow greater school-based management and autonomy, including greater operational flexibility over budget allocation and curriculum implementation, starting with the best performing and most improved schools
- Ensure 100% of schools meet basic infrastructure requirements by 2015, starting with Sabah and Sarawak

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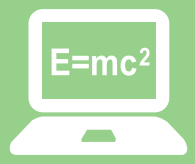

LEVERAGE ICT TO SCALE UP QUALITY LEARNING ACROSS MALAYSIA

- Provide internet access and virtual learning environment via 1BestariNet for all 10,000 schools by 2013
- Augment online best practices content starting with a video library of best teachers delivering lessons in critical subjects in 2013
- Maximise use of ICT for distance and self-paced learning to expand capacity and allow for more customised learning

7

TRANSFORM MINISTRY DELIVERY CAPABILITIES AND CAPACITY

- Empower JPNs and PPDs through greater decision making power over budget and personnel while also holding them accountable for common KPIs from 2013
- Deploy almost 2,500 more personnel from Head Office and JPNs to PPDs to better support schools by 2014
- Strengthen leadership capabilities in pivotal 150-200 leadership roles from 2013
- Strengthen key central functions and rationalise structure of Ministry from 2016

8

PARTNER WITH PARENTS, COMMUNITY, AND PRIVATE SECTOR AT SCALE

- Equip every parent to support their child's learning via a parent engagement toolkit and online access to their child's in-school progress (SAPS system)
- Invite every PIBG to provide input on contextualisation of curriculum and teacher quality from 2016
- Expand Trust School model to 500 schools by 2025 by including alumni groups and NGOs as potential sponsors

9

MAXIMISE STUDENT OUTCOMES FOR EVERY RINGGIT

- Link every programme to clear student outcomes and annually rationalise programmes that have low impact; align to government's overall shift towards outcome-based budgeting
- Capture efficiency opportunities, with funding reallocated to the most critical areas such as teacher training and upskilling

10

INCREASE TRANS-PARENCY FOR DIRECT PUBLIC ACCOUNT-ABILITY

- Publish an annual public report on progress against Blueprint targets and initiatives, starting for the year 2013
- Conduct comprehensive stock-takes in 2015, 2020 and 2025 to ensure Blueprint remains relevant by incorporating stakeholder feedback and accounting for an ever evolving external environment

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Shift 5: Ensure high-performing school leaders in every school

Why it is needed: The quality of school leaders is the second biggest school-based factor in determining student outcomes, after teacher quality. International research on school leadership shows that an outstanding principal—one who is focused on instructional and not administrative leadership—can raise student outcomes by as much as 20%. The current selection criteria is, however, driven primarily by tenure rather than leadership competency. Additionally, 55% of today's principals received no preparatory or induction training before or during their formative first three years of principalship. This means that principals may enter, ill-prepared for their new role. With 40% of principals due to retire within the next five years, there is an opportunity to upgrade the cohort.

What success will look like: Every school will have a high-performing principal who is relentless in his/her focus on improving student outcomes, both academic and non-academic. The best principals will be given incentives to serve in the weakest schools, and will serve as mentors for the broader community. Further, the leadership base in each school will be strengthened with assistant principals, subject heads, and department heads being developed to act as instructional leaders in their own right.

Enhance selection criteria and succession planning processes for principals from 2013. The Ministry will move from a tenure-based selection criteria to one that is focused on the demonstration of leadership competencies. Every principal will also be required to complete the National Professional Qualification for Educational Leaders (NPQEL) at *Institut Aminuddin Baki* (IAB) before they can be appointed. In doing so, the average age of a principal is expected to drop, allowing principals to serve for longer periods in each school and in the system as a whole. Further, the Ministry will institute a succession planning process that identifies and cultivates high-potential individuals to ensure that there is a ready pool of candidates that can be called upon as soon as an opening is available. Once these mechanisms have been set up, the Ministry will expand their planning focus to include assistant principals, as well as subject and department heads.

Roll out a New Principal Career Package in waves from 2013 with greater support and sharper accountability for improving student outcomes. As with teachers, principals will receive greater support to help them achieve their full potential and will therefore be held more accountable for the delivery of higher student outcomes. Soon-to-be appointed principals will benefit from a new on-boarding programme where they spend one month under the mentorship of the principal who will be leaving. They will also enjoy a set period of coaching and mentoring from an experienced principal or district School Improvement Partner (SiPartner+) once they have formally started their new role as principal. These individualised opportunities for CPD will not stop in their first year, but remain a resource that principals can draw on for constant professional renewal. IAB will also ensure that comparable CPD opportunities are available to assistant principals, subject heads, and department heads.

Principals will have the flexibility to serve at a primary or secondary school through a new, common civil service track. They will be assessed annually on a new evaluation instrument that focuses on their leadership abilities and improvement of student outcomes. As with teachers, high-performing principals will enjoy faster career progression opportunities. Incentives will also be revised to encourage high-performing principals to take up positions in rural and/or underperforming schools. Principals who struggle to meet the minimum standard will receive extra coaching support and principals who consistently underperform despite this concerted support will be redeployed back to a teaching position in another school.

All school leaders (principals, assistant principals, department heads and subject heads) will be prepared to fully utilise the decision-making flexibilities accorded to them. This includes instructional leadership matters such as school improvement planning and curriculum and co-curricular planning, as well as administrative leadership matters such as allocation of school funds. As with teachers, the aspiration is to create a peer-led culture of professional excellence wherein school leaders mentor and train one another, develop and disseminate best practices and hold their peers accountable for meeting professional standards.

Shift 6: Empower JPNs, PPDs, and schools to customise solutions based on need

Why it is needed: Both national and international data suggest that Malaysian schools are spread across a wide performance spectrum. For example, in the 2009+ PISA, 7% of participating schools were graded as Good, 13% as Fair, and 80% as Poor. Historically, many programmes have been designed according to a "one-size-fits-all" model. International evidence suggests that different sets of interventions are required in order to best serve schools at different performance levels.

What success will look like: Every school, regardless of location, size, or type, will provide its students with a good, holistic education. This not only means that there will be no underperforming (Bands 6 or 7) schools in the country by 2020, but also that more schools will be recognised as High Performing or Cluster Schools based on their performance. The amount of financial and operational support provided to each school will depend on its specific needs. State, district and school leaders will also have greater decision making power over day-to-day operations to tailor interventions based on the school's context and enable greater school-based management.

Accelerate school improvement through systematic, district-led programmes rolled-out across all states by 2014. Building off the success of the GTP 1.0 School Improvement Programme, every District Education Office or *Pejabat Pelajaran Daerah* (PPD) will be empowered to tailor the support provided to schools on dimensions from student attendance through to principal and teacher deployment. Resources can then be directed to where they are most needed. This includes employing full-time teacher and principal coaches to support principals and teachers in lower-performing schools (Bands 5, 6, and 7). At the same time, the Ministry will ensure that all schools and districts remain aligned to the Ministry's strategic priorities through the roll out of a common set of Key Performance Indications (KPIs). This programme will be piloted in Kedah and Sabah from January 2013, with implementation in all districts by January 2014.

Allow greater school-based management and autonomy for schools that meet a minimum performance criteria. In the future, all schools will be responsible for operational decision making in terms of budget allocation and curriculum implementation. For example, principals will have full authority over how they spend the student per capita grant and on how they design the school timetable. However, this process will occur in waves, starting with High Performing and Cluster Schools (in recognition of their academic and non-academic achievements), and Trust Schools (in recognition of their innovative public-private partnership delivery model). Over time, more and more schools will be granted these decision rights based on their performance. This increased emphasis on school-based management will also be accompanied by sharper accountability on the part of school principals.

Ensure 100% of schools meet basic infrastructure requirements by 2015, starting with Sabah and Sarawak. Every school in Malaysia, regardless of location, size, or type, will meet a set of minimum infrastructure requirements to create a safe, hygienic, and conducive environment for learning. This includes access to clean, treated water; at least 12-hours of electricity per day, along with sufficient toilets, classrooms, tables, and chairs for the student and teacher population. This process will start with the upgrading of all schools to fulfil basic infrastructure standards by 2015, starting with the two states—Sabah and Sarawak—that currently face the greatest infrastructure challenges. Once all schools have met basic infrastructure standards, the Ministry will proceed to invest in another wave of upgrades to meet baseline requirements for delivering the curriculum effectively such as Science laboratories and Living Skills workshops.

Shift 7: Leverage ICT to scale up quality learning across Malaysia

Why it is needed: The Ministry has spent more than RM6 billion on Information and Communication Technology (ICT) over the past decade in education initiatives such as Smart Schools—one of the most capital-intensive investments the system has undertaken. However, ICT usage in schools continues to lag expectations—both in terms of quantity and quality. For example, a 2010 Ministry study found that approximately 80% of teachers spend less than one hour a week using ICT, and only a third of students perceive their teachers to be using ICT regularly. Critically, the 2012 UNESCO review found that ICT usage has not gone much further than the use of word-processing applications as an instructional tool. ICT has tremendous potential to accelerate the learning of a wide range of knowledge and thinking skills. However, this potential has not yet been achieved.

What success will look like: Across all 10,000 schools in Malaysia, ICT will enhance how teaching and learning happens. Students will be able to access a wider range of content that is more engaging and interactive. They will be able to learn some lessons at their own pace, and will have fewer limitations in what they choose to study through distance-learning programmes. Teachers and principals will have access to both national and international learning resources and communities to help them improve their practice. ICT will be a ubiquitous part of schooling life, with no urban-rural divide, and with all teachers and students equipped with the skills necessary to use this technology meaningfully.

Provide internet access and virtual learning environments via 1BestariNet for all 10,000 schools by 2013. In the very near future, every student will have access to a 4G network at their school through 1BestariNet. This network will serve as the basis for the creation of a virtual learning platform that can be used by teachers, students and parents to share learning resources, run interactive lessons, and communicate virtually. To maximise the impact from investment, the Ministry will also invest in ICT-competency training for all teachers, and gradually improve the device-to-student ratio from approximately 1:30 in 2011 to 1:10 by 2020. In order to remain cost-efficient, the Ministry will invest in fit-for-purpose devices such as basic computers or low-cost laptops. It will also experiment with utilising new, less resource-intensive alternatives for ICT facilities compared to current computer labs, such as a lending library for notebooks and computers-on-wheels.

Augment online content to share best practices starting with a video library in 2013 of *Guru Cemerlang* delivering lessons in Science, Mathematics, Bahasa Malaysia, and English language. Teachers will be able to access even more exemplary teaching resources online. This will begin with a video library in 2013 of the top *Guru Cemerlang* delivering daily lessons in important subjects of Science, Mathematics, Bahasa Malaysia, and English language. Other subjects will be added to the video library over time. This resource can be used by teachers for inspiration, or even by students as a revision tool.

Maximise use of ICT for distance and self-paced learning to expand access to high-quality teaching regardless of location or student skill level. In the future, students will enjoy greater personalisation of their educational experience. They will be able to pursue subjects that are not offered at their own school and learn directly under the best teachers in the country through distance learning programmes. They will also be able to learn at their own pace, with teachers acting as facilitators rather than direct content providers. Pilot programmes for these innovations will be rolled out from 2016, with successful programmes scaled up nationwide.

Shift 8: Transform Ministry delivery capabilities and capacity

Why it is needed: Malaysia's education delivery network is extensive. It employs approximately 6,800 officials and support staff at the federal level, almost 6,400 at the state level, and a further 6,000 at the district level. This is in addition to approximately 420,000 principals and teachers in schools, and more than 13,100 officials and support staff in IPGs, IAB, and matriculation colleges. Implementing policy across a network of this size is complex. Issues identified include overlaps in the responsibilities of the federal, state, and district levels; limited coordination across divisions and administrative levels; policies that are sometimes rolled-out with inconsistent information or insufficient support; and weak outcome-based monitoring and follow-through.

The PPD, in particular, has been identified by the Ministry as a key point in the education delivery chain. PPDs were historically conceived as an administrative arm of the federal and state levels. As the needs of schools have evolved, however, so too has the scope of activities expected of the PPDs. As the closest Ministry entity to schools, PPDs are now expected to be very hands-on. They should provide direct support to school leaders and proactively manage school performance to ensure student outcomes improve. However, the Ministry's resourcing structure has yet to shift to meet this demand, resulting in schools receiving uneven levels of support.

What success will look like: The transformed Ministry will have strong leaders at every level, new processes and structures, and a culture of high performance. The roles of the federal, state and district levels will be streamlined, with the federal or Head Office focused on policy development and macro-level planning, and the State Education Departments or *Jabatan Pelajaran Negeri* (JPNs) and PPDs strengthened to drive day-to-day implementation. The organisational structure will be rationalised with more personnel deployed to the frontlines. These measures should yield more consistent and effective policy implementation across all states and districts.

Empower JPNs and PPDs through greater decision-making power over budget and personnel from 2013, and greater accountability for improving student outcomes. The Ministry will streamline roles and responsibilities across federal, state, and district levels and move towards a more decentralised system of operations. JPNs and PPDs will increasingly be able to make key operational decisions in budgeting, such as maintenance allocations for schools, and in personnel, such as the appointment of principals. Due to this increased operational flexibility, JPNs and PPDs will be held accountable against a common set of KPIs that align with the system targets of access, quality, equity, unity, and efficiency. To support district and state officers in delivering on these new responsibilities, the Ministry will invest more in their continuous professional development.

Deploy almost 2,500 more personnel from the Ministry and JPNs to PPDs in order to better support schools by 2014. Schools will receive more hands-on support through the deployment of almost 2,500 teacher and principal coaches across all PPDs in Malaysia. Regardless of function, all PPD officers will also be expected to shift their focus from work at the PPD to hands-on engagement with schools. This is to ensure that they fully understand the contexts in which each school operates. The goal is for PPDs to function as the first line of support for schools and their single point of contact with the rest of the Ministry.

Strengthen leadership capabilities in 150-200 pivotal leadership positions from 2013. The Ministry has identified 150-200 pivotal leadership positions at the federal, state, and district levels that particularly impact the activities of the 10,000 schools in the system. These positions include the heads of 138 PPDs and 16 JPNs and several key central functions such as teacher education. The Ministry has started reviewing competency profiles and developing succession plans to ensure that these roles are staffed with highly-skilled individuals capable of transforming the departments and schools under them. As with teachers and principals, the intent is to promote officers to these critical roles based on their performance and competency, and not by tenure.

Strengthen key central functions and rationalise structure from 2016. The Ministry recognises that some functions will be particularly critical to the rollout of the Blueprint. These include policy research and planning, teacher education, curriculum development, school inspections, and examination and assessment. The Ministry will review each of the relevant divisions responsible for these functions to determine what steps are required to strengthen their capabilities. This could include setting up the divisions as centres of excellence to increase their independence, and/or targeted hiring of external specialists. Following the refinement of federal, state, and district roles, the Ministry will also rationalise and realign the entire organisational structure of the Ministry to reflect the changes in responsibilities and functions.

Shift 9: Partner with parents, community, and private sector at scale

Why it is needed: International experience makes it clear that learning happens well beyond the school walls and can occur at home and in the community. In Malaysia, approximately a quarter of a child's time from the ages of 7 to 17 is spent in school. The priority is thus to shift from "school learning" to "system learning" by engaging parents, the community, as well as the private and social sectors as partners in supporting student learning. Critically, international evidence is clear that some forms of involvement make more of a difference. For example, evidence from the OECD studies on PISA indicate that certain parent-child activities—such as reading to their children on a daily basis or discussing how their day was—can significantly raise student outcomes, regardless of socio-economic background. Similarly, international research has found that schools that engage with businesses, civic organisations, and higher education institutes enjoy benefits that include higher grades and lower student absenteeism.

What success will look like: Every parent will be an active partner in their child's learning, not only through the standard raft of activities like report card and sports days, but also a strengthened Parent-Teacher Association or *Persatuan Ibu Bapa dan Guru* (PIBG) that provides input on school-based management matters, as well as parent toolkits to support student learning. Schools will also have a network of community and private sector partners that contribute expertise to the school's development. The involvement of all these stakeholders will create a learning ecosystem that reinforces the knowledge, skills, and values taught to students at school.

Equip every parent to support their child's learning through a parent engagement toolkit and online access to their child's in-school progress. In the future, parents can expect to work more closely with teachers to improve their child's performance. Parents will sign home-school agreements that specify simple actions they can take to help their child, from ensuring that the child is always on time for school, to helping them build literacy and numeracy skills at home. Parents will be supported in this process through the provision of online access to their child's progress on school-based and national assessments (via the School Examination Analysis System or *Sistem Analisis Peperiksaan Sekolah*, (SAPS)) and initiatives that promote adult literacy, ICT and parenting skills. These initiatives may be driven by the Ministry or a new Parent Support Group that will be established within each PIBG.

Invite every PIBG to provide input on contextualisation of curriculum and teacher quality from 2016. In the future, the role of the PIBG will evolve from typically being focused on fund-raising, to working collaboratively with school leadership to improve student outcomes. Specifically, PIBGs will be invited to provide input on how the school can make the national curriculum more relevant to the needs of the local community, and to provide feedback on the quality of teaching and learning experienced by their children. PIBGs and school leaders will then work together to define solutions for the identified issues. In some cases, this may mean securing parental support to take on roles as supplementary coaches and teachers for school activities.

Expand Trust School model to 500 schools by 2025 by including alumni groups and non-governmental organisations, (NGOs) as potential sponsors. A greater diversity of private and social sector entities will have the opportunity to get involved in the school improvement process. This will be done through the expansion of the Trust Schools programme which enables a private sponsor to partner with school leadership to manage a school. Initial results from a pilot started in 2010 have been promising, and the Ministry intends to not only expand the number of schools, but also the type of schools that are involved. The Ministry sees particular promise in expanding the programme to include schools that cater to more disadvantaged communities such as indigenous and minority groups, students with special needs, and rural schools.

Shift 10: Maximise student outcomes for every ringgit

Why it is needed: In 2011, 16% of Malaysia's annual federal budget was spent on education—the largest proportion among all ministries. Malaysia's education budget, as a share of GDP, is also one of the highest in the world. This significant investment is an indication of the Government's commitment to education. However, it is unlikely that substantially more funds can be diverted to the education system away from other priorities. Instead, it is critical for the Ministry to increase the efficiency and effectiveness of how it allocates and spends its funds.

What success will look like: Given the ambitious transformation effort that the education system is about to undertake, the Government will continue to invest an approximate level of expenditure—16% of the federal budget—in the education system. The Ministry will allocate these funds to the priorities set out in the Blueprint, and away from other lower impact programmes and initiatives, The Ministry will also track and report the captured return on investment for every initiative, with further investment conditional of having delivered improved outcomes.

Link every programme to clear student outcomes, and annually rationalise programmes that have low impact. Moving forward, every programme launched by the Ministry will be linked to specific targets in terms of student outcomes. The federal, state and district offices will undertake an annual review exercise to evaluate the programme's success in meeting these targets. Funding for the following year will be conditional of having demonstrated improved outcomes. With this outcome-based budgeting approach, parents, teachers, and principals can be assured that every programme is aligned with the Blueprint's priorities and adds value. This move will also reduce the risk of initiative overload so that teachers and principals are not overburdened.

Capture efficiency opportunities, with funding reallocated to the most critical areas such as teacher training and upskilling. The Ministry will carefully review spending patterns at federal, state, and district levels to establish appropriate spending benchmarks and refine procurement processes. Departments and offices that are spending above the expected benchmark will be required to bring their spending patterns back in line. In line with this practice, the Ministry is committed to taking action on any issues highlighted in the annual Auditor-General report. The Ministry will also shift towards need-based financial aid programmes. Low-income families will continue to receive the aid they need to keep their children in schools, while higher-income families who can afford more will receive significantly less aid. Funding that would otherwise have been spent on these programmes will be reallocated to the areas with the greatest impact on student outcomes, namely teacher training and upskilling. An initial RM1 billion in operational expenditure for the period of 2013-2015 has been identified for saving and reallocation, and a review of development expenditure is still ongoing.

Shift 11: Increase transparency for direct public accountability

Why it is needed: The GTP and Economic Transformation Programmes signalled a fundamental shift in the way the Government made itself accountable to the *rakyat*. Anything less is now deemed unacceptable. This was reinforced during the National Dialogue where stakeholders frequently stressed the need for the Ministry to engage and communicate more with the public on types and progress of initiatives being undertaken and the results being delivered.

What success will look like: All stakeholders will have access to regular and transparent information about the Ministry's progress against the Blueprint. This information will enable them to engage in a constructive dialogue with the Ministry on existing and forthcoming initiatives, and to get involved in their local community school or the broader education system, as per Shift 9. This will lead not only to an informed and empowered populace, but also a more accountable and responsive way of policy-making in the Ministry.

Publish an annual public report on progress against Blueprint targets, starting from the year 2013. The Ministry will publish an annual report on the progress made against each initiative outlined in the Blueprint. Where relevant, this will also include clear explanations of how KPIs like the NKRA school performance band have been calculated, and ongoing efforts to improve how the system measures success. All stakeholders will enjoy a degree of transparency that has never before existed.

Conduct comprehensive stock-takes in 2015, 2020 and 2025. The Ministry will undertake a stock-take at key milestones in the reform journey. As part of this stock-take, all stakeholders will be able to provide input through a National Dialogue process on what is or is not working well within the system, and what the Ministry could do about the situation. Thirteen years is a long timeframe, during which changes to the overarching strategy or specific initiatives are likely to be required. If major policy decisions are required during a non-stock-take year, the Ministry will conduct a national survey to gather input from relevant parties.

What Impact Will This Transformation Journey Have?

For the transformation of the Malaysian education system to be effective and sustainable, each participant must understand the critical role they each play and the benefits that they will enjoy. It is envisaged that the programme defined in this Blueprint will lead to a collective set of desirable benefits, rights, and responsibilities for each group.

Students

Students will make significant gains in their development irrespective of their background. Students will study in conducive learning environments, and will feel stretched and nurtured by their school experience. When they leave school, students will have world-class knowledge and skills, strong moral values, and will be capable of competing with their peers in other countries.

Students will learn in an environment where the fundamental belief is that all students can learn and all students can succeed. Teachers will have high expectations of students regardless of their background or prior achievement, and will provide them with the necessary support to meet those expectations;

Students will have a richer school experience, both academic and non-academic, so that they can excel in life. There will be more project and group-based work to develop students' higher-order thinking skills and ability to work both independently and collaboratively in groups. There will be more community-based projects and cross-school activities to foster interaction with individuals from all walks of life. There will be more opportunities for students to learn at their own pace and to pursue their interests in academic, vocational or technical streams; and

Students will have greater say in shaping their learning experience. Teachers will work with them and their parents to set their own learning targets. Teachers will also encourage them to be advocates for themselves so that teachers understand what learning styles work best for each of them.

In return, students will be asked to try their best at all times and to work collaboratively with their teachers to reduce disruptive classroom behaviour. All students will have the collective responsibility to help make their school safe and conducive to learning.

Teachers

Teachers will develop the world-class capabilities needed to facilitate desired student outcomes and gain more enjoyment and fulfillment from their jobs. With the new teacher career package, they will enjoy more fulfilling professional development, improved career pathways, and fair and transparent evaluation processes that are directly linked to relevant competencies and performance.

Teachers will have the support they need to succeed. They will have access to more school-based professional development opportunities. They will participate in constructive feedback discussions and dialogue that focus not on blame and punishment, but on learning and development so that areas for improvement can become areas of strength;

Teachers will enjoy better working conditions, performance-based rewards and enhanced pathways. They will work in schools with adequate facilities and appropriate working conditions. They will have a reduced administrative burden so that they can focus their energy on their core activities of teaching and learning. They will enjoy exciting performance-based rewards including faster career progression and can develop their interests along distinct pathways: teaching, leadership, and subject specialism; and

Teachers will be immersed in a culture of collaboration and professional excellence. They will collaborate with one another to tackle issues and share best practices. They will have greater pedagogical flexibility in the classroom in their quest to ensure that every student learns.

In return, teachers will be asked to stay open to learning and to new ways of working, to involve parents and students in the learning process, and to model the mindsets, values and behaviours expected of students.

School leaders

School leaders will become excellent instructional leaders, and act as agents for change. They will enjoy closer support and enhanced services from federal, state, and district education officers. They will gain access to world-class leadership training, as well as best practices from their peers in Malaysia.

School leaders will have the support and resources they need to guide their schools effectively. They will receive better preparatory, induction, and ongoing training to help them develop their leadership skills. They will see improved responsiveness from PPDs on issues they face, from deployment of principal coaches to the provision of additional resources if the school is in greater need;

School leaders will enjoy better working conditions and performance-based rewards. Principals, assistant principals as well as subject and department heads will work in schools with adequate facilities and have a reduced administrative burden so that they can focus their energy on instructional leadership. They will enjoy exciting performance-based rewards including faster career progression and "extra credit" for successful deployment in under-performing rural schools; and

School leaders will be empowered through greater school-based management. They will have operational flexibility commensurate with their school's performance on matters such as curriculum timetabling and budget allocation. They will enter into a professional partnership with their PPDs, with input into their school's annual performance targets, and will enjoy greater transparency with regard to decisions affecting their school.

In return, school leaders will be asked to perform to the high expectations set and agreed to for their school. They will need to stay open to new ways of working, to involve the community in school improvement, and to serve as coaches and trainers to build capabilities in their staff as well as for other schools.

Ministry officials

Ministry officials will develop as change leaders, with the skills and attributes needed to support schools. They will become better managers, coaches, and supporters of school excellence. They will benefit from greater meritocracy, greater empowerment with accountability, and will move away from hierarchy and control.

Ministry officials will receive targeted support, training, and resources needed to fulfill their new roles and responsibilities. They will have new roles focused on supporting schools, and have access to more professional development opportunities. They will participate in constructive feedback discussions that focus not on blame and punishment, but on learning and development;

Ministry officials will work in a collaborative and transparent environment. Silos between divisions will be broken down, and roles and responsibilities will be streamlined to eliminate duplication of functions and activities. Information will be shared efficiently to allow for evidence-based decisions. There will be greater clarity about how decisions are made; and

Ministry officials will receive greater operational flexibility and accountability. The system will move towards decentralisation with more decision rights being awarded to state and district offices. Officials will have more say in identifying areas of improvement for their states, districts, and schools, and in tailoring solutions to specific contexts.

In return, Ministry officials will be asked to stay open to feedback from schools and from the community. They will champion the changes the system is about to undergo. They will need to be highly responsive in providing schools with the support and resources they need, as well as to keep all internal and external stakeholders well-informed.

Parents

Parents will see tangible and sustained improvements in the educational experiences of their children. There will be increased transparency around a school's performance and priorities, and parents will be constantly kept in the loop as to how their child is doing at school, both in terms of achievements and areas for development. Parents will feel like true partners with schools in facilitating their child's learning.

Parents will have a better understanding of how their children are developing, and how they can help them improve. They will have regular contact with their children's teachers, not just when there is a problem. They will have full visibility and access to their children's performance on national examinations and school-based assessments. They will get guidance, from parenting tips to adult education classes, on how to best support their children's learning and development; and

Parents will have more opportunities to provide input into their school's improvement strategies. They have the right to be fully informed about the school's mission, current performance, and annual improvement programme. They will be able to, via their PIBG, provide input on matters such as teacher and curriculum quality. They will feel welcomed and valued for their commitment to their children and to the school.

In return, parents will be asked to support their children in meeting their learning potential (for example, ensuring that they complete their homework and attend school on time), and to model commitment, engagement, and openness for their children. Parents will need to communicate input and concerns to schools in a constructive manner and actively participate in activities at school.

EXHIBIT 9

The education transformation will take place over 13 years

Wave 1 (2013-2015)
Turn around system by supporting teachers and focusing on core skills

- Tailored on-the-ground **teacher coaching** to raise teaching standards, particularly in core subjects of Bahasa Malaysia (BM), English language, Mathematics, and Science
- **Higher entry standards** for new teachers
- Dedicated **principal coaches** for Band 5,6 & 7 schools and **enhanced selection criteria** for principals to improve quality of school leadership
- **Examination questions revamped** with greater proportion focused on higher-order thinking skills
- **Uniform standards for BM rolled out at primary level, with remedial support for** students struggling in BM and English language
- **National 1BestariNet rolled out** to integrate ICT into day-to-day learning
- **District support focused on under-performing schools**, including those for students with specific needs, to accelerate school improvement
- **Enrolment drives**, greater **parental involvement,** and better **vocational programmes** to increase pre- and secondary school enrolment
- **Enhanced practicum** in vocational programmes through **greater private sector collaboration**
- **Ministry transformation beginning with best leaders placed in pivotal** JPN and PPD **positions** to improve delivery

Wave 2 (2016-2020)
Accelerate system improvement

- **Enhanced teacher coaching and support to** improve delivery of knowledge, skills, and values across all academic and non-academic aspects of curriculum
- **Competency and performance based progressions, enhanced career pathways,** and **improved pre-service training** to revitalise teaching profession
- **New secondary and revised primary curriculum** rolled out to raise content and learning standards to international benchmarks
- ***Peralihan* class ended, options for increased English language exposure piloted, and additional language provision strengthened** to improve overall language proficiency
- **ICT innovations** accelerated especially for distance and self-paced learning
- **Enhanced programmes for groups with specific needs** such as Indigenous and other minority groups, gifted, and special needs
- **Expanded vocational options through off-take agreements** with private vocational providers
- **Strengthened core divisions, streamlined federal, state, and district roles** and **restructured Ministry** to improve delivery capacity and capabilities

Wave 3 (2021-2025)
Move towards excellence with increased operational flexibility

- **Greater school-based management and autonomy** around curriculum implementation and budget allocation for most, if not all schools
- **Peer-led culture of professional excellence** where teachers and principals mentor one another, share best practices and hold peers accountable for meeting professional standards
- **Innovations and options** to continuously raise BM and English language proficiency are **scaled up** and **more choices of additional languages** provided
- **Nationally rolled out ICT innovations and programmes for groups with specific needs** to raise learning standards
- **Ministry strengthened and transformation institutionalised** with enhanced career progression for Ministry officials
- **School structure review** to determine if further optimisation of pathways and schooling options are necessary

Key outcomes

- 100% students literate in Bahasa Malaysia and numerate after 3 years of schooling; target for English literacy to be determined after baseline is established
- 92% preschool, 98% primary, 90% lower secondary, 85% upper secondary enrolment
- 25 % reduction in the urban-rural gap

- Malaysia's performance at par with international average at the next TIMSS and PISA cycle
- 100% preschool to lower secondary enrolment. 90% upper secondary enrolment
- 50% reduction in the urban-rural gap, 25% reduction in the socio-economic and gender gap

- Malaysia's performance on TIMSS and PISA in top third of systems
- Maintain or improve enrolment
- Maintain or improve urban-rural gap, 50% reduction in the socio-economic and gender gaps

SEQUENCING THE TRANSFORMATION

The envisaged reform is broad and complex. Consequently, many initiatives have been developed as part of the reform. While each individual initiative is important and meaningful, it is critical to streamline and sequence them so that the system is not overtaxed and execution fatigue is avoided.

Common to all successful transformations in the private and public sectors is the prioritisation of some areas of improvement, sometimes at the expense of others. This prioritisation is driven both by the system's starting point as well as international evidence on the factors that make the most difference in improving student outcomes. Given the need to build the system's capacity and capability successively, the Ministry has sequenced the transformation to occur in three waves (Exhibit 9).

- **Wave 1 (2013-2015): Turn around system by supporting teachers and focusing on core skills.** The Ministry's focus during this phase will be on delivering a rapid turnaround programme. During this period, the focus will be on raising teaching quality by upskilling the existing pool of teachers, raising school leadership quality by improving how the education system appoints and trains principals, and improving student literacy (in both Bahasa Malaysia and English language) and numeracy through intensive remedial programmes. The Ministry will also strengthen and empower state and district offices to improve the quality of frontline support provided to all schools. By the end of Wave 1, the Ministry will ensure that all teachers, principals, and schools have achieved a minimum quality standard.

- **Wave 2 (2016-2020): Accelerate system improvement.** During the second wave, the Ministry will roll out structural changes aimed at accelerating the pace of change (Planning for all these initiatives will likely need to begin during Wave 1). These include moving all 410,000 teachers and 10,000 principals onto a new career package, restructuring the federal, state, and district offices to align with the revised roles laid out in Wave 1, and introducing a new secondary and revised primary curriculum that addresses concerns regarding the knowledge, skills, and values needed to thrive in today's global economy.

- **Wave 3 (2021-2025): Move towards excellence with increased operational flexibility.** By the start of the third wave, all schools, teachers, and principals should be performing well above the minimum standard. As such, the Ministry will focus on increasing operational flexibility to cultivate a peer-led culture of professional excellence. The Ministry will also move most, if not all schools, onto a school-based management model, and scale up successful models of instructional innovation. The goal is to create a self-sustaining system that is capable of innovating and taking achievements to greater heights.

DELIVERING THE ROADMAP

The Malaysian education system will need to undergo a complete transformation if it is to meet the ambitious aspirations set out in this Blueprint. This is a task of great complexity in both breadth and depth, particularly given that most education system reforms around the world have fallen short of their aspirations. Of the 55 school systems that took part in PISA 2000, only 12 have managed to demonstrate improvements in student outcomes over time—the rest either stagnated, or fell behind. This track record is not dissimilar to that of corporations undergoing major transformations—only one third is successful.

The Ministry has carefully reviewed international and national evidence to identify what the Ministry would need to do differently to deliver significant, sustainable, and widespread results. Based on this research, the Ministry and the Government are committed to the following actions:

- **Sustaining leadership commitment and focus at the top:** Top Government and Ministry leadership, including the Prime Minister and the Minister of Education, are committed to regularly reviewing progress, providing guidance, and resolving issues with regard to the Blueprint. The Ministry leadership is also committed to identifying, cultivating and developing the leadership capabilities of the next generation of system leaders to ensure continuity and consistency of the transformation efforts.

- **Establishing a small, high-powered delivery unit to drive Blueprint delivery:** The Ministry will build on existing delivery capabilities to install an Education Delivery Unit (EDU) tasked with driving Blueprint delivery. Specifically, the EDU will monitor progress, problem solve implementation issues with the responsible officers, and manage communication with stakeholders with regard to the transformation. The EDU will draw from both the public and private sector to secure the best talent available.

- **Intensifying internal and external performance management:** Successful school reforms go beyond programme design to dramatically improve the effectiveness and efficiency of the Ministry of Education itself. As such, the Ministry will establish a performance management system that sets high expectations of individuals through clear KPIs. This system will invest in capability building to help individuals achieve their targets, reward strong performance, and address poor performance without creating a culture of blame. The Ministry will also publish performance results annually so that the public can track progress on the Blueprint

- **Engaging Ministry officials and other stakeholders:** The Blueprint development process was unprecedented in its attempt to engage and secure the input of the *rakyat* and the system's biggest constituents: parents, students, teachers, principals and Ministry officials. As the Blueprint initiatives are rolled out, the Ministry will continue to solicit feedback from these parties and will regularly communicate progress to ensure that the entire education system is engaged in the transformation process.

GAINS WILL BE DELIVERED WITHIN THE NEXT YEAR

The Malaysian education system is entering an intensive period of change. Transformation of an education system takes time and some of the most significant results of these changes, such as improvements in performance on international assessments, will only be visible a few years down the road. Nonetheless, over the next twelve months, the public can expect to see significant changes in the way the system is run. These changes will form the foundation for future results. Exhibit 10 offers a sampling of what to expect over the coming months.

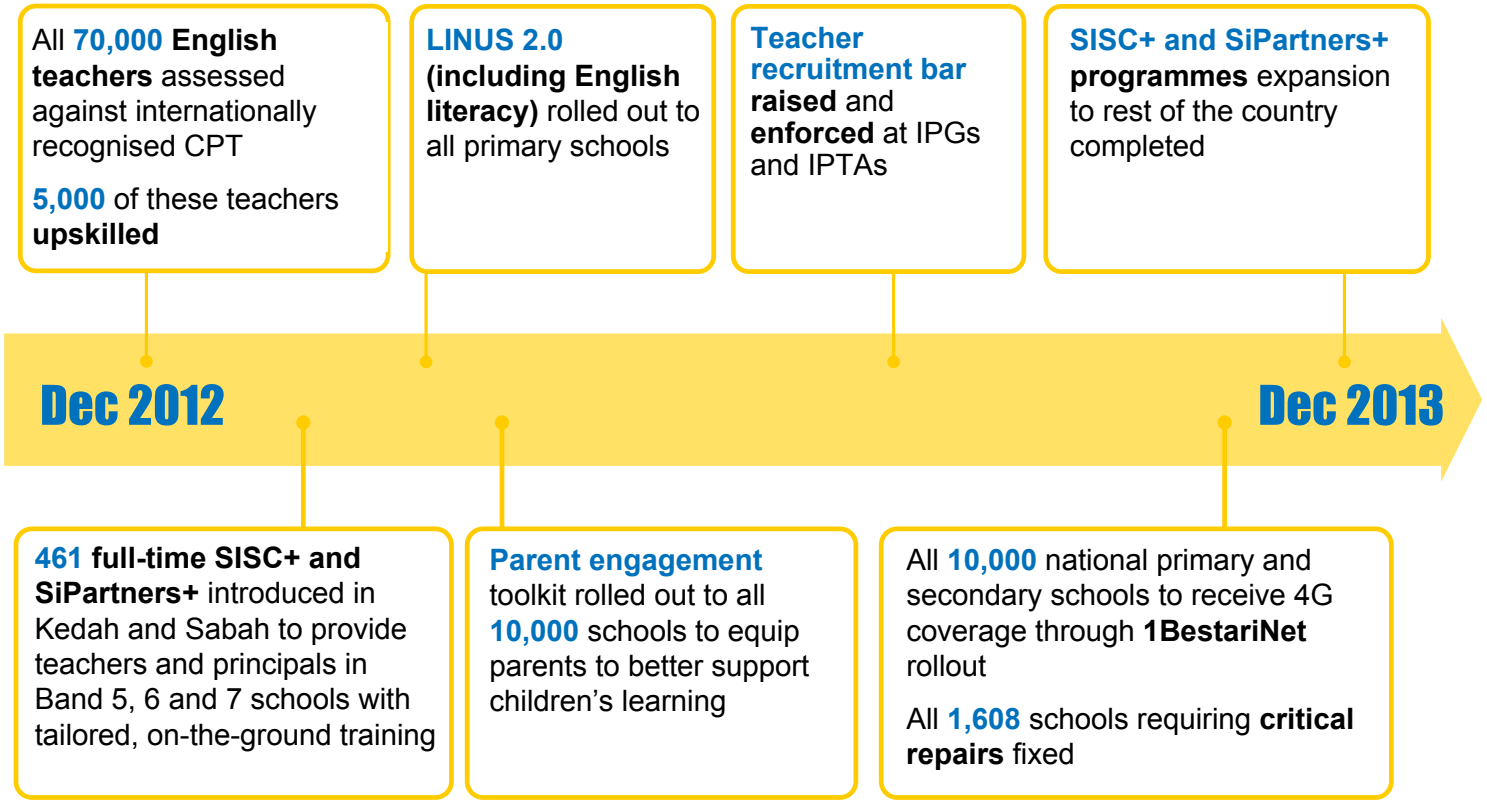
RUN-UP TO THE FINAL BLUEPRINT

Once this Blueprint is released, the Ministry will embark on a second round of intensive public consultations to gather feedback through Open Days and roundtable discussions with different stakeholder groups. The Ministry welcomes the *rakyat*'s input, and therefore encourages all interested parties to attend these sessions or to submit feedback by letter or online. The Malaysian Review Panel and the International Review Panel will also formally review the Blueprint and submit a final round of feedback. By mid-December 2012, the Ministry will have consolidated all feedback, incorporated it, and submitted the Final Blueprint to the Cabinet.

Malaysian education stands at a crossroads, and the Ministry, taking the voices of the *rakyat* to heart, has chosen the more difficult, but ultimately more rewarding path. However, the Malaysian education system can only fulfil its ambitious aspirations through the continued support and commitment of all stakeholders. This Blueprint is a chance to carve out a brighter, bolder future for all Malaysian children—an ambitious mandate, but an inspiring one. It is the responsibility of every single Malaysian to work towards making these aspirations a reality, and it is only through all stakeholders working together that all Malaysian children will get the future they truly deserve.

EXHIBIT 10

Early results within the coming 12 months



OVERVIEW OF BLUEPRINT CHAPTERS

There are eight chapters and seven appendices in the Preliminary Blueprint

- **Chapter 1** lays out the objectives and approach behind the development of the Blueprint;
- **Chapter 2** outlines a set of new aspirations for the overall Malaysian education system, including aspirations for every Malaysian child;
- **Chapter 3** contains the detailed analyses on Malaysian student outcomes and establishes the current performance of the education system;
- **Chapter 4** examines student learning in the Malaysian education system, looking at solutions to effect the changes necessary for the stated aspirations to be achieved. It includes initiatives from Shifts 1, 2, 3 and 6 related to curriculum and assessment, strengthening of language skills, school improvement interventions, and education for students with specific needs;
- **Chapter 5** explores the roles of teachers and school leaders as the frontline of the Malaysian education system, with a focus on how to improve the quality of and support provided to teachers and school leaders. It addresses initiatives raised in Shifts 4 and 5;
- **Chapter 6** looks at how the Ministry itself will develop in order to best implement the policies and initiatives laid out in this Blueprint, including by transforming the Ministry's fundamental approach to human resources and finances to improve delivery capacity and resource productivity. This encompasses the initiatives raised in Shifts 6, 7, 8 and 10;
- **Chapter 7** examines the structure of the system, and focuses on the phases of education, creating more varied educational pathways to address a broader spectrum of student interests and abilities, developing preschools, and better engaging with parents, local communities and the private sector. It includes initiatives from Shifts 1 and 9;
- **Chapter 8** outlines the overall transformation programmes, including the sequencing of initiatives between 2013 and 2025 with the ultimate objective of improving student outcomes, raising the professional quality of teachers and school leaders, and revamping the structures of the Ministry and the education system. This chapter includes initiatives from Shift 11 to ensure that the Blueprint delivery is a success;
- **Appendix I** provides a brief overview of the major developments in the education system since the British Colonial period;
- **Appendix II** details out the different sources of inputs drawn on for the Blueprint, from external experts such as UNESCO, OECD and local universities, to the results of the 2012 National Dialogue;
- **Appendix III** maps out how key issues raised during the National Dialogue have been addressed in the Blueprint;
- **Appendix IV** explains the methodology behind the "Universal Scale" used in Chapter 3;
- **Appendix V** provides sample questions from PISA 2009+;
- **Appendix VI** details out all major Blueprint initiatives across each wave of reform; and
- **Appendix VII** highlights the initiatives that have been folded into the GTP2.0 NKRA on Education

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CHAPTER 1
CONTEXT AND APPROACH

1. Context and approach

Malaysia faces a great challenge. The future success—both socio-cultural and economic—of the nation depends on quickly and significantly improving the outcomes of the nation's education system. The *rakyat* are also demanding that initiatives launched by the Government are consistent, well-executed, and deliver on their promised outcomes. It is therefore vital for a partnership of all concerned parties—students, teachers, principals, parents, Ministry officials, and the social and private sectors—to rise to this challenge in new and innovative ways. To this end, based on extensive research, a comprehensive review of the current education system, and significant public engagement and consultation of multiple stakeholder groups, the Ministry has developed this preliminary Blueprint to pave the way towards a better-educated Malaysia.

Education plays a central role in any country's pursuit of economic growth and national development. There is no better predictor of a nation's future than what is currently happening in its classrooms. In today's global economy, a nation's success depends fundamentally on the knowledge, skills and competencies of its people. It is no surprise that nations with higher education levels tend to enjoy greater economic prosperity. Education is also fundamental to nation building and unity. It provides individuals with the opportunity to improve their lives, become successful members of the community and active contributors to national development. Through interacting with individuals from a range of socio-economic, religious and ethnic backgrounds – and learning to understand, accept and embrace differences – a shared set of experiences and goals for Malaysia's future can be built. It is through these shared experiences and aspirations that a common national identity and unity is fostered.

"In order to meet our high aspirations amidst an increasingly competitive global environment, we cannot stand still. Our country requires a transformation of its entire education system."

YAB Dato' Seri Mohd Najib bin Tun Abdul Razak (2012)

In recent years, the Malaysian education system has come under increased public scrutiny and debate, as parents' expectations rise and employers voice their concern regarding the system's ability to adequately prepare young Malaysians for the challenges of the 21st century. Given the nature of the education system, it will take several years for fundamental changes to be felt. This makes the need for big, bold actions now both important and urgent.

This Blueprint is the result of extensive research and public engagement carried out by the Ministry. Based on an understanding of Malaysia's current position and the challenges it faces, the Blueprint aims to establish the vision and aspiration for the Malaysian education system through to 2025 as well as a roadmap of policies and initiatives that will be undertaken in order to achieve these goals.

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BACKGROUND TO THE BLUEPRINT

In 1957, Malaysia inherited a fragmented education system; while a select few were educated at elite institutions, over half of the population had never received formal schooling. Unsurprisingly, adult literacy rates hovered at a rather low 52%. The challenge for the young nation was clear: the Government needed to ensure access to education for all children.

It was during this period that the Razak Report (1956) and the Rahman Talib Report (1960) on education were developed in quick succession. These reports established an ambitious vision for what the new nation's education system would look like. The principles laid out formed the basis for Malaysia's first Education Act of 1961. The Cabinet Report (1979) (now popularly known as the Cabinet Committee Report), was another major milestone that emphasised building a Malaysian society ready for the future. It envisioned a truly holistic view of education, aiming to develop students intellectually, spiritually, emotionally, and physically.

In the more than five decades since independence, the education system has passed through many major milestones, from the introduction of new curricula such as the Primary School Integrated Curriculum or *Kurikulum Bersepadu Sekolah Rendah* (KBSR) and the Secondary School Integrated Curriculum or *Kurikulum Bersepadu Sekolah Menengah* (KBSM) that were developed following the Cabinet Report (1979), through to the development of a National Education Philosophy (1988) and revised Education Act (1996). Nonetheless, throughout all these changes, achieving access, quality, and equity in terms of student outcomes, unity amongst all students, and by extension system efficiency and effectiveness to deliver these, have remained constant anchors for the system. Further information on major education reports and policies can be found in Appendix I.

By some measures, Malaysia has clearly succeeded over the past 50 years. The adult literacy rate in 2010 for the population aged 15 years and above was 92%. There is near-universal primary and lower secondary enrolment, and upper secondary enrolment rates are a respectable 80%. Around two-thirds of students go on to some form of post-secondary education or training, from pre-university foundation or matriculation programmes to vocational institutions.

The education system has also consistently produced students and schools that are comparable to the best internationally. This is evidenced not only by the number of students that have successfully gained entry into top-tier universities abroad, but also by the number of awards that Malaysian schools and students have won at the international level. Exhibit 1-1 provides a number of recent success stories that span both academic and non-academic pursuits.

Most recently, the Ministry, in partnership with other agencies under the GTP, has made significant progress in expanding preschool enrolment from 67% in 2009 to 77% over the short span of two years. The percentage of Year 1 students who are literate has risen from 87%

EXHIBIT 1-1

Examples of Malaysian students' international achievements

Jul 2012	8th International Exhibition for Young Inventors, Thailand	The Malaysian team won a gold medal for their invention.
	Genius Olympiad 2012 International High School Project Fair on Environment, New York	Two 14-year old students bagged third prize in the competition.
	2nd International Folk Song and Dance Festival, Georgia	The Malaysian team of 15 performers won the Gold and Silver Diploma prizes.
	5th Asian Schools Badminton Championship, Hong Kong	The Malaysian team of 16 players won 3 gold medals and 4 silver and bronze medals respectively.
Jun 2012	The Invention and New Product Exposition, USA	The Malaysian team won a gold model in the category of education inventions
	4th ASEAN School Games, Indonesia	The Malaysian team of 200 athletes bagged a total of 100 medals, claiming the third spot overall
May 2012	English Speaking Union International Public Speaking Competition, London	A 17-year-old emerged as the first Malaysian champion.
Oct 2011	ASEAN Primary School Sports Olympiad, Indonesia	Team of 36 clinched second place overall, winning a total of 6 gold, 2 silver, and 3 bronze medals.
Jul 2011	52nd International Mathematical Olympiad, Netherlands	Stellar performance by a Form 4 student who clinched the first gold medal for Malaysia. Another four students attained commendable results.
	42nd International Physics Olympiad, Thailand	A Malaysian student attained a gold medal and special prize awarded by the European Physics Society.
Dec 2010	International Competitions and Assessments for Schools (ICAS)[1]	68 Malaysian students achieved a total of 94 gold medals and were commended as being of world-class standard.
Nov 2009	World Robot Olympiad (WRO), South Korea	Malaysia was the overall champion, a second win in two consecutive years.

1 Australian-based independent diagnostic assessments conducted annually

SOURCE: Educational Policy, Planning and Research Division, Sports Division

in 2010 to 95% by the end of Year 2 in 2011. Further, the percentage of Year 1 students who are numerate also rose from 87% in 2010 to 97% by the end of Year 2 in 2011. These gains offer a clear demonstration that significant and rapid results in education are possible.

To achieve the desired outcomes of access, quality, and equity, the Government has consistently directed significant resources towards developing the education system. As early as 1980, Malaysia's expenditure on primary and secondary education as a percentage of GDP was the highest in East Asia. In 2011, Malaysia's expenditure, at 3.8% of GDP was higher than the OECD average of 3.4%. It is this commitment to investing in excellent education that has laid the foundation for the education system's—and the nation's—many successes.

Despite these important achievements and high level of commitment, the changing and increasingly competitive national and international landscape requires a rethink of where Malaysia stands today, and where the nation needs to move forward. Further, there are indicators that the system neecds to be more competitive in today's changing world. Out of 74 countries participating in PISA 2009+, Malaysia performed in the bottom third for Reading, Mathematics, and Science. This was the first time Malaysia took part in the PISA assessment, and the average Malaysian student performance in all three areas was well below both the international and OECD averages. This statistic is worrying because PISA is an assessment of students' higher-order thinking skills and ability to solve problems in a real-world setting—vital skills in the 21st century.

The Government recognises that the Malaysian education system must continue evolving to keep up with the nation's increasing aspirations, as well as to keep up with peer countries. Today's globalised world and economy requires its participants to be critical, creative, and innovative thinkers. To keep up with ever-evolving demands, the rest of the world is constantly improving their approaches to education, and Malaysia must as well. During the National Dialogue to engage and consult with the *rakyat* on the education system, 98% of more than 3,000 people surveyed felt that the time was either right for a review, or that a review was even overdue.

OBJECTIVES OF THE BLUEPRINT

The Blueprint has been designed to meet the challenges of the 21st century, building on the foundations of the previous seminal reports and policies, and focusing on ways to develop and further pave the way for the education system's continuous growth and improvement. To that end, the Blueprint is based around three specific objectives:

1. **Understanding the current performance and challenges** of the Malaysian school system, with a focus on improving access to education, raising standards (quality), closing achievement gaps (equity), and promoting unity amongst students and maximising system efficiency;

2. **Establishing a clear vision and aspirations** for the education system and individual students over the next 13 years through to 2025; and

3. **Outlining a comprehensive transformation programme for the system, including key changes to the Ministry** which will allow it to meet new demands and rising expectations, and to ignite and support overall civil service transformation.

THE BLUEPRINT DEVELOPMENT APPROACH

The approach to this Blueprint was bold and ground-breaking. Multiple perspectives were gathered from various experts and international agencies to evaluate and assess Malaysia's education system performance (Exhibit 1-2). This includes the World Bank, UNESCO, and the OECD. The Ministry also consulted related policy documents produced by other agencies, including the Ministry of Higher Education's 2007-2020 transformation strategy and 2011-2020 Blueprint on the enculturation of lifelong learning. Finally, the Ministry engaged with the *rakyat* on a scale never seen before.

"How does our education system compare against other countries? Is what we consider 'good' actually good enough?"

YAB Tan Sri Muhyiddin Yassin (2011)

This Blueprint is the outcome of in-depth analyses, interviews, focus groups, surveys and research conducted with the support of Malaysian and international experts, Ministry officials, teachers, principals, and parents all across Malaysia. In addition, through the National Dialogue conducted between April and July of 2012, almost 12,000 members of the public and different stakeholder groups were engaged for their input and suggestions (Exhibit 1-2). The Blueprint includes action plans and priority interventions for the transformation of the overall education system.

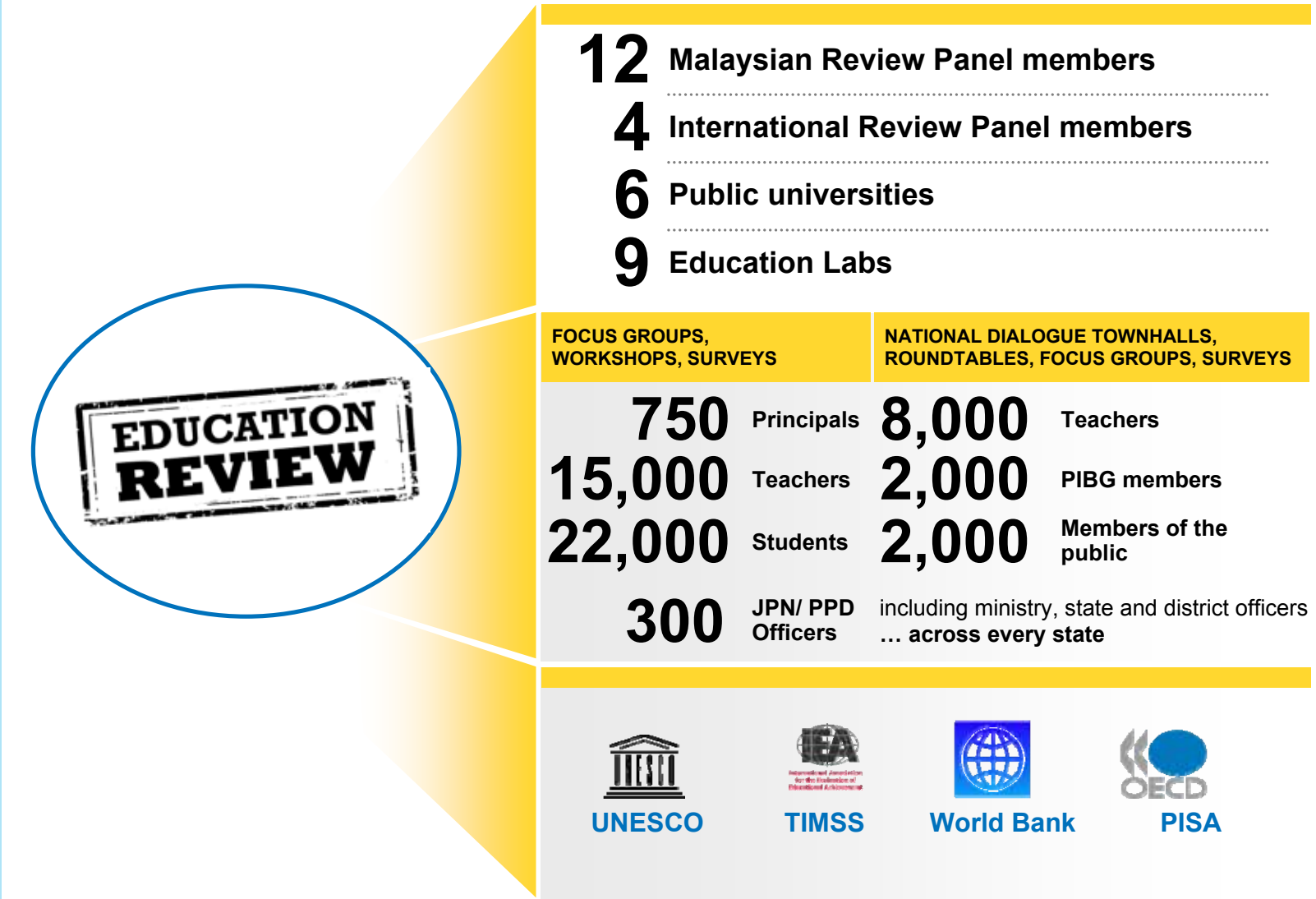
Phase 1 was a comprehensive review and diagnostic of the education system. This phase started with a detailed evaluation of the performance of the Malaysian education system, focusing on student outcomes, assessing the root causes and key drivers for this level of performance, and recognising existing examples of excellence in the education system as models for emulation and replication.

- **Student Outcomes:** In order to establish the current level of performance by the education system, the Blueprint focused on the five dimensions of access, quality, equity, unity, and efficiency, which have been consistent objectives of previous national education policies, starting with the Razak Report (1956), continuing with the Education Acts of 1961 and 1996, to the more recent Education Development Master Plan 2006-2010. These analyses are based on both national data and international benchmarks available on Malaysian student outcomes;

- **Key Drivers:** The Blueprint aims to understand the root causes of Malaysian student outcomes, evaluating key drivers and causes of student performance such as teacher quality, school leadership, and parental and community involvement. The Blueprint also covers standards in curriculum and assessment, with a focus on comparing Malaysia against international benchmarks. Finally, the

EXHIBIT 1-2

Sources of input for development of the Preliminary Blueprint



SOURCE: Project Management Office, Ministry of Education

Blueprint evaluates important implementation elements such as the organisation and delivery capacity of the Ministry itself across federal, state, and district levels, as well as how to ensure resources allocated towards developing basic infrastructure in the education system are used efficiently and effectively; and

- **Examples of Excellence:** Over the course of developing the Blueprint, numerous instances of schools and districts across the nation that have achieved outstanding results and shown dramatic improvements were identified. These examples show that excellence does exist across the system, and that there are many opportunities to learn from within. The Blueprint therefore does not just pinpoint issues and gaps, but also seeks to identify, highlight, and understand these good practices and successes that exist within the education system today for replication and emulation.

All of these efforts were conducted with a focus on ensuring the rigour and breadth of the Blueprint's approach, while validating the results against international standards. The Blueprint incorporated primary analyses on national and international data, as well as more than 150 detailed studies conducted by the Ministry and international educational organisations over the past 10 years.

- **Fieldwork** at both urban and rural schools was conducted to understand actual issues on the ground. This included island schools in Semporna, *Orang Asli* schools in Selangor, schools with a majority of students from indigenous and other minority groups in Keningau, fully residential schools in Terengganu, religious pondok schools in Kedah, as well as vocational schools, schools with Special Education Integration Programmes (SEIP), and independent Chinese schools in Johor. These were chosen as a representative mix of student performance levels, student population sizes, socio-cultural contexts, and geographical zones; and

- **Face-to-face interviews, focus groups, and workshops** were conducted across Malaysia with more than 200 principals, 200 teachers, 300 federal, state, and district officials from the Ministry, and 100 parents in attendance. A nationwide survey of nearly 570 principals, nearly 15,000 teachers, and over 22,000 students was also launched to provide additional quantitative data. This does not include approximately 14,000 interviewees and survey respondents in the fieldwork conducted by the public universities.

The findings from these workstreams were then triangulated against several independent sources:

- **Research conducted in 2011** by six public universities on the quality of curriculum and assessment, teaching and learning, teachers and principals, human resource management, governance and management, infrastructure development, policy planning and implementation, and school structure and type;

- **A 2011-2012 review by UNESCO (The Malaysia Education Policy Review)** on the quality of curriculum development and implementation (with a focus on Mathematics and Science), student assessment and examination, ICT in education, technical vocational education and training , teacher education, and planning and management; and

- **A 2011 review by the World Bank (The Public Expenditure Review),** on public education expenditure, including the effectiveness and efficiency of resource use.

Critically, all findings from the different workstreams were reviewed by a Taskforce comprising the Ministry's senior leadership (further information on the Taskforce structure and members can be found in Appendix II).

Phase 2 was focused on developing this preliminary Education Blueprint, by building upon the findings from Phase 1 to identify a set of priority areas and detailing a comprehensive transformation programme of policies and initiatives to be undertaken over the next 13 years, between 2013 and 2025. This phase incorporated input generated from the National Dialogue and the GTP2.0 education labs.

- **National Dialogue**: In April 2012, the Ministry launched a National Dialogue to gather the *rakyat's* feedback and input on education. This Dialogue signified a bold move towards engaging existing and future generations of parents, teachers and students. A panel headed by Tan Sri Dato' Dr. Wan Mohd. Zahid Mohd. Noordin chaired 16 townhalls (held in Putrajaya, Perak, Kedah, Sabah (2 locations), Sarawak (2 locations), Labuan, Negeri Sembilan, Melaka, Selangor, Penang, Pahang, Kelantan, Terengganu, and Johor) attended by almost 12,000 members of the general public and 20 roundtable sessions with 325 participants. School visits were conducted to solicit feedback directly from primary and secondary school students. Members of the public also had the opportunity to submit ideas and feedback through the MyEduReview online portal, Facebook, and Twitter. Over 150 memoranda were submitted to the Ministry and a total of over 7,000 recommendations were received through these various channels.

  This unprecedented and intimate level of interaction with all concerned parties was vital in providing the Ministry with multiple, nuanced perspectives from members of many different demographics. Their concerns and many of the good ideas raised during these sessions (please refer to Appendix III for further details) have been reflected in the Blueprint; and

- **GTP2.0 Education Labs**: The planning for the next phase of the GTP was deliberately dovetailed with that of the Blueprint to ensure alignment in priorities and actions. To that end, the GTP2.0 initiatives which will run from 2013 to 2015 will form part of the first wave of the Blueprint reform which spans the entirety of the timeframe of 2013-2025. These initiatives will be delivered jointly with PEMANDU. To establish the initiatives, a series of education labs focusing on developing solutions in priority areas such as teachers, principals, school improvement, curriculum and assessment, and infrastructure were held over a period of two months. Approximately 90 members from the Ministry and related ministries (such as the Ministry of Finance, Ministry of Human Resources, Ministry of Higher Education and the Ministry of Women, Family, and Community Development) were involved on a full-time basis. Additionally, ideas were syndicated extensively with practicing teachers, principals, district and state officers, as well as with the teacher unions, principal associations and PIBGs.

The Ministry reviewed all of the suggestions from the National Dialogue and Labs carefully, and integrated them into the Blueprint based on four criteria. Firstly, any action undertaken had to contribute to the system and student aspirations described above. This meant that initiatives that delivered one outcome at the expense of another, or that would lead to a different end-state were deprioritised. Secondly, the Ministry drew on international evidence to identify and prioritise the factors that make the most difference in system and student improvement. Thirdly, the proposals had to be relevant to the system's starting point and be within the Ministry's ability to deliver. Initiatives were thus sequenced to evolve in complexity as the capabilities and capacity of the Ministry officers, teachers, and principals were developed. Fourthly, the benefits of implementing the proposal had to outweigh the financial and operational downsides.

Phase 3 will focus on finalising the Blueprint. This will primarily involve wide-ranging consultation and engagement with teachers, parents, students and other stakeholders to gather feedback on the preliminary Blueprint. This feedback will be incorporated into the final version of the Blueprint.

- **Extensive public consultation**: Once this Blueprint is released, the Ministry will embark on a second round of intensive public consultations to gather feedback from different stakeholder groups to incorporate into the final Blueprint. The Ministry will hold several Open Days across Malaysia and repeat the roundtable sessions with selected stakeholder groups; and

- **Submission of the Final Blueprint**: By mid-December 2012, the Ministry will have consolidated all feedback, incorporated it, and submitted the Final Blueprint to the Cabinet.

Throughout this process, the Ministry's efforts are informed by the independent input and suggestions of a Malaysian and an International Review Panel. Feedback was gathered from these members through a combination of face-to-face interactions (such as full day workshops, one-on-one interviews) and video-conference meetings. A full list of the panel members has been included in Appendix II.

- **Malaysian Review Panel:** A total of 12 leading Malaysians from a cross-section of professional backgrounds and the public and private sectors were assembled, under the leadership of Tan Sri Dato' Dzulkifli bin Abdul Razak, Vice-Chancellor of Albukhary International University. The panel debated topical issues (including many raised through the National Dialogue), reviewed an early draft of the document, and provided independent suggestions on potential policy shifts and ideas for consideration by the Ministry. The panel will also review the preliminary Blueprint and submit a final round of feedback; and

- **International Review Panel:** Similarly, four leading global educationists were assembled as the International Review Panel. These educationists reviewed the diagnostic findings and transformation initiatives, and provided their perspectives based on Malaysia's starting point and challenges. The panel members will also travel to Malaysia to conduct detailed workshops and site visits in Q4 2012 and will provide feedback before the finalisation of the Blueprint at the end of 2012.

The Blueprint also examined lessons from the most improved school systems worldwide which have demonstrated significant, widespread, and sustained improvements in student outcomes over time. As part of the process, the Ministry examined international data, analyses, and benchmarking approaches from leading international sources such as PISA and TIMSS to provide a robust methodology for understanding and comparing Malaysia's school system standards and performance with that of other countries. Appendix II provides further details on the methodology behind the development of the Blueprint.

OVERVIEW OF THE BLUEPRINT

Education reform is at the top of the agenda of every nation in the world, and Malaysia needs to prioritise the continued development of its education system in order to be able to compete globally. The research shows that, overall, Malaysia has done well in the past 50 years in expanding access to education and raising standards in terms of adult literacy and participation in schooling. However, looking a little deeper, the picture is more complex. Variation in performance and capacity across Malaysia's states, districts, and schools exists today. While there are remarkable examples of excellent schools and districts across the nation, there are still performance gaps that need to be addressed.

The next seven chapters of the Blueprint will examine and address these issues, and pinpoint steps to move forward:

- **Chapter 2** outlines a set of new aspirations for the overall Malaysian education system, including aspirations for every Malaysian child;

- **Chapter 3** contains a detailed analyses of Malaysian student outcomes and establishes the current performance of the education system;

- **Chapter 4** examines student learning in the Malaysian education system, looking at solutions to effect the changes necessary for the stated aspirations to be achieved. Areas of focus are curriculum and assessment, strengthening of language skills, school improvement interventions, special needs education, education for indigenous and other minority groups, and education for gifted students;

- **Chapter 5** explores the roles of teachers and school leaders as the frontline of the Malaysian education system, with a focus on how to improve the quality of and support provided to teachers and school leaders;

- **Chapter 6** looks at how the Ministry itself will develop in order to best implement the policies and initiatives laid out in this Blueprint, including by transforming the Ministry's fundamental approach to human resources and finances to improve delivery capacity and resource productivity;

- **Chapter 7** examines the structure of the system, and focuses on the phases of education, creating more varied educational pathways to address a broader spectrum of student interests and abilities, developing preschools, and better engaging with parents, local communities and the private sector; and

- **Chapter 8** outlines the overall transformation programmes, including the sequencing of initiatives between 2013 and 2025 with the ultimate objective of improving student outcomes, raising the professional quality of teachers and school leaders, and revamping the structures of the Ministry and the education system. This chapter also covers the delivery requirements needed to ensure that the Blueprint is a success.

The Ministry acknowledges how important education is in providing a foundation for nation building and sustainable economic growth in line with Malaysia's goal of transforming into a high-income nation. The Ministry also recognises that the education system must undergo more extensive and systematic transformation if Malaysia is to produce individuals that are able to thrive and compete globally. The Blueprint therefore provides not just an examination of the current education system and its successes and shortcomings, but also a comprehensive plan to move forward towards a better, world-class education.

CHAPTER 2

VISION AND ASPIRATIONS

2. Vision and Aspirations

Every education system must be anchored to a set of aspirations that are closely tied to its particular national context. Although there are many different perspectives on what would make Malaysia's education system great, almost all stakeholders agree that Malaysia's education system must do much better if it is to live up to the ambitions of all Malaysians. This chapter addresses two aspects regarding the future of the education system: it imagines what Malaysia's school system would look like once it is successfully transformed, and what the hopes and aspirations are for each individual Malaysian child.

The state of the education system today is the best predictor of Malaysia's competitiveness tomorrow. As outlined in the New Economic Model and the 10th Malaysia Plan, Malaysia's push from middle-income to high-income status will need to be fuelled more by talent—particularly that of leaders and knowledge workers—than by any other input (such as unskilled labour or capital). Furthermore, globalisation demands that Malaysia's talent needs to compete with the best internationally. It is therefore imperative for Malaysia to have a globally-competitive education system that produces globally-competitive talent.

Malaysia is therefore at a critical juncture. The country requires a fundamental transformation of its basic education system in order to realise its ambitions. This transformation will be grounded by ambitious and clear objectives that reflect the country's requirements for talent, while considering Malaysia's unique context and strengths. Importantly, these aspirations need to be shared by all stakeholders—not just by the Government, the Cabinet, and the Ministry, but also by parents, the community, employers, and the students themselves. For this Blueprint, the Ministry took innovative steps towards engaging every corner of Malaysian society via a National Dialogue, showing a renewed commitment towards ensuring that perspectives of the *rakyat* would be heard. In fact, education-related aspirations was one of the most popular topics discussed during the National Dialogue, covering 15% of all comments.

The aspirations for the transformation of the education system comprise two aspects: firstly, those for the education system as a whole, and secondly, those for individual students.

SYSTEM ASPIRATIONS

There are five outcomes that the Blueprint aspires to for the Malaysian education system: access, quality, equity, unity, and efficiency (Exhibit 2-1). These aspirations have emerged from the body of historical Education Reports, remaining as relevant today as when they were first conceived in the Malaysian context.

In 1956, the Razak Report envisioned a national education system that guaranteed access to a place in school for all children regardless of ethnicity or socio-economic background, and that provided all children with a learning environment that celebrated unity through an appreciation of our nation's diversity. In 1979, the Cabinet Committee Report reiterated Malaysia's goals for its education system, with a focus on educating students holistically, and preparing a nation for the future to come. Most recently, the Education Development Master Plan (2006-2010) aimed to enhance the effectiveness of the system by improving access, quality, equity, and unity, and to deliver these outcomes as efficiently as possible so as to maximise the returns on the resources invested. These five outcomes are also in line with the aspirations articulated by participants during the National Dialogue. Action across all five areas is important and no initiative in one area should detract from or undermine progress in another.

"The purpose of education in Malaysia is to enable Malaysian society to have a command of the knowledge, skills, and values necessary in a world that is highly competitive and globalised, arising from the impact of rapid development in science, technology, and information."

Preamble to the Education Act (1996)

The National Education Philosophy

The National Education Philosophy for Malaysia, written in 1988 and revised in 1996, enshrines the Ministry's and Government's vision of education as a means for the holistic development of all children: intellectually, spiritually, emotionally, and physically.

"Education in Malaysia is an on going effort towards further developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally, and physically balanced and harmonious, based on a firm belief in and devotion to God. Such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who possess high moral standards and who are responsible and capable of achieving high levels of personal well-being as well as being able to contribute to the harmony and betterment of the family, the society, and the nation at large."

Access to Success

Every child in Malaysia, regardless of wealth, ethnicity or background, deserves equal access to a quality education that will enable the student to achieve his or her potential. Building upon the principle of Education for All, part of the Millennium Development Goals, the Malaysian education system aspires to ensure universal access and full enrolment of all children from preschool through to the upper secondary (Form Five) level, whether through the academic pathway or equivalent vocational and technical pathways. This commitment includes both proactively reaching out to those children currently not attending school, as well as ensuring that these students complete schooling to minimum acceptable standards, namely passing the six core subjects of Bahasa Malaysia, English language, Mathematics, Science, History and Islamic Education or Moral Education at the end of Form 5.

Achieving universal enrolment would put Malaysia at par with other developed nations. It will also help increase the percentage of students entering some form of post-secondary education in academic institutions such as universities, colleges, polytechnics, vocational institutions, or in structured skills training programmes.

Quality of a High International Standard

All students will have the opportunity to attain an excellent education that is uniquely Malaysian and comparable to high-performing education systems. This will require that Malaysia's education system embark upon a path of improvement that will move it rapidly towards great performance, as benchmarked against other countries by international standards. This includes standards for disciplines such as Mathematics, Science, and English language, and for higher-order thinking skills such as reasoning, applying, and problem-solving.

The aspiration is for Malaysia to be in the top third of countries in terms of performance in international assessments as measured by outcomes in TIMSS and PISA within 15 years. Additional assessments that address other dimensions of quality that are relevant to the Malaysian context may be included as they are developed and become accepted international standards.

Achieving this goal will require enormous commitment from the entire nation. In the past decade, very few school systems have managed to make such a step-change in performance. However, several of the world's top-performing school systems, such as Singapore and South Korea, have demonstrated that it is possible for a system to go from poor to great performance within a few decades.

Likewise, the most improved school systems across the world, such as those of Boston (USA), Ontario (Canada), and Armenia, have

consistently demonstrated that it is possible to make substantial improvements in student outcomes in as little as six years. It is the Ministry's intention for Malaysia to join this select list of high performers. Indeed, if Malaysia is able to move from the bottom third to top third of countries on international assessments in 15 years, Malaysia will be one of the fastest-improving systems in the world.

Equity for All Students

The best school systems deliver the best possible education for every student, regardless of ethnicity, geographical location, or socio-economic background. The education system envisioned for Malaysia is one where all students—regardless of who their parents are, or where they study—will be equipped with the tools they need to unlock their own future.

The Malaysian school system aspires to halve the socio-economic, urban-rural and gender achievement gaps in student outcomes by 2020. The reduction of the socio-economic and urban-rural gap is expected to also impact corresponding achievement gaps between states and school types. Achieving this reduction would make Malaysia one of the more equitable systems in the world.

The education system will actively support social mobility by providing additional support to those who are at a disadvantage, thereby ensuring that a student's socio-economic background will no longer be the biggest driver of whether or not he or she succeeds in life. The system also aspires to provide access to alternative, attractive pathways to education such as vocational education, to provide opportunities for students of diverse interests and abilities to develop their talents. This push for greater choice and flexibility in the education system is in line with feedback from the National Dialogue.

Similarly, it is acknowledged that there are student segments within the school-going population in Malaysia with specific needs who require even more support. To this end, the Ministry will provide greater support and programmes for students with special needs, indigenous and other minority (IOM) groups, as well as "gifted" students, to allow them to achieve their fullest potential.

Fostering Unity among Students

Since independence, one of Malaysia's core aspirations as a uniquely diverse nation has been to foster unity. Highly diverse nations that embrace this diversity and prioritise social and systemic inclusiveness exhibit greater unity. International research from the OECD indicates that such greater unity is associated with healthier populations, safer communities, and higher rates of employment.

As students spend over a quarter of their time in school from the ages of 7 to 17 (Exhibit 2-2), schools are in a key position to foster unity. Through interacting with individuals from a range of socio-economic, religious and ethnic backgrounds — and learning to understand, accept and embrace differences — a shared set of experiences and aspirations for Malaysia's future can be built. It is through these shared experiences and aspirations that a common national identity and unity is forged.

TIMSS and PISA International Assessments

TIMSS is an international assessment based on the Mathematics and Science curricula of schools around the world. It assesses students in Grades 4 (the Malaysian equivalent is Year 4) and 8 (the Malaysian equivalent is Form 2) along two aspects: content such as algebra and geometry, and cognitive skills, namely the thinking processes of knowing, applying, and reasoning. The test was first administered in 1995. Today, over 59 countries participate in the assessment which is conducted every four years. Malaysia has participated in TIMSS since 1999, although only with Form 2 students.

PISA, co-ordinated by the OECD, is another widely recognised international assessment. Conducted every three years, PISA aims to evaluate proficiency in Reading, Mathematics, and Science in students aged 15 years old. Its focus is not on curriculum content, but on students' ability to apply their knowledge in real-world settings. Participant countries extend beyond OECD members, with 74 countries taking part in the most recent assessment in 2009. Malaysia participated for the first time in 2010, as part of the 2009 PISA assessment cycle.

Internationally, there are no definitive measures of unity. However, to enable better tracking of progress, the Ministry will launch an annual student survey to assess indicators of unity, including degree of general trust among different ethnic groups, extent of racial and religious tolerance, and social interaction between students of different ethnic groups.

EXHIBIT 2-1

Five system aspirations for the Malaysian education system

Access

100% enrolment across all levels from preschool to upper secondary by 2020

Quality

Top third of countries in international assessments such as PISA and TIMSS in 15 years

Equity

50% reduction in achievement gaps (urban-rural, socio-economic, gender) by 2020

Unity

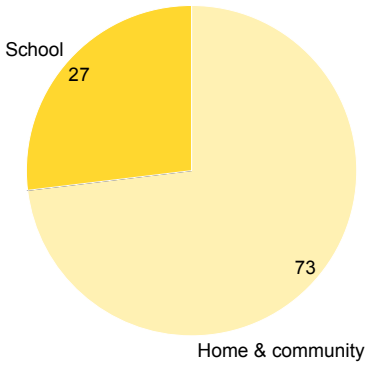
An education system that gives children shared values and experiences by embracing diversity

Efficiency

A system which maximises student outcomes within current budget

EXHIBIT 2-2

Time spent by students while awake
Percent of hours, students aged 7-17



1 Based on 42 weeks in school and average of 5.5 hours in school per day, 2 hours compulsory co-curricular activities per week, 8 hours sleep per day

SOURCE: Ministry of Education sample student timetables (2011); Improving Health and Social Cohesion through Education (2010), Centre for Education Research and Education (OECD)

Delivering with Greater Efficiency

Malaysia's consistently high level of expenditure on education relative to its federal budget is indicative of the Government's commitment to education. These expenditure levels have resulted in almost universal access to primary and lower secondary education and relatively high upper secondary enrolments, but there remains room for improvement on the other dimensions of quality, equity, and unity. Consequently, returns (in the form of student outcomes) must be maximised for every ringgit spent. As the Ministry strives towards delivering the education system aspirations, execution will be done responsibly and will pay heed to efficient and effective deployment of public resources so as to maximise student outcomes within the given budget. The Government is also committed to maintaining the current level of investment in the system of approximately 16% of the annual federal budget.

STUDENT ASPIRATIONS

The Malaysian education system aspires to ensure that every student in every school in every state achieves their full potential. Each and every school leader, teacher, parent, and the community has an important role to play in ensuring that the young people in their charge are moving towards these aspirations.

The Blueprint will continue to use the National Education Philosophy's vision of a balanced education as its foundation for individual student aspirations. This is in line with the feedback from the National Dialogue . It has also drawn on learnings from high-performing systems to develop a refined articulation of the specific attributes and competencies that students will need to succeed and thrive in an increasingly globalised world.

Accordingly, the National Education Philosophy's vision of a balanced education is reflected in six elements (Exhibit 2-3). The emphasis is not just on the importance of knowledge, but also on developing critical, creative, and innovative thinking skills; leadership skills; proficiency in Bahasa Malaysia and the English language; character and values; and a strong sense of national identity. These elements also highlight the focus on enabling all students to contribute meaningfully to their families, to society, and to the nation.

Knowledge

At the most basic level, every student needs to be fully literate and numerate. This equips them with basic life skills, and enables them to function effectively in society so that they can create value for themselves, their community, and the nation. In addition, it is important that students master core subjects like Bahasa Malaysia, English language, Mathematics, Science, and History. To be well-rounded, students will be encouraged to be informed and knowledgeable in other areas such as the arts, music and sports. Beyond just acquiring this knowledge, it is important that every student has the ability to apply this knowledge in day-to-day situations.

Thinking skills

Every student needs to possess a spirit of inquiry and learn how to continue acquiring knowledge throughout their lives, to be able to connect different pieces of knowledge, and, most important of all in a knowledge-based economy, to create new knowledge. Every student needs to master a range of important cognitive skills:

- **Creative Thinking and Innovation:** the ability to innovate, to generate new possibilities, and to create new ideas or knowledge;
- **Problem-solving and reasoning:** the ability to anticipate problems and approach issues critically, logically, inductively, and deductively in order to find solutions, and ultimately make decisions; and
- **Learning Capacity:** the ability to independently drive one's own learning, coupled with the appreciation of the value of lifelong learning.

This is an area where the system has historically required more improvement, resulting in students being less able than they should be in applying knowledge and thinking critically outside of familiar academic contexts. Consequently, it is more important than ever for the education system to help every student to acquire these thinking skills.

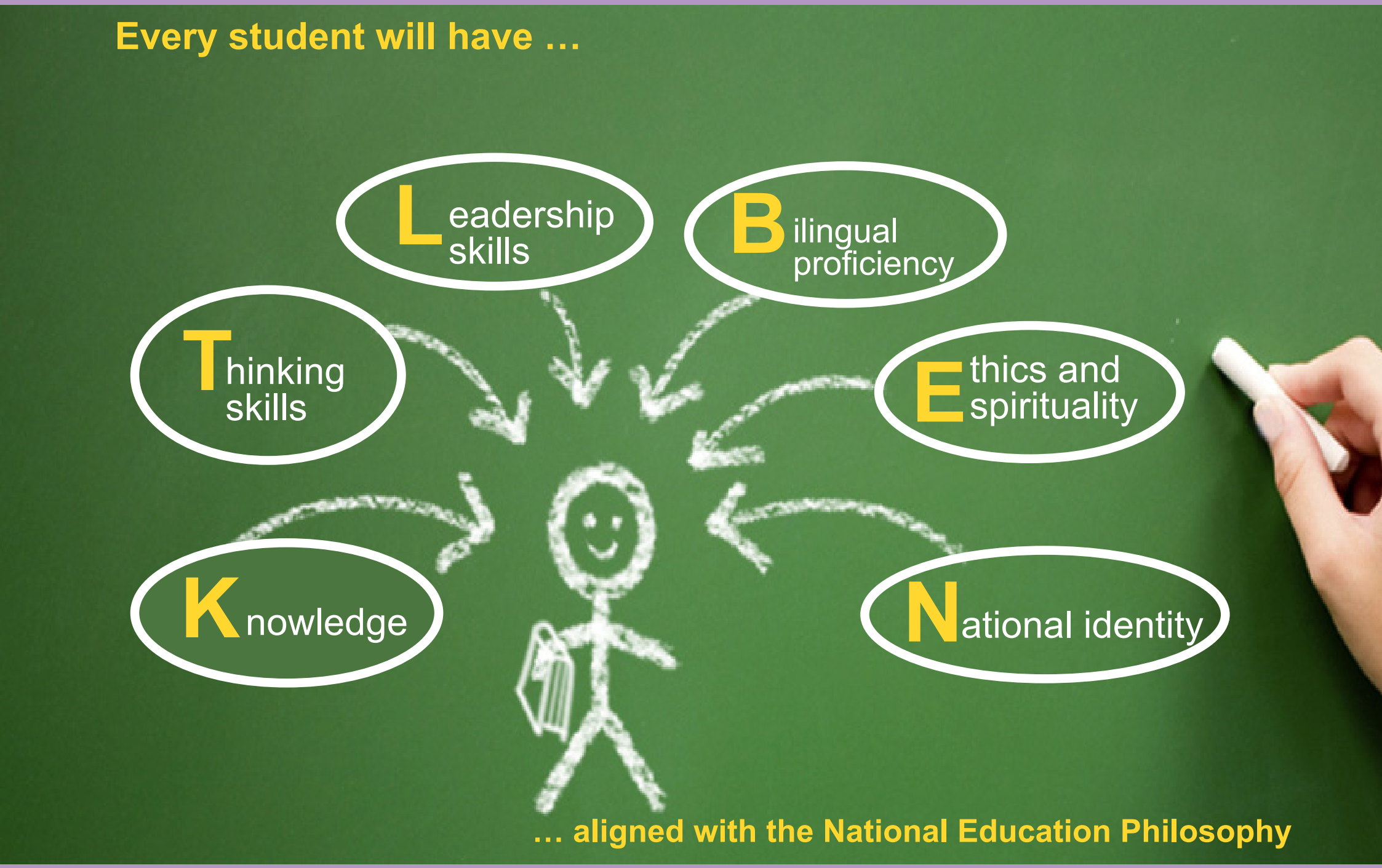
Leadership skills

Being able to work effectively with and lead others is critical, especially in our increasingly inter-connected world. In the National Dialogue, the importance of instilling leadership and the ability to work effectively in teams for every student was consistently raised. The education system seeks to help every student reach their full potential by taking on leadership roles, and by working in groups. In the context of the education system, leadership comprises four elements:

- **Entrepreneurship:** taking the initiative to create and develop one's own solutions, the willingness to invest one's own resources in doing so, and the drive to see these through to their realisation;
- **Resilience:** developing a mindset that is both constructive and able to withstand setbacks;

EXHIBIT 2-3

Attributes and aspirations for every student



- **Emotional intelligence:** possessing the ability to understand and work effectively with others and to influence them positively; and

- **Strong communication skills:** possessing the ability to clearly express one's opinions and intentions in oral and written form.

Schools will need to make use of the opportunities provided inside the classroom through project-based and group work, and outside of the classroom though sports, the arts, and co-curricular activities to build the character of their students.

Bilingual Proficiency

Every student will be proficient in Bahasa Malaysia as the national language and in English as a second language and the international language of communication Every student will also ideally have the opportunity to learn an additional language.

Malaysia's unique diversity and multicultural heritage provides a competitive advantage to all. Therefore, over time, all students of all ethnicities and communities will be encouraged to learn at least three languages (Bahasa Malaysia, English language, and another language like Chinese language, Tamil, Arabic, Iban, Kadazan Dusun, etc.), allowing them to collaborate and communicate effectively with fellow Malaysians and Malaysia's neighbours in today's rapidly globalising world.

Ethics and Spirituality

The education system will prepare every student to rise to the challenges they will inevitably face in adult life, to resolve conflicts peacefully, to employ sound judgment during critical moments, and to have the courage to do what is right. The emphasis will be on every student establishing a set of principles that includes strong shared values held in common by all Malaysians:

- **Spirituality:** to be strong in one's beliefs as the foundation for living and to espouse high moral standards;

- **Integrity:** to possess the courage, the discipline, and the will to do the right thing; and

- **Civic responsibility:** to act for the good of the entire nation, to care for others and the environment around them, and to possess a deep capacity for social contribution.

National Identity

An unshakeable sense of national identity, tied to the principles of the *Rukunegara*, is necessary for Malaysia's future and to foster unity. Every student will identify themselves proudly as Malaysians, irrespective of ethnicity, beliefs, socio-economic status or geographical location. Achieving this patriotism requires a strong sense of inclusiveness, acquired through learning to understand and tolerate difference, to accept and respect others, as well as to live together and embrace the diversity within the Malaysian community. A common national identity also requires all students to understand Malaysia's history, develop shared experiences in and out of school, and build shared aspirations for Malaysia's future.

There are five outcomes that the Blueprint aspires for the Malaysian education system as a whole, access, quality, equity, unity, and efficiency. These outcomes are in line with the aspirations articulated by participants during the National Dialogue, and are comparable to outcomes achieved by high-performing education systems. Beyond these system-wide outcomes, the Blueprint will also continue to use the National Education Philosophy's vision of a balanced education as its aspiration for individual students. A solid combination of knowledge, thinking skills, leadership skills, bilingual proficiency, ethics and spirituality, and national identity are critical in preparing students to succeed and thrive in an increasingly globalised world.

CHAPTER 3

CURRENT PERFORMANCE

3. Current Performance

The examination of the performance of the Malaysian education system begins with an analysis of how students have fared over time, and in comparison with other countries, along the system outcomes of access, quality, equity, unity, and efficiency. This chapter provides a clear and objective fact base, in order to establish a performance baseline for the Malaysian education system. It paints a picture of a nation with a great diversity of schools at different performance levels, some of which shine brightly as examples of excellence, deserving further study to understand successful practices.

The critical outcomes of access, quality, equity, unity, and efficiency in the Malaysian education system are the main focus areas for this Blueprint. These outcomes have been highlighted as priorities as far back as the Razak Report (1956) and have been consistently reinforced in subsequent reports and strategic plans, through to the most recent Education Development Master Plan (2006-2010). Only by critically examining and establishing where Malaysia currently stands in relation to achieving these five outcomes, can the Ministry and the nation begin to move towards building a more effective education system.

ACCESS TO EDUCATION

Ensuring that all children in Malaysia have access to the educational opportunities provided in the country has been a key objective of the education system since independence. There are two elements in "access": the first involves getting students into seats in schools, and the second requires students to remain in school long enough to achieve a minimum level of schooling. Malaysia's education system should rightly celebrate its exceptional success in raising the levels of access to education in Malaysia. Since independence, the country has achieved near-universal primary and lower secondary enrolment, while participation in preschool and upper-secondary education has also reached relatively high levels. Although the country has come a long way in terms of getting students into schools, challenges remain. Enrolment rates at the primary and secondary level have plateaued, remaining lower than that of high-performing education systems. This suggests that more effort needs to be made to enroll the hardest-to-reach population of children.

The education system has made tremendous progress since Malaysia's independence in 1957, when very few children had access to education. At that time, more than half of the population had never had any formal schooling, only 6% of the people had received secondary level schooling, and only 1% had attained a post-secondary education. Today, access to education has been transformed beyond recognition. This has been acknowledged by the World Bank (2011) and the United Nations Development Programme (UNDP) (2005), which attribute Malaysia's success in achieving universal primary education to many factors including the Government's early investment in education to ensure all children have access to it, the political will to have the institutional and policy framework in place, and commitment by all stakeholders.

Near-universal access has been achieved at the primary and lower secondary levels

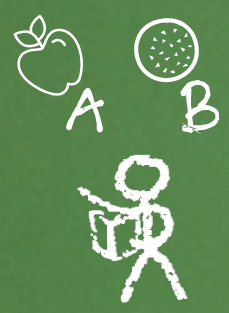
Malaysia has achieved near-universal enrolment at the primary level at 96% (all enrolment rates are for public schools and private schools registered with the Ministry). The attrition rate (the percentage of students who drop out of primary school) has been reduced in recent years from 3% in 1989, to around 0.2% in 2011. Enrolment rates at the lower secondary level have reached 91%.

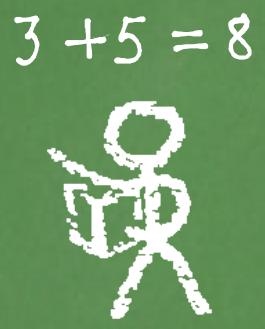
EXHIBIT 3-1

Profile of the Malaysian education system

As of 30 June 2011

RM 37 Bn[1]
16% of total 2011 federal budget



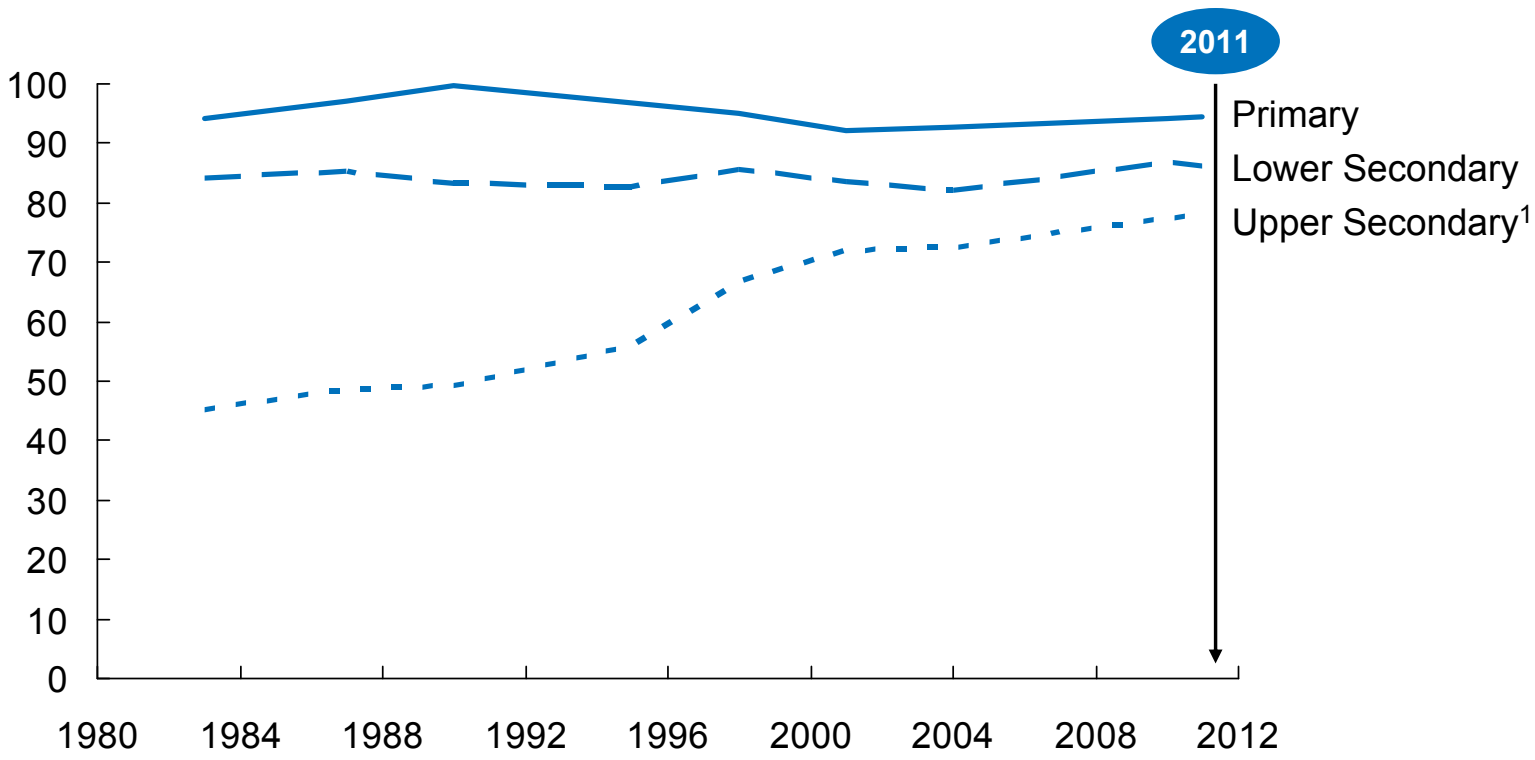


	Preschool	Primary	Secondary
Total enrolment[2]	**77%**	**96%**	**86%**
Public system			
Enrolment	42%	94%	83%[3]
No. of students	0.43 Mn	2.86 Mn	2.22 Mn[3]
No. of schools	15,627[4]	7,714	2,218
No. of teachers	17,899	227,098	177,382
Student-teacher ratio	24.0	13.4	13.1
Average class size	23.6	29.4	29.8

1 Includes operating and development expenditure; excludes the additional RM12 billion allocated to the Ministry of Higher Education and other agencies providing education-related services
2 Includes enrolment into private schools
3 Excludes enrolment in post-secondary education
4 Public preschools refer to preschools operated by the Ministry of Education, KEMAS, and the National Unity Department
Note: The rest of this preliminary Blueprint will report approximate numbers for students (5.4 mn), schools (10,000), teachers (410,000), and principals (10,000)
Source: Malaysia Educational Statistics (2011)

EXHIBIT 3-2

Enrolment rates at public primary and secondary schools



1 Upper secondary schools include vocational and technical schools

SOURCE: Malaysia Education Statistics (2011); Educational Policy, Planning and Research Division (historical publications)

The greatest improvement has undoubtedly been at the upper secondary level, where enrolment rates have almost doubled in recent decades, rising from 45% in the 1980s to 81% today (Exhibit 3-2). This means that 81% of every cohort now completes at least 11 years of schooling. Automatic progression of students was also instituted with the goal of addressing the inefficiency of repeating class years and to reduce dropout rates.

"During the five-plus decades since independence, there has been a dramatic improvement in access to education."

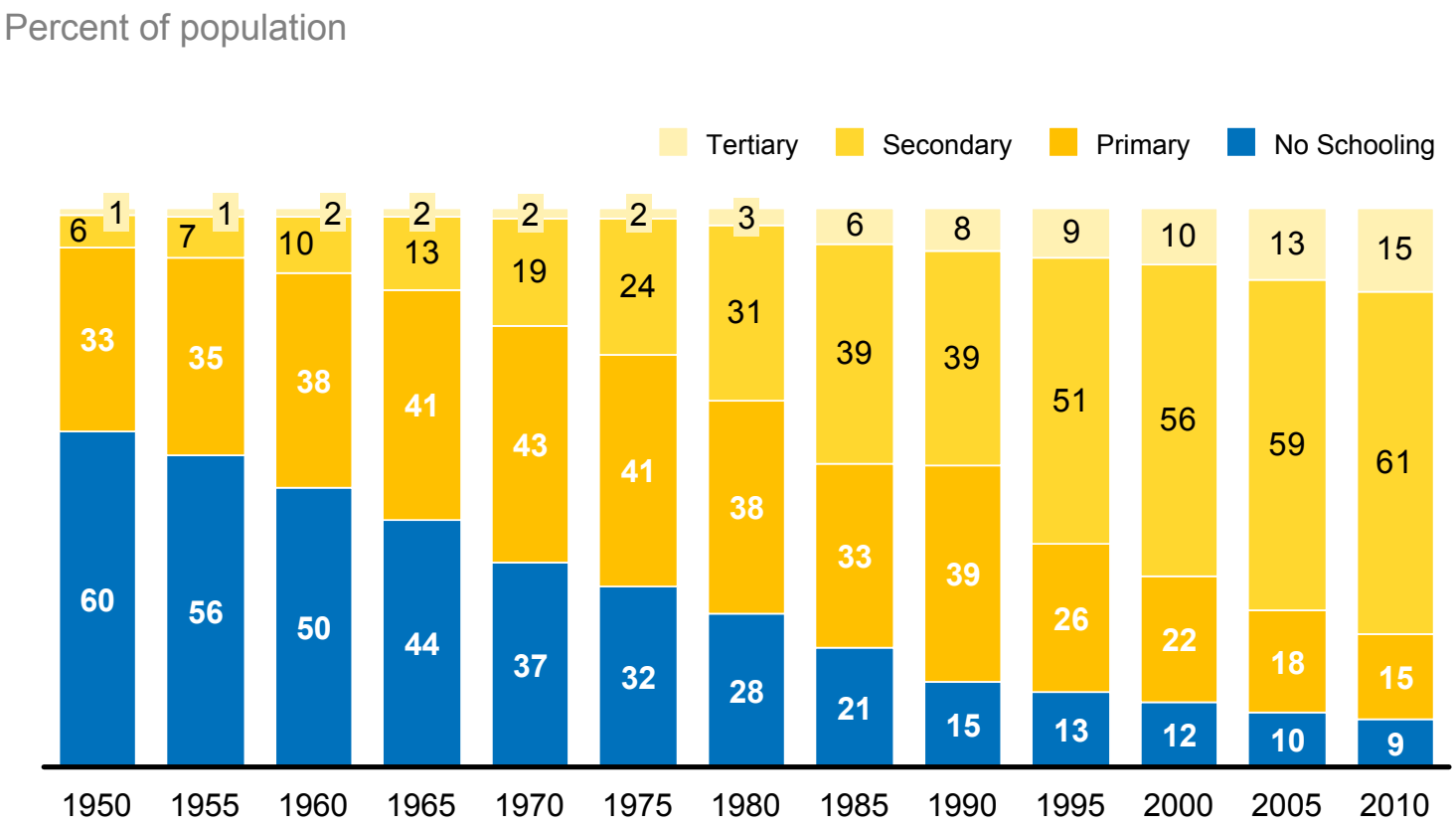
World Bank (2011)

In parallel, there has been rapid expansion of preschool education. Early childcare and associated development activities have been an explicit part of the government's agenda since 2000 when it signed on as a signatory to the UNESCO Education For All declaration. As a result, around 77% of children aged 4+ to 5+ are enrolled in some form of preschool education (either public or private) as of the end of 2011, a dramatic increase from 67% in 2009. Still, the government is pushing towards universal enrolment through the Education NKRA as part of the GTP launched in 2009.

The significantly improved access to education for Malaysians is accompanied with a similar improvement in attainment over the past 30 years. Malaysia has delivered highly impressive improvements across many measures. At the most basic level, the youth literacy rate has risen from 88% in 1980 to near-universal literacy today of 99%, while the adult literacy rate has increased even more significantly, rising from less than 70% to over 92% today. The corollary of this is that the proportion of the adult population (aged 15 and above) with no schooling has declined from 60% in 1950 to less than 10% in 2010, while the proportion that has completed at least secondary education has risen from around 7% in 1950 to more than 75% in 2010 (Exhibit 3-3).

EXHIBIT 3-3

Educational attainment of population aged 15 and above (1950-2010)



SOURCE: Barro and Lee, 2010 (Eurostat, UN)

All of this improvement has been driven by the government's increased commitment to financially supporting the development and growth of all school communities. Since 1981, the Ministry has supported the development of schools around Malaysia at the rate of 1% each year, dramatically increasing student access to education. This means that there were 2,000 more schools in 2010 than there were in 1980. Similarly, the Ministry has put hundreds of millions of ringgit towards programmes specifically designed to help economically disadvantaged students. These programmes include initiatives to provide for students' nutritional needs such as the Supplementary Food Programme or *Rancangan Makanan Tambahan* (RMT), and to reduce the financial burden of schooling on parents, for example through the KWAPM. The Ministry also has programmes for students with special needs and dedicated *Orang Asli* and *Penan* primary schools.

While access to basic education is strong, the 2011 UNESCO review on Malaysian education policy highlighted a concern that primary education enrolment has not continued to grow, in contrast with the most developed countries in the region such as South Korea and Japan which have participation rates of close to 100%. The UNESCO review also noted that upper secondary participation rates, while showing a big improvement from several decades past, remain lower than that of developed regional peers like Japan and South Korea, where enrolment consistently exceeds 90%. As the system has capacity to accommodate universal access, more effort needs to be made to enroll the 5-10% hardest-to-reach population of children.

QUALITY OF EDUCATION

While national examination results indicate that student performance has been improving steadily, it is also imperative that Malaysia compares its education system against international benchmarks. This is to ensure that Malaysia is keeping pace with international educational development. Malaysia's performance in TIMSS indicates that student performance has fallen from 1999 to 2007. The results of the 2009+ PISA also showed that Malaysia ranked in the bottom third of 74 participating countries, below the international and OECD average. The Ministry believes it is important to further evaluate the outcomes of these assessments to understand any shortfalls in standards.

The quality of an education system encompasses multiple dimensions. The assessment of quality in this chapter focuses largely on the intellectual dimension of academic student outcomes, with the benefit of available and measurable data. It is acknowledged that the numbers alone tell only one side of the story. There are other critical aspects vital to the quality of education such as a student's spiritual, emotional, and physical development. Nonetheless, children who are unable to master core intellectual skills such as literacy and numeracy, as well as higher-order thinking, will be less likely to succeed in today's rapidly changing economy and globalised society.

Student performance in national examinations has consistently improved each year. However, in this day and age, internal comparisons are no longer enough to ensure competitiveness on the world stage. Over the past two decades, international assessments have emerged as a way of directly comparing the quality of educational outcomes across different countries and across systems. These assessments concentrate on Mathematics, Science, and Reading, and include an examination of the cognitive skills involved in their effective application. While they paint an incomplete picture of schooling outcomes, they offer insight into the real strengths and weaknesses of important areas of education, including the use of essential skills such as analytical reasoning, application, and capacity for continued learning. In this regard, they provide useful perspectives on Malaysia's student performance relative to other systems. To gain an understanding of how Malaysia's students fare, the results of the country's participation in two major international assessments were examined: TIMSS and PISA.

Student performance in national examinations is improving

Malaysian students' performance in the three national examinations (UPSR, PMR, and SPM) has shown fairly constant and even improving outcomes. Two common measures used to assess outcomes are the school Grade Point Average or *Gred Purata Sekolah* (GPS) and percentage of students achieving passing and excellent grades. From 2004, both these measures have shown an improving trend in terms of absolute values across all three national examinations (Exhibit 3-5).

Peer groups used in this chapter

Throughout this chapter, three different peer groups have been used in making comparisons between Malaysia and other education systems. While it has not always been possible to get information for each country in every comparison, the constituents of all the category groups (in terms of countries) have been kept constant throughout (Exhibit 3-4). Where OECD or international averages have been available, these have also been included in the comparison groups.

Top-performing Asian systems such as South Korea, Japan, Hong Kong, and Singapore

Southeast Asian neighbours such as Indonesia, Thailand, and Singapore

Comparable GDP per capita countries (Purchasing Power Parity (PPP)-adjusted) such as Romania, Mexico, and Chile

EXHIBIT 3-4

Profile of peer countries

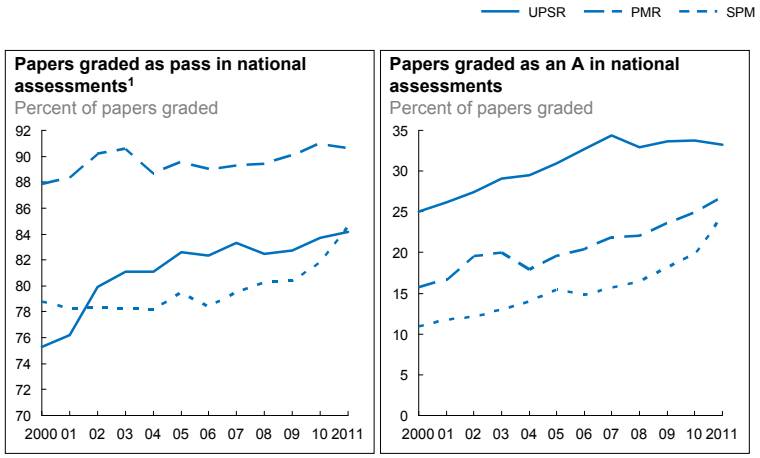
	Number of schools *(unit)*	Number of students *('000)*	Number of teachers *('000)*	GDP per capita *(PPP-adjusted)*
Malaysia	10,000	5,400	410	14,591
ASEAN peers				
Indonesia	256,460	45,746	2,748	4,325
Thailand	35,865	10,936	628	8,554
Singapore	356	511	30	57,936
Asian Tigers				
South Korea	19,974	7,602	469	29,004
Hong Kong	1,105	781	52	46,503
Japan	37,581	14,887	1,050	33,753
Comparable GDP per capita				
Mexico	241,184	29,854	1,454	14,498
Chile	10,052	3,059	170	15,732
Romania	6,439	2,735	199	14,287

Note: Education data for basic through pre-tertiary (2010 or latest year available)

SOURCE: Ministry of Education; Department of Statistics; World Bank

EXHIBIT 3-5

Malaysian national examination results (2000-2011)



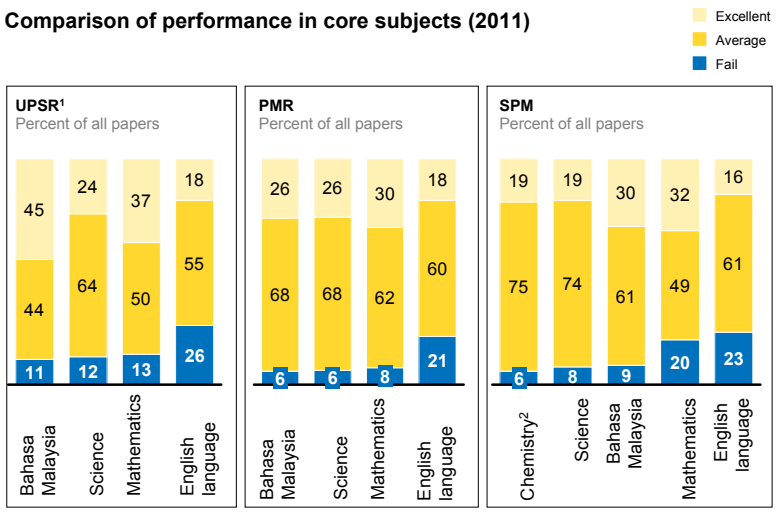
1 In UPSR, failing grades are D and E. In PMR, the failing grade is E. In SPM, the failing grade is G9.
Note: Data for SPM 2003 is not available and is interpolated

SOURCE: Examination Syndicate

The national examination results appear to show absolute improvement in grades over time in the core subjects of Bahasa Malaysia, English, Mathematics, and Science, though there are significant differences in performance in each subject (Exhibit 3-6). Students perform better in Bahasa Malaysia than in English language at all levels. For example, 9% of students failed Bahasa Malaysia in SPM 2011, as compared to 23% for English language. At the other end of the spectrum, 30% of students received an excellent grade in Bahasa Malaysia, as compared to 16% in English language.

EXHIBIT 3-6

Comparison of performance in core subjects (2011)



1 Weighted average of UPSR results by subject for SK, SJK(C) and SJK(T)
2 Chemistry is generally taken by science stream students while general science is generally taken by arts stream students

SOURCE: Examination Syndicate

National examinations

Assessment is an intrinsic part of the teaching and learning process. The Examination Syndicate or *Lembaga Peperiksaan* (LP) currently conducts three national examinations at the end of primary, lower secondary, and upper secondary education.

- **UPSR:** An examination designed as an internal national qualification to mark the completion of primary school. The subjects tested in UPSR include Bahasa Malaysia, English language, Mathematics, and Science for students in SKs. Students at National-type primary schools also sit for Mandarin, Chinese or Tamil language;

- **PMR:** Similar to the UPSR, the PMR is an internal national qualification taken by Form 3 students at the end of lower secondary school. Subjects tested include Bahasa Malaysia, English language, Mathematics, Science, Geography, History, Living Skills, Islamic Education, and Moral Education. A number of optional subjects are also available for examination, such as Mandarin, Tamil, and Arabic. The PMR will be replaced with a school-based assessment system in 2014; and

- **SPM:** The SPM is the national examination taken by all Form 5 students at the end of secondary school. It is deliberately benchmarked and internationally recognised as equivalent to the O-Levels. The examination involves a combination of compulsory subjects: Bahasa Malaysia, English language, Islamic Education (for Muslim students), Moral Studies (for non-Muslim students), History, Mathematics, and Science. There is also a wide number of elective subjects across the fields of Arts and Health, Information and Communication Technology, Languages and Literature, Technical and Vocational, Science and Mathematics, Social Sciences and Religion.

In addition to the examinations set by LP, the Malaysian Examinations Council or *Majlis Peperiksaan Malaysia* (MPM), also under the Ministry, administers the Malaysian Higher School Certificate or *Sijil Tinggi Persekolahan Malaysia* (STPM) and Malaysian Religious Higher Certificate or *Sijil Tinggi Agama Malaysia* (STAM) for post-secondary education.

Malaysia's performance in TIMSS

When Malaysia first participated in TIMSS in 1999, the students scored above the international average for Mathematics with 519 points and was ranked 16th out of 38 countries (Exhibit 3-7). The Science score of 492 was also above the international average, although the country was ranked lower at 22nd position (Exhibit 3-8).

EXHIBIT 3-7

Malaysia's performance in TIMSS 8th Grade Mathematics against other countries over three cycles

Regional peers

1 TIMSS 1999

Rank	Country	Score
1	Singapore	604
2	Korea	587
3	Chinese Taipei	585
4	Hong Kong	582
5	Japan	579
⋮		
16	**MALAYSIA**	**519**
⋮		
21	New Zealand	491
	International Average	
22	Lithuania	482
⋮		
27	Thailand	467
⋮		
34	Indonesia	403
⋮		
38	South Africa	275

2 TIMSS 2003

Rank	Country	Score
1	Singapore	605
2	Korea	589
3	Hong Kong	586
4	Chinese Taipei	585
5	Japan	570
⋮		
10	**MALAYSIA**	**508**
⋮		
26	Romania	475
	International Average	
27	Norway	461
⋮		
34	Indonesia	411
⋮		
45[1]	South Africa	264

3 TIMSS 2007

Rank	Country	Score
1	Chinese Taipei	598
2	Korea	597
3	Singapore	593
4	Hong Kong	572
5	Japan	570
⋮		
12	Slovenia	501
	International Average	
13	Armenia	499
⋮		
20	**MALAYSIA**	**474**
⋮		
29	Thailand	441
⋮		
36	Indonesia	397
⋮		
48[2]	Qatar	307

1 Excluding 4 non-national (i.e. state-level) benchmarking participants and 1 participant that did not satisfy the guidelines
2 Excluding 7 non-national (i.e. state-level) benchmarking participants and 1 participant that did not satisfy the guidelines
SOURCE: TIMSS 1999, 2003, and 2007

EXHIBIT 3-8

Malaysia's performance in TIMSS 8th Grade Science against other countries over three cycles

Regional peers

1 TIMSS 1999

Rank	Country	Score
1	Chinese Taipei	569
2	Singapore	568
3	Hungary	552
4	Japan	550
5	Korea	549
⋮		
22	**MALAYSIA**	**492**
23	Lithuania	488
	International Average	
24	Thailand	482
⋮		
32	Indonesia	435
⋮		
38	South Africa	243

2 TIMSS 2003

Rank	Country	Score
1	Singapore	578
2	Chinese Taipei	571
3	Korea	558
4	Hong Kong	556
5	Estonia	552
⋮		
20	**MALAYSIA**	**510**
⋮		
25	Jordan	475
	International Average	
26	Moldova	472
⋮		
36	Indonesia	420
⋮		
45[1]	South Africa	244

3 TIMSS 2007

Rank	Country	Score
1	Singapore	567
2	Chinese Taipei	561
3	Japan	554
4	Korea	553
5	England	542
⋮		
14	Sweden	511
	International Average	
15	Scotland	496
⋮		
21	**MALAYSIA**	**471**
⋮		
22	Thailand	471
⋮		
35	Indonesia	427
⋮		
48[2]	Ghana	303

1 Excluding 4 non-national (i.e. state-level) benchmarking participants and 1 participant that did not satisfy the guidelines
2 Excluding 7 non-national (i.e. state-level) benchmarking participants and 1 participant that did not satisfy the guidelines
SOURCE: TIMSS 1999, 2003, and 2007

Comparability of International Assessments

Comparability of TIMSS and PISA: As described above, the TIMSS tests focus on elements of the curricula common to participating countries, while the PISA tests focus on applied assessments of real-world problems, irrespective of the curricula of the participating countries. Nonetheless, researchers at Stanford University, USA, have found that the two are highly correlated at the country level—up to 0.87 for Mathematics, and 0.97 for Science. This means that a country that performs well on TIMSS is highly likely to perform well on PISA, and vice versa.

What is the Universal Scale?

In Exhibit 3-15, the TIMSS and PISA scores have been converted to a universal scale (based on methodology developed by Hanushek et. al). This conversion was done to allow for comparison across different subjects, grade levels, and assessments. The universal scale also allows for classification of different countries' performance into broad groupings of Poor, Fair, Good, Great, and Excellent. For further information, please refer to the Universal Scale section in Appendix IV.

Malaysia's performance in the 2003 cycle showed some improvement in achievement. The score for Mathematics fell slightly to 508, although the country remained above the international average and its ranking actually rose to 10th out of 45 countries. Its performance in Science improved by 18 points to 510, well above the international average and ranked 20th out of 45 countries.

The 2007 results, however, saw a marked downturn with both Mathematics and Science scores falling below the international average. The Mathematics score fell 34 points to 474 (20th position out of 48 countries). The Science score fell to 471 (21st out of 48 countries).

Up to 20% of students in Malaysia did not meet the minimum benchmarks in Mathematics and Science in 2007, a two- to fourfold increase since 2003 (Exhibit 3-9). These students were shown to understand basic Mathematics and Science concepts but generally struggled to apply this knowledge.

EXHIBIT 3-9

Comparison of Malaysia's internal performance on TIMSS (1999-2007)

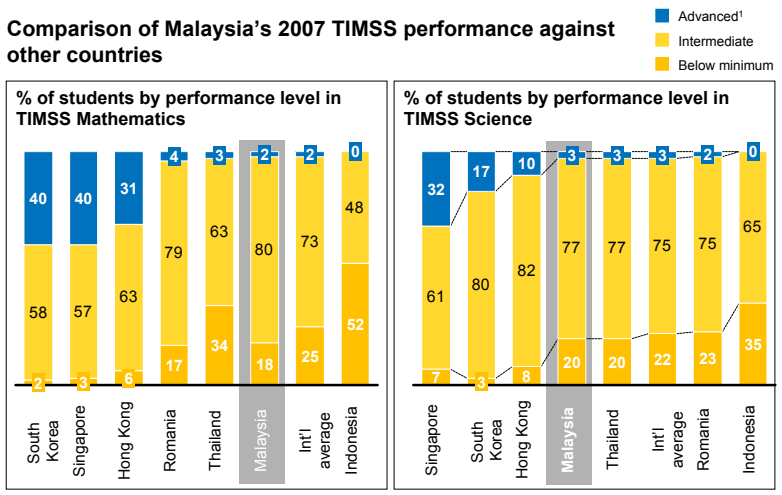
1 Advanced: Students can organise information, make generalisations, solve non-routine problems and draw and justify conclusions from data
2 Below minimum: Students have little to no subject knowledge
NOTE: The language used in 1999 and 2003 was Bahasa Malaysia. In 2007, it was in both English and Bahasa Malaysia

SOURCE: TIMSS 1999, 2003, and 2007

A breakdown of student performance in the most recent TIMSS 2007 results in comparison to other systems shows that relatively few of Malaysia's students are excelling. Only 2-3% of Malaysian students perform at the highest benchmark level, such as complex problem-solving; in comparison, more than 30% of students in Singapore scored at the advanced level in Mathematics and Science (Exhibit 3-10).

EXHIBIT 3-10

Comparison of Malaysia's 2007 TIMSS performance against other countries



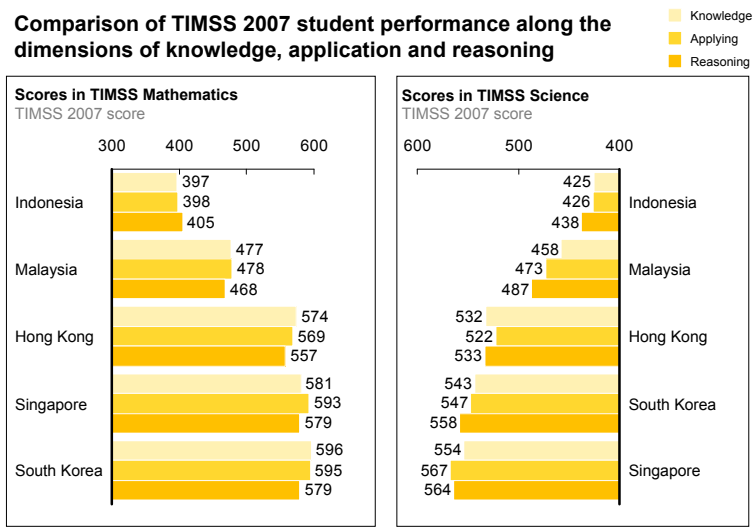
1 Advanced benchmark: able to organize information, make generalisations, solve non-routine problems and draw and justify conclusions from data
Note: Countries arranged by proportion of students in advanced level in descending order

SOURCE: TIMSS 2007 for 8th Grade

Delving into the TIMSS data provides further insights about the performance of the education system in terms of Mathematics and Science. TIMSS assesses student proficiency across three different types of cognitive skills: knowledge recall, the application of knowledge in solving problems, and the ability to reason in working through problems. Malaysian students did not perform well with regards to any of these three dimensions (Exhibit 3-11).

EXHIBIT 3-11

Comparison of TIMSS 2007 student performance along the dimensions of knowledge, application and reasoning



SOURCE: TIMSS 2007 for 8th Grade

Testing possible factors for Malaysia's performance decline in TIMSS

Three factors have been raised as possible reasons for Malaysia's decline in the TIMSS assessment: the degree to which the content in the national curriculum matches that which is tested in TIMSS, the shift in language policy, and sampling methodology. However, all three are deemed to be unlikely to be a major driver for the following reasons:

Incomplete coverage of the concepts assessed in TIMSS by the national curriculum is unlikely to account for the decline. While there has been some drop in the common content between the Mathematics test questions of TIMSS and the national curriculum between 2003 and 2007 (from 98% in 2003 to 75% in 2007 based on the Ministry's self-assessment), the same cannot be said for Science, where overlap remains high at 90%.

Bahasa Malaysia and English language questions were both provided as options in the TIMSS assessments for Malaysia. Therefore results should not have been affected by the language of testing used for TIMSS.

The sampling approach is unlikely to be a major driver. The sample of schools tested in TIMSS reflects the overall performance of Malaysia's schools based on a distribution of schools by national performance band.

Malaysia's performance in PISA 2009+

Malaysia participated in the PISA assessment for the first time in its 2009+ exercise. Out of 74 countries, Malaysia performed in the bottom third for Reading, Mathematics and Science, well below both the international and OECD average in all three areas.

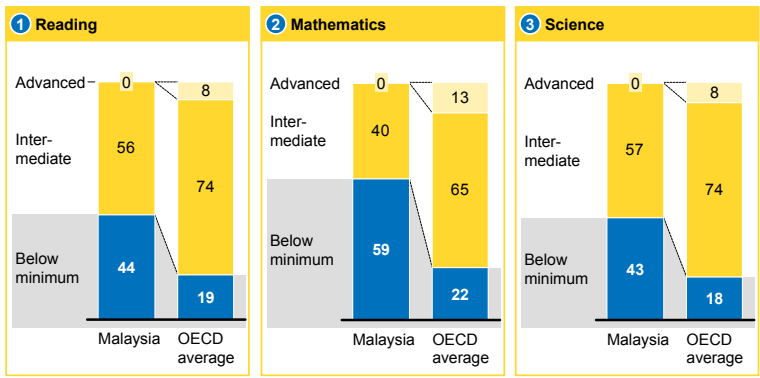
In the latest assessment, Malaysia's performance was at least 100 points below that of regional peers like Singapore, Japan, South Korea, and Hong Kong on all three dimensions (Exhibit 3-12). In PISA, a 38 point difference is the equivalent of one schooling year of learning. This means that 15-year-olds in Malaysia are performing as though they have had three years' less schooling than 15-year-olds in these countries—the very countries that Malaysia seeks to compete against in today's knowledge economy. Compared to Shanghai, the world's best-performing school system in PISA 2009+, the gap is equivalent to four years of schooling.

Almost 60% of Malaysian students failed to meet the minimum benchmarks in Mathematics—the baseline proficiency required for students to participate effectively and productively in life (Exhibit 3-13). Similarly, 44% and 43% of students do not meet minimum proficiency levels in Reading and Science respectively. Please refer to Appendix V for a sample of PISA questions.

EXHIBIT 3-13

Comparison of Malaysia's performance in PISA 2009+ by skill level against the OECD average

Percentage of students at different performance levels on PISA 2009+[1]



1 Advanced includes proficiency level 5 and level 6; Intermediate includes proficiency level 2, 3, and 4; and Below minimum includes proficiency level 1 and below
Note: Score is an average of sample of schools in Malaysia: 80% National secondary schools, 3% Religious schools, 4% technical and vocational schools, 3% full boarding schools, 3% MARA Junior Science Colleges, 7% private schools by students

SOURCE: PISA 2009+

Below minimum proficiency as defined by PISA means:

- **In Reading,** students are unable to do one or more of the following: locate one or more pieces of information in a text, recognise the main idea in a text, make low-level inferences or comparisons between information in the text and everyday knowledge;
- **In Mathematics,** students are unable to employ basic algorithms, formulae, procedures, or conventions. They are not capable of direct reasoning and literal interpretations of the results, even though they can answer clearly defined questions involving familiar contexts; and

EXHIBIT 3-12

Comparison of Malaysia's PISA 2009+ ranking against other countries

Regional peers

1 Reading

Rank	Country	Mean score
1	Shanghai-China	556
2	Korea	539
3	Finland	536
4	Hong Kong	533
5	Singapore	526
⋮		
18	United Kingdom	494
	OECD Average	
19	Germany	497
⋮		
42	Russian Fed.	459
	International Average	
43	Chile	449
⋮		
53	Thailand	421
⋮		
55	**MALAYSIA**	**414**
⋮		
62	Indonesia	402

2 Mathematics

Rank	Country	Mean score
1	Shanghai-China	600
2	Singapore	562
3	Hong Kong	555
4	Korea	546
5	Taiwan	543
⋮		
20	Austria	496
	OECD Average	
21	Slovak Republic	497
⋮		
41	Croatia	460
	International Average	
42	Israel	447
⋮		
52	Thailand	419
⋮		
57	**MALAYSIA**	**404**
⋮		
68	Indonesia	371

3 Science

Rank	Country	Mean score
1	Shanghai-China	575
2	Finland	554
3	Hong Kong	549
4	Singapore	542
5	Japan	539
⋮		
20	Ireland	508
	OECD Average	
21	Czech Republic	500
⋮		
40	Greece	470
	International Average	
41	Malta	461
⋮		
51	Thailand	425
⋮		
52	**MALAYSIA**	**422**
⋮		
66	Indonesia	383

Note: Countries are ranked in descending order of the percentage of top performers (Level 5 or 6)

SOURCE: PISA 2009+

- **In Science,** students have very limited scientific knowledge that can only be applied to a few familiar situations. They can present scientific explanations that follow explicitly from the given evidence, but will struggle to draw conclusions or make interpretations from simple investigations.

Just as with TIMSS in 2007, the PISA 2009+ results also show that very few Malaysian students are performing at an Advanced level (approximately 0.1% for Reading, Mathematics, and Science) compared to the OECD countries (where almost 8% perform at this level). Performing at an Advanced level in PISA means:

- **In Reading,** students are able to make multiple inferences, comparisons, and contrasts that are both detailed and precise. They are also able to develop critical evaluations or hypotheses, drawing on specialised knowledge;
- **In Mathematics,** students are able to interpret more complex information, and negotiate a number of processing steps. They demonstrate insight in identifying a suitable solution strategy, and display other higher-order cognitive processes to explain or communicate results; and

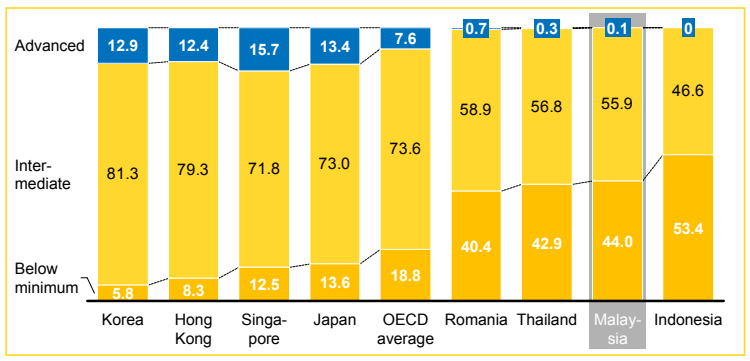
- **In Science,** students are able to identify, explain and apply scientific knowledge in a variety of complex life situations. They consistently demonstrate advanced scientific thinking and reasoning. Students are able to use scientific knowledge and develop arguments in support of recommendations and decisions that centre on personal, social, or global situations.

The contrast with other top-performing Asian countries is obvious: the percentage of students in Singapore, South Korea, and Hong Kong performing at the Advanced level in reading is 120-150 times that of Malaysia (Exhibit 3-14).

EXHIBIT 3-14

Comparison of Malaysia's PISA 2009+ performance in Reading by skill level against other countries

Percentage of students at each performance levels[1] in PISA 2009+ Reading



1 Advanced includes proficiency level 5 and level 6; Intermediate includes proficiency level 2, 3, and 4; and Below minimum includes proficiency level 1 and below

SOURCE: PISA 2009+

Exhibit 3-15 compares all the countries taking part in international assessments and how well their students performed. The vertical axis shows their level of achievement on the universal scale. Countries are classified based on the universal scale into broad performance bands of Poor, Fair, Good, Great, and Excellent. The difference between each performance band (approximately 40 universal scale points) is equivalent to one year of schooling. Thus, 15-year-olds in a Good system are performing as though they have had one extra year of schooling compared to 15-year-olds in a Fair system.

The horizontal axis of the chart shows the public expenditure on education per student in US dollars (PPP adjusted) as of 2008. All the countries have been allocated to the bar that corresponds to their expenditure band. The number at the top of this bar is the maximum score achieved (by a particular country) for this level of expenditure, and the number at the bottom represents the minimum score. The chart highlights Malaysia's public expenditure per student in 2008. Combining the two axes highlights the variation in performance between countries that have similar levels of expenditure in education.

TIMSS and PISA highlight that there are Good and Great schools in Malaysia worthy of study and replication

While Malaysia's performance as a system on the international assessments is not as strong as is desired, an analysis of the distribution of scores by school shows that there are schools worthy of study and replication (Exhibit 3-16). These are schools whose performance falls in the Good or Great performance band by international standards. In the TIMSS 2007 assessment, for example, 11% of schools performed in the Great band, while another 30% were in Good. In the PISA 2009+ assessment, 7% of schools were in the Good band.

EXHIBIT 3-16

Malaysian school performance by performance bracket for TIMSS 2007 and PISA 2009+

TIMSS 2007 Participating schools by performance bracket

Performance bracket	Number	Percent
Excellent	0	0%
Great	17	11%
Good	45	30%
Fair	64	43%
Poor	24	16%
	150	100%

PISA 2009+ Participating schools by performance bracket

Performance bracket	Number	Percent
Excellent	0	0%
Great	0	0%
Good	11	7%
Fair	20	13%
Poor	121	80%
	152	100%

SOURCE: TIMSS 2007; PISA 2009+

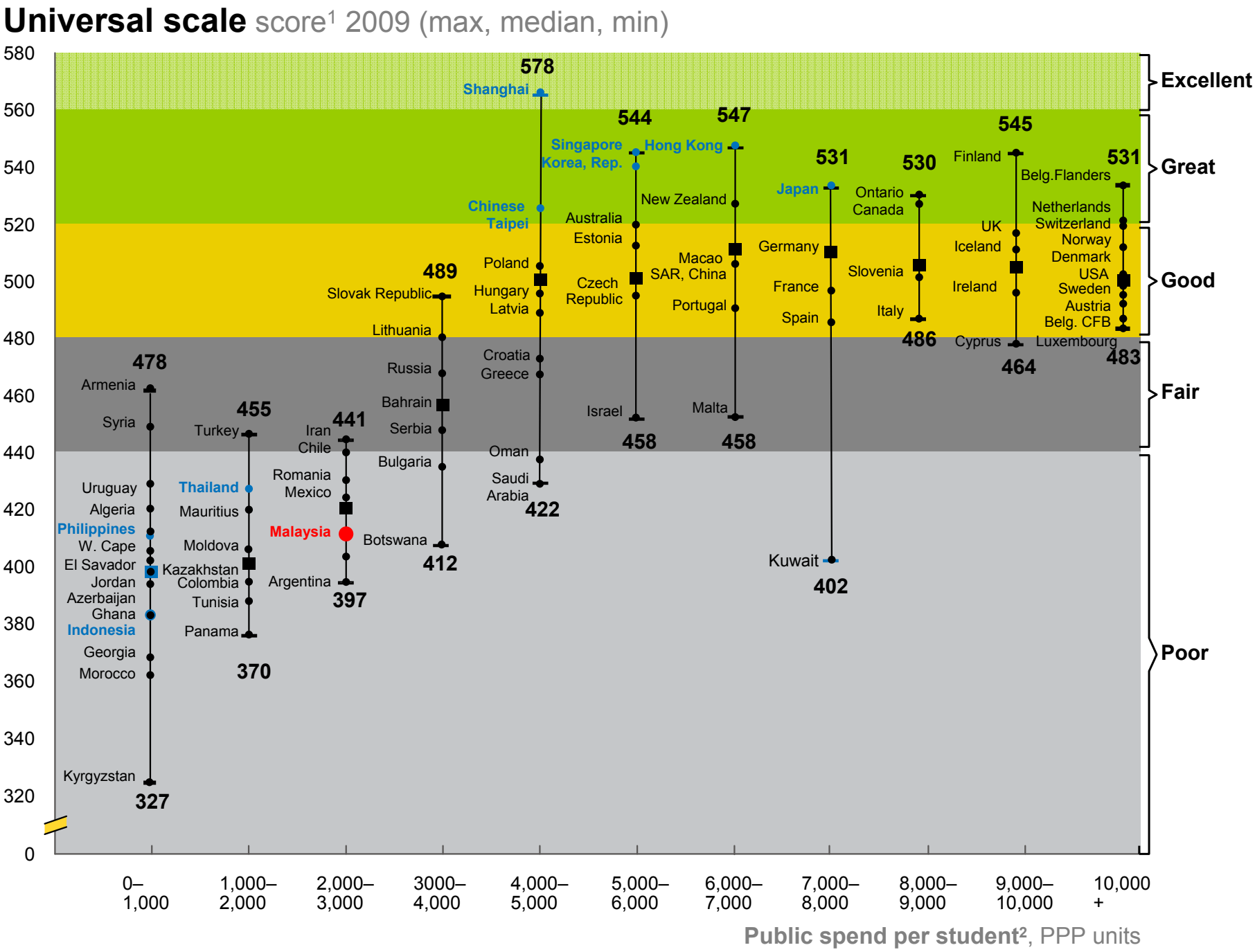
The Ministry also has two types of Special Awards to recognise schools with outstanding performance: HPS and Cluster Schools (CS). There are 66 HPS around the country, with enhanced decision-making rights (and accountability) to sustain performance while enabling principals and teachers to continue to raise the bar (Exhibit 3-17). There are also 170 CS nationwide.

National examinations and international assessments suggest variance in standards

There is some evidence to suggest that there is a lack of alignment between the national and international assessments in terms of how standards are defined. These discrepancies go some way toward explaining the mismatch between the trends seen in the national examinations and those revealed in the international assessments.

EXHIBIT 3-15

Country performance in international assessments relative to public spend per student

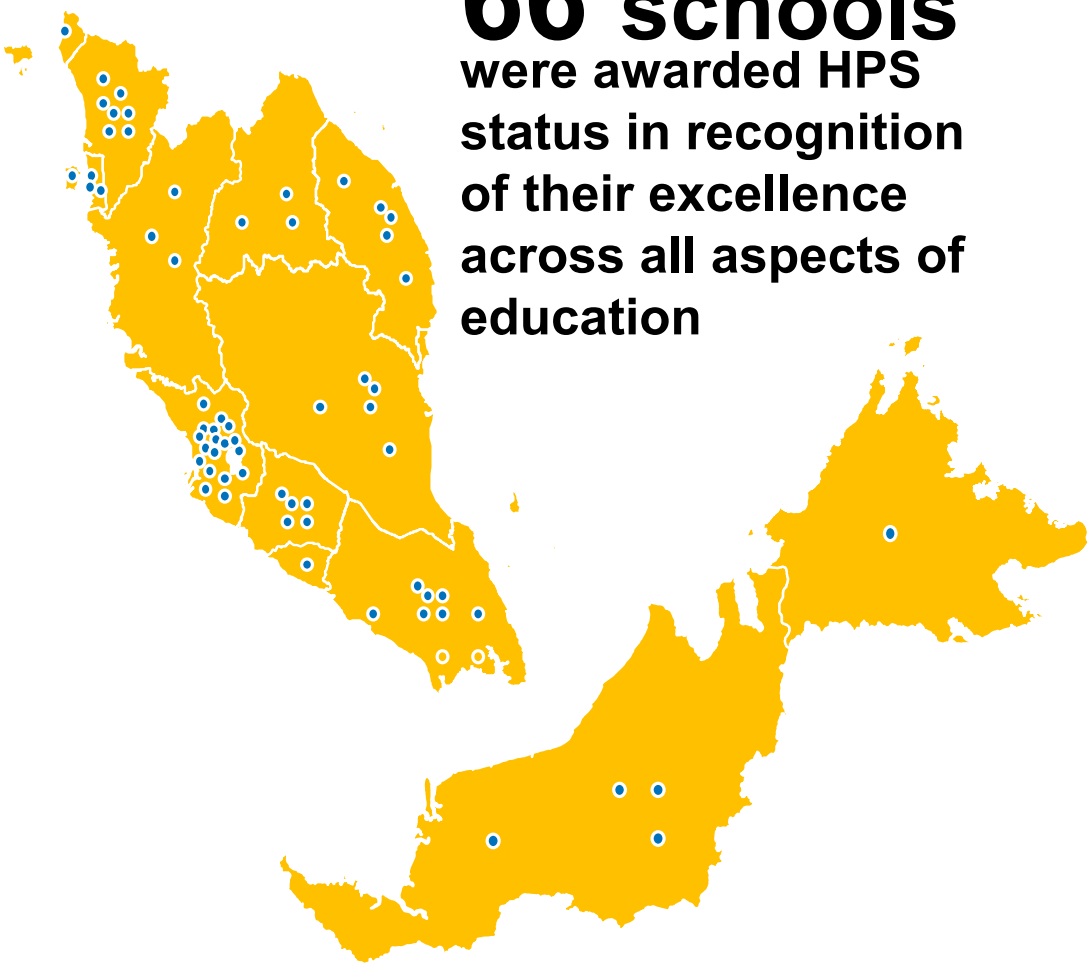


1 Universal scale based on Hanushek & Woessmann methodology, to enable comparison across systems.
2 Public spend per student for basic education (pre-school, primary, and secondary school levels) for 2008 current prices
Note: Malaysia 2008 public spend is USD3000

SOURCE: World Bank EdStats; IMF; UNESCO; PISA 2009+, TIMSS 2007; PIRLS 2006; Global Insight; McKinsey & Company.

EXHIBIT 3-17

Selected profiles of High Performing Schools in Malaysia



66 schools were awarded HPS status in recognition of their excellence across all aspects of education

SK Ulu Lubai, Sarawak	▪ 100% pass rate in UPSR since 2006 ▪ First rural school in M'sia to achieve HPS status
SK Zainab (2), Kelantan	▪ Consistently a top performer in UPSR ▪ Outstanding performance in co-curricular activities such as taekwondo and public speaking.
SJK(C) Foon Yew (2), Johor	▪ Consistently a top performer in UPSR ▪ Excellent track record in international academic competitions in Mathematics and Chinese
SM Sultan Abdul Hamid, Kedah	▪ Consistently achieved a 100% pass rate in SPM ▪ Outstanding performance in co-curricular activities such as orchestra and rugby.
SMK Aminuddin Baki, WP Kuala Lumpur	▪ 100% pass rate in SPM for five consecutive years ▪ Excellent record in international sporting events, for example swimming

High Performing Schools is an initiative under the **NKRA** aimed at **elevating the quality** of schools to **world-class standards**. Schools awarded HPS status are granted **greater operational flexibility** to innovate and continue raising the bar. These schools will also support raising standards across the entire system by coaching other schools to improve performance.

SOURCE: Fully Residential and Excellent Schools Management Division

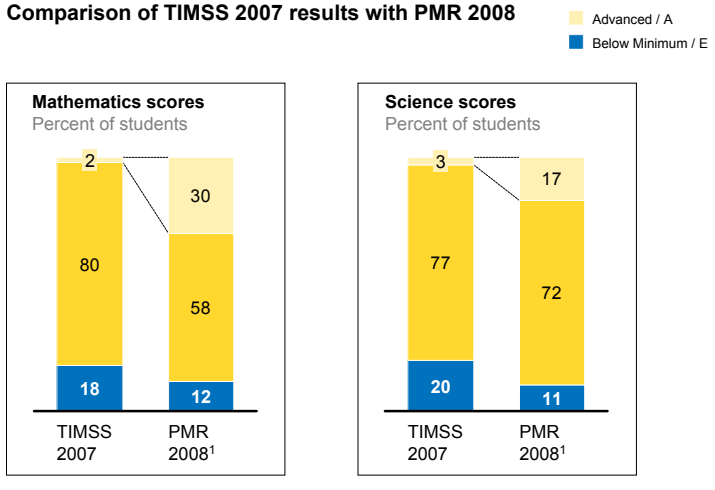
Comparison of results between the TIMSS 2007 (Form 2) and PMR 2008 (Form 3) examinations for the same set of schools tested shows that there appears to be a mismatch between the two in terms of the definition of excellence. In consequence, in PMR 2008, 30% of students received an Excellent (A) grade in Mathematics, as compared to just 2% in TIMSS 2007 achieving Advanced levels (Exhibit 3-18).

One possible reason for this misalignment of standards is that the national and international assessments have different testing foci. PISA, for example, focuses on questions that test for higher-order thinking skills such as application and reasoning. Malaysia's national assessments, on the other hand, have a heavier slant towards questions that test for content knowledge.

Comparison of Cambridge English standards with the SPM English language paper also shows differences in the setting of standards. The SPM English paper (which is not necessarily intended to test native speakers of English) is benchmarked externally to Cambridge's 1119 paper for native speakers of English, allowing students to obtain a grade under both examination scales. LP and the Cambridge International Examinations set different cut-off grades for SPM English papers. This difference is most stark at the border between pass and fail. Under the Cambridge grading scale, 50% of Form 5 students failed to achieve minimum standards. Under the Malaysian grading scale, approximately 20% of students were deemed to have failed (Exhibit 3-19).

EXHIBIT 3-18

Comparison of TIMSS 2007 results with PMR 2008

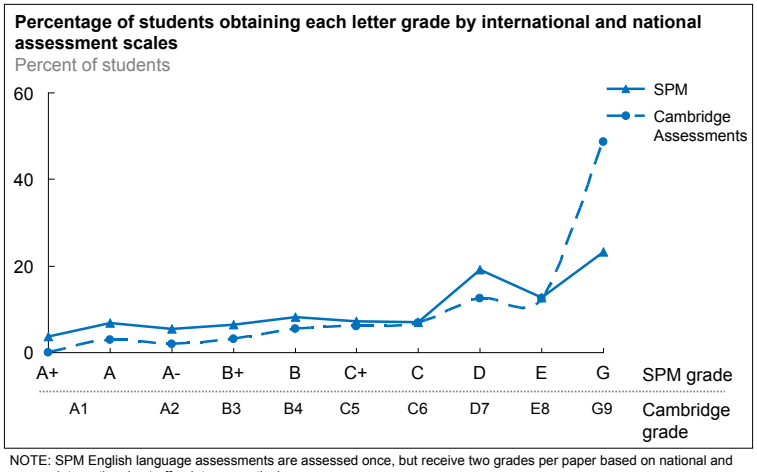


1 The distribution of grades illustrated is for schools that participated in TIMSS 2007

SOURCE: TIMSS 2007; Examination Syndicate

EXHIBIT 3-19

Comparison of SPM 2011 English language grades with Cambridge English language grades



NOTE: SPM English language assessments are assessed once, but receive two grades per paper based on national and international cut-off points respectively

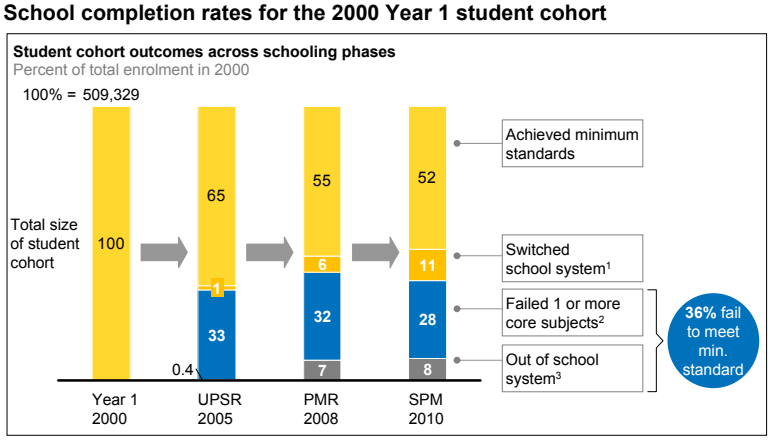
SOURCE: Examination Syndicate

Student completion rates for one cohort

Tracking the path of the cohort of students entering public schools in Year 1 in primary school in 2000, through to their completion of Form Five in 2010 indicates that around 36% of this cohort are either no longer enrolled in school, or have failed to achieve minimum standards in SPM examinations for core subjects (defined as Bahasa Malaysia, English language, Mathematics, Science, History, and Moral or Islamic Education) (Exhibit 3-20). An additional 11% have switched out of the public school system to private schools. A comparable trend was noted for the Year 1 cohort of 1999, as well. This suggests that one-third of every cohort is not reaching the minimum achievement level desired of all students.

EXHIBIT 3-20

School completion rates for the 2000 Year 1 student cohort



1 Refers to students who took the national assessment as a non-public school candidate.
2 Fail refers to failing at least 1 subject, including Bahasa Malaysia, English language, History, Moral Education or Islamic Education, Mathematics and Science (General Science for arts stream, either Physics, Chemistry or Biology for science stream students)
3 Includes drop-outs and students who transferred to private schools not using the national curriculum (for example, international schools)

SOURCE: Educational Policy, Planning and Research Division; Examination Syndicate

Public perception of the quality of education outcomes is mixed

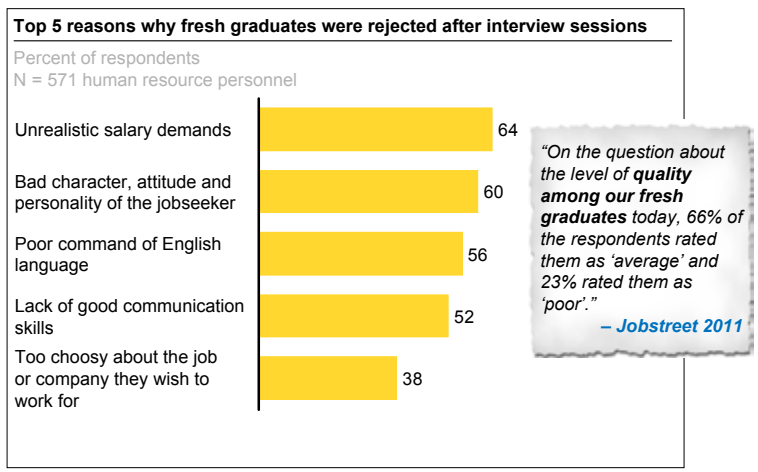
Expectations of the Malaysian education system vary across different groups. As a result, the public perception of the quality of Malaysia's education system is mixed:

- **Industry perspectives:** Interviews conducted with employers and industry leaders reveal that there is widespread concern over the extent to which students are being equipped with the right skills to succeed in modern society (Exhibit 3-21). In particular, employers are concerned about: (i) the lack of higher-order thinking skills, such as problem solving and creative thinking, and (ii) the level of graduates' English proficiency (a particular concern of the private sector);

- **Student perspectives**: The students themselves appear optimistic. A recent survey of approximately 23,000 school-going children (Year 6, Form 2, and Form 4) conducted in 2011 shows that they are optimistic about the education they are receiving. For instance, 95% of students agreed or strongly agreed that their education was helping them develop the right set of life skills; and

EXHIBIT 3-21

Results of 2011 Jobstreet survey on graduate employment



SOURCE: Jobstreet survey (October 2011)

- **Public opinion polls**: Broader public opinion appears to be mixed. A public opinion poll conducted by the Merdeka Centre in December 2004 on a sample of 850 Malaysians (aged 16 to 30) found that the majority of them (68% of Indians, 58% of Chinese, and 50% of Malays) felt that the education they received had prepared them inadequately for the challenges of living and working in today's society. In contrast, a 2011 public survey of 1,800 Malaysians indicated that overall, 55% of them believed that the Malaysian education system was comparable in standards to those of developed countries, and 35% believed that it was better.

Though the limitations of such surveys need to be acknowledged, the Ministry believes that these concerns need to be heeded. The potential of children in Malaysia need to be met with the educational quality that will ensure that they can realise their dreams and ambitions once they leave school.

Available data suggest that holistic development of students is occurring

As part of its objective of providing a balanced education, the Ministry recognises the importance of understanding its performance in supporting students' spiritual, emotional, and physical development. To that end, the three best available sources of data on this issue were examined: (i) schools' scores on student outcome *(kemenjadian murid)* as part of the annual school quality self-assessment exercise; (ii) the 2011 results of targeted school inspections on student discipline; and (iii) the percentage of students involved in disciplinary cases in 2011.

Schools generally show positive self-evaluation scores on student outcomes

Each year, schools are required to conduct a self-assessment using the Standard of Quality Education Malaysia, or *Standard Kualiti Pendidikan Malaysia* (SKPM), on five dimensions related to school quality: leadership and direction, organisational administration,

administration of students' welfare, curricular and co-curricular activities, teaching and learning, and student outcomes. For the last dimension, the schools consider both academic and non-academic outcomes including co-curricular participation and the attitudes, behaviours, and moral values demonstrated by students at school. This dimension is graded on a 15 point scale, with 15 being the best rating possible. Overall, the results of this self-assessment are fairly positive: 76% of primary schools rated themselves at 10 points or higher on this dimension, as compared to 44% at the secondary level. Only 1% of primary and secondary schools reported a rating of less than 5 points.

Targeted school inspections found that discipline is not a major issue

JNJK conducts targeted inspections each year on specific issues that are of concern to the Minister of Education. In 2011, one of these targeted inspections looked at the issue of student discipline in 51 schools nationwide (75% of which were primary schools).

Two elements were examined: student discipline during lessons (for example, the degree to which students followed their teacher's instructions) and their behaviour outside of the classroom. On a scale of 1 to 6, with 1 being Very Weak, and 6 being Excellent, the JNJK inspectors rated overall student discipline at level 4, otherwise known as having "potential to improve." There were no discernible differences across urban and rural primary schools. However, urban secondary schools were found to have more issues regarding discipline, and were, on average, rated at level 3 (Satisfactory) as compared to rural secondary schools which were rated at level 4. Specifically, students at urban secondary schools were found to be less likely to take care of school property, to have lower self-confidence, to be less likely to assist their peers, or to act in a polite and respectful manner.

Percentage of students involved in disciplinary cases is generally low

Currently, every school is required to report the number of students involved in disciplinary cases each year. These cases range from minor issues like tardiness, to serious ones such as criminal activity. Based on this data, only a very small percentage of students, 2%, posed discipline problems for their schools.

Combined, these three data points suggest that schools are providing for the holistic development of students at a level that is, at least, satisfactory. As with all things, however, there is always room for improvement. Accordingly, the JNJK inspectors pointed to the need for schools to balance the students' academic and non-academic experiences. The recommendation was for schools to closely monitor students' holistic development and provide students with the appropriate support as required (for example, counselling services and a sufficiently broad range of co-curricular activities to address different student interests).

Image by y Azmil77, Flickr CC 2.0

Feedback from the National Dialogue

During the National Dialogue, the Ministry consulted with almost 12,000 members of the general public in addition to specific stakeholder groups. Malaysians from all walks of life highlighted the importance of raising the quality of the education system. Three critical factors were identified by participants (listed in order of frequency of citation):

- **Teacher quality:** Teachers, parents, and students alike spoke extensively on the need to enhance the quality of teachers. Specific aspects touched upon included administrative burden, training, performance management, and remuneration;
- **School quality:** Specific aspects highlighted for improvement include providing a better learning environment in terms of infrastructure but also student discipline. Participants also suggested enablers to achieve those improvements (e.g., renewed performance management, greater school-based management; and
- **Student learning:** Participants expressed a desire for a more relevant curriculum and better language proficiency and communication abilities for students.

More details on points raised during the National Dialogue can be found in Appendix III.

EQUITY IN EDUCATION

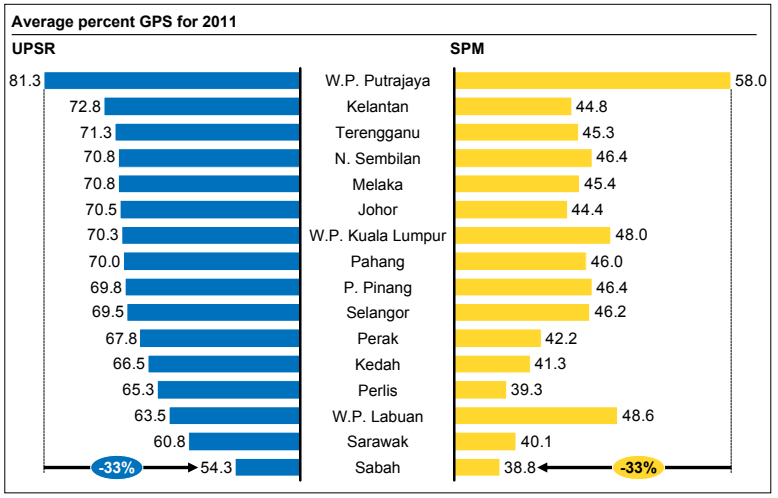
As with most countries, there are significant variations in outcomes in Malaysia across states, districts, schools, socio-economic class, and gender. Some of these achievement gaps have narrowed over time, which is a major step forward towards ensuring that every school is a good school. Nonetheless, socio-economic class remains the largest driver of student outcomes in Malaysia. Although this is a common problem in many countries around the world, it is of the utmost importance that the education system seeks to combat the fact that a child's academic performance is often largely dependent on family income.

Since independence, equity has been a goal of the Malaysian education system. The World Bank Report (2011) acknowledges that Malaysia is relatively successful in pursuing its ambitions: "For primary schools, we found a statistically significant relationship between public expenditure and district-level SES (socio-economic status); the analysis suggests that public expenditure is progressive."

Gaps in outcomes remain, however, and when these gaps are associated with non-academic factors they are always a source of concern, however small or large they might be. This section examines each of the present sources of inequity in turn: between and within states, between rural and urban schools, by student's socio-economic background, school type and gender, and between public and private schools. The data gathered indicates that overall, gaps still remain in each of these categories, with the greatest gap being caused by differences in students' socio-economic status.

EXHIBIT 3-22

Comparison of performance across states for UPSR and SPM 2011



SOURCE: Examination Syndicate

Achievement gaps exist between and within states across Malaysia

Not all states perform as well as each other. A number of states have shown distinct improvements during the past few years, while others have fared less well. In 2011, there was an almost 20-percentage-point difference in the UPSR grade point averages between the better-performing larger states such as Johor, and the lowest-performing state, Sabah (Exhibit 3-22). 16 out of 20 of the lowest-performing districts in UPSR examinations, and 10 out of 20 in SPM, are in Sabah and Sarawak.

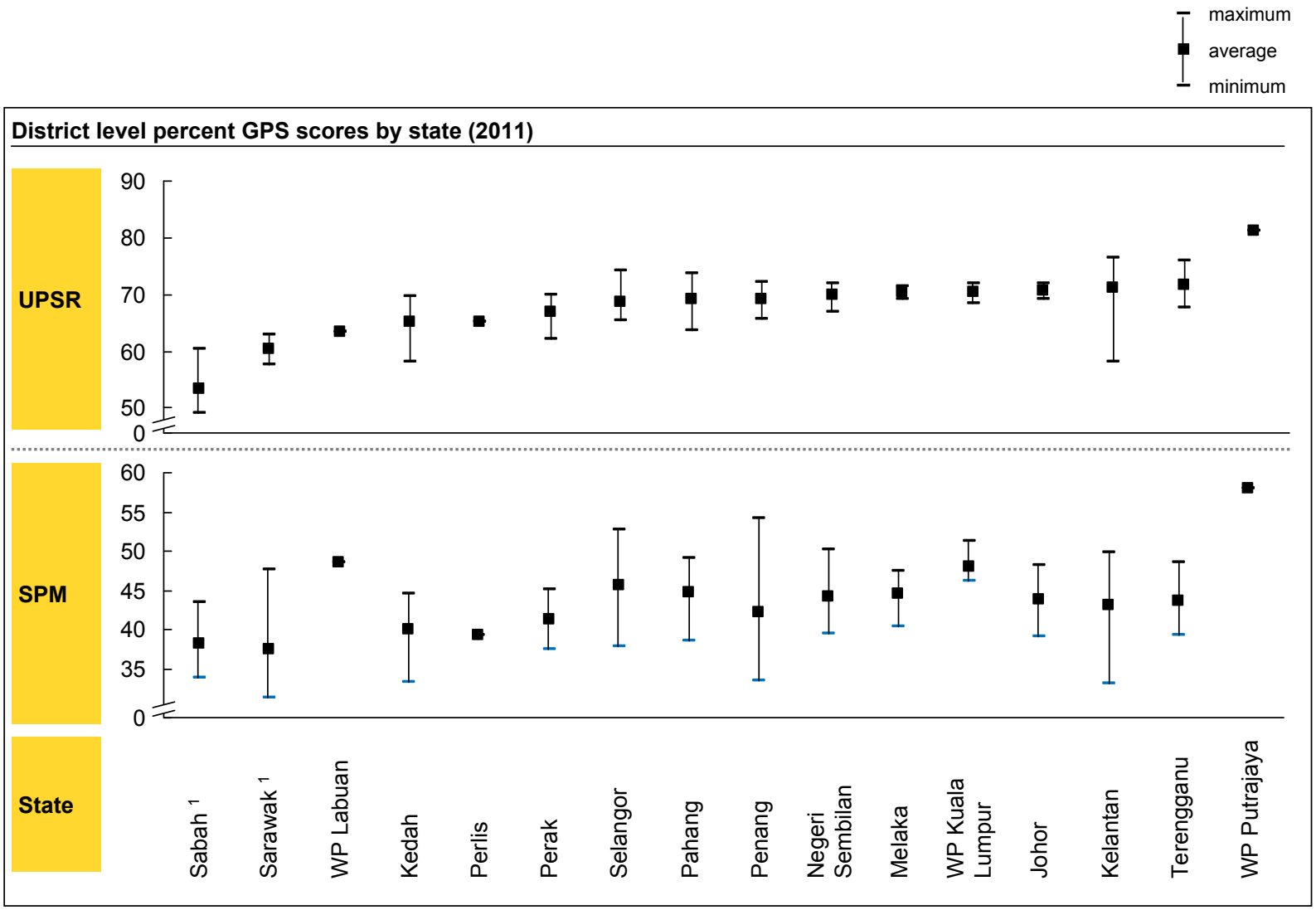
There is also a high degree of variance within states, although some states have demonstrated that closing the achievement gap between school districts is indeed possible. While facing many of the same constraints as other states, such states have performed much better and have thereby effectively reduced inequity.

Johor, for example (Exhibit 3-23), does a much better job than many other states in reducing the variation in performance between schools at the primary school level for UPSR (refer to Chapter 4 for a case study of how Johor has managed to achieve this result). Other states like Kelantan, Penang, Sabah, and Sarawak, however, appear to struggle, exhibiting a wide spectrum of performance across school districts within these states.

Digging deeper into the next level of performance—schools—it becomes apparent that Malaysian schools are spread across the performance spectrum. This wide range in school outcomes is noted in the NKRA school bands, which draw upon both grade point averages for national examinations and school self-assessments. In 2011, 21% of primary schools were in Bands 1 and 2 versus 3% in Bands 6 and 7, while 11% of secondary schools were in Bands 1 and 2 versus 8% in Bands 6 and 7.

EXHIBIT 3-23

Comparison of within-state performance for UPSR and SPM 2011

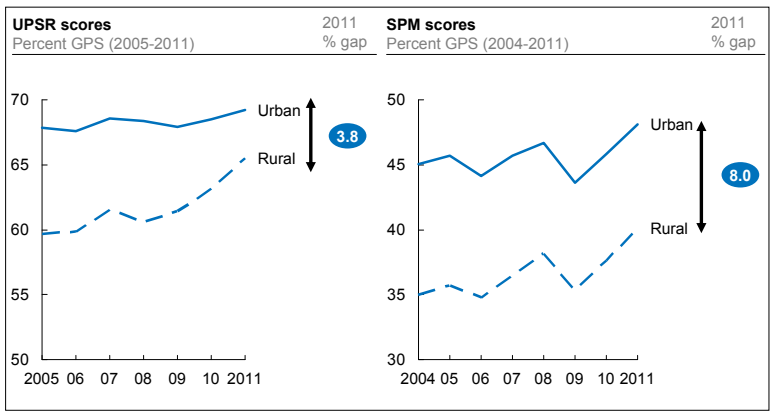


1 Individual districts in Sabah and Sarawak grouped into clusters of districts for the purpose of this analysis

SOURCE: Examination Syndicate

EXHIBIT 3-24

Comparison of rural and urban school gap over time

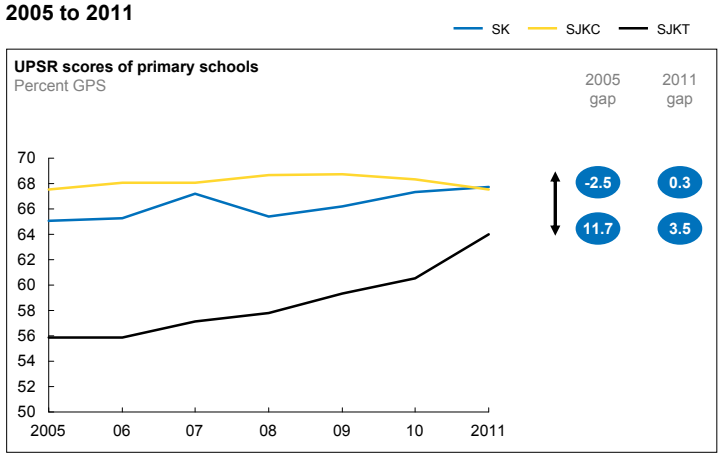


NOTE: Urban schools are taken to be schools classified as "Bandaraya", "Bandar" and "Bandar Kecil." Rural schools are schools classified as "Luar Bandar."

SOURCE: Examination Syndicate

EXHIBIT 3-25

Comparison of National and National-type UPSR scores from 2005 to 2011



1 Gaps are calculated as the difference in percentage points between SK scores less SJK(C) or SJK(T) scores

SOURCE: Examination Syndicate

Achievement gap between rural and urban schools is narrowing over time

The Ministry and the general public have long focused attention on inequity in educational outcomes between students attending school in urban communities versus those in rural communities. States with a higher proportion of rural schools, like Sabah and Sarawak, on average, underperform states with fewer rural schools. However, Malaysia has made clear progress in this area: the gap between rural and urban schools has been gradually closing over time (Exhibit 3-24).

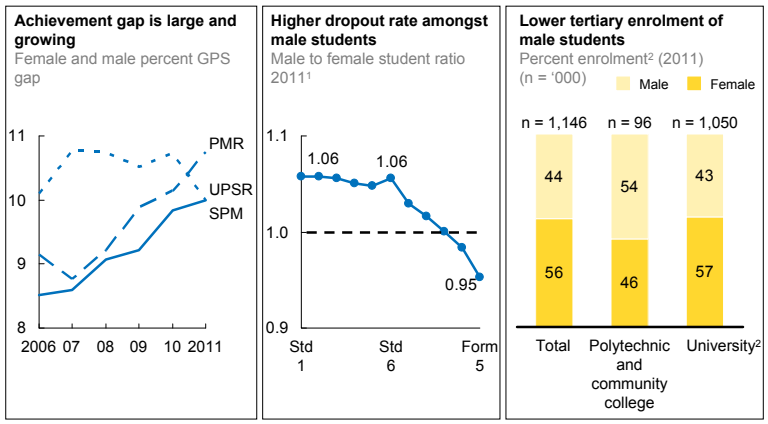
In the UPSR examinations, the gap today between urban and rural students is almost 4 percentage points in favour of urban schools. At the SPM level, the gap appears to have widened to 8 percentage points. This widening gap could be driven by two factors. The first is that failure is cumulative. A child who fails at UPSR is unlikely to be able to succeed at SPM. Early intervention is thus critical. The second is that there was no actual widening. Instead, the 2006 UPSR cohort maintained their urban-rural gap of 8 percentage points through to SPM in 2011.

Achievement gaps between National and National-type schools are narrowing over time

Student outcomes by school type also warrant consideration. The story here is a positive one overall, as the gaps are consistently narrowing. At the primary level, SJK(T)s still lag behind both SJK(C)s and SKs by approximately 4 percentage points in 2011 (Exhibit 3-25). However, this gap has been almost halved during the past five years. The difference in performance between SK and SJK(C) is negligible at 0.3 percentage points in 2011.

EXHIBIT 3-26

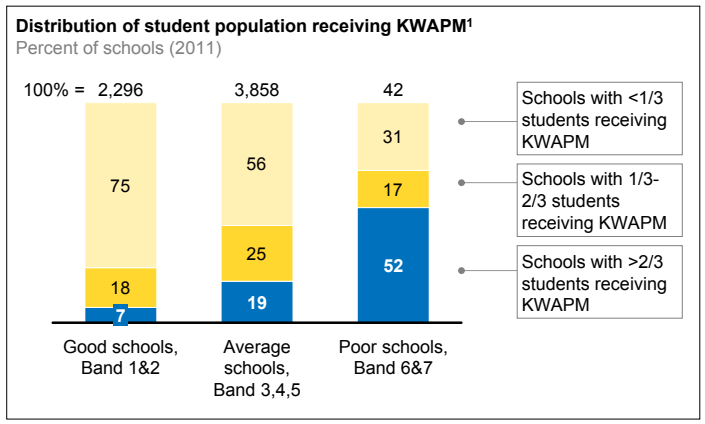
Examination results, dropout rates and tertiary enrolment rates by gender



1 Includes vocational and technical schools
2 Includes IPTA and IPTS
SOURCE: Examination Syndicate, Educational Policy, Planning and Research Division, Higher Education Statistics 2011

EXHIBIT 3-27

Distribution of student population receiving KWAPM by school band in 2011



1 Only primary schools were included, with the exception of 1,060 schools in Sabah and 418 schools in other states due to incomplete data

SOURCE: Finance Division; National Key Result Area; EMIS database

The "Lost Boys" issue: the gender gap is widening

The gender gap is both significant and increasing (Exhibit 3-26). Girls consistently outperform boys. The difference in performance is already evident at UPSR level and increases over the course of a student's academic career. Further, boys are more likely to drop out, leading to a situation wherein the male to female ratio for any given cohort decreases from Year 1 to Form 5. At university level, female students comprise up to 70% of the latest incoming cohort in some universities. This gap between the genders has widened at the PMR and SPM level over the last five years, a trend that if unchecked, runs the risk of creating a community of educationally marginalised young Malaysian men. Fortunately, the trend has reversed in 2011 for UPSR results, with the performance gap falling from about 11 to 10 percentage points.

Interviews with parents, teachers, and principals suggest that some boys struggle with the mainstream academic curriculum and would probably benefit from greater access to vocational training or more applied coursework. However, the limited number of places in vocational and technical schools prevents this from occurring. This problem is compounded by the fact that boys from poor families are also more likely to drop out from school to start work early in order to help support their families.

The higher rate of dropouts and lower academic performance among boys is a cause for concern for the Ministry. Alienated youth are a source of great social and political instability, as has been seen across the world in the recent past. It is imperative that Malaysia find a way to engage boys in education to ensure that they become a valuable source of human capital.

Socio-economic status continues to have a large impact on student performance

The Ministry has long been aware that socio-economic differences present a major challenge to achieving equitable outcomes. Educational disadvantage, whereby how much students' parents earn and where they go to school correlates with student achievement, is a phenomenon experienced by many education systems around the world. In order to overcome this, the Ministry has committed itself to eliminating this inequity through a wide variety of initiatives, including the provision of financial assistance to disadvantaged students.

There are a number of dimensions used to measure the correlation between a student's socio-economic background and student outcomes. Some of these are: parents' highest level of educational attainment, state average household income, and the percentage of students receiving basic financial assistance. The percentage of students receiving KWAPM financial aid (a fund for disadvantaged students) has been used as a proxy for socio-economic status, due to the eligibility criteria of coming from a low-income household. The evidence consistently demonstrates that students from poor families are less likely to perform as well as students from middle-income or high-income households. Schools with higher concentrations of low-income students were more likely to fall in Band 6 or 7 on the NKRA scale (Exhibit 3-27). Similarly, more than three-quarters of all high-performing schools have less than a third of their students on financial aid. It appears that the largest achievement gaps in Malaysia are still those driven by socio-economic status, despite the government's significant investments thus far.

Indeed, it is likely that socio-economic factors, in terms of the composition of the student body, contribute to many of the other achievement gaps discussed previously—especially in terms of location and school type (but not gender). That being said, the impact of socio-economic status on student outcomes is less significant in Malaysia than in other systems around the world. For example, only 10% of the Malaysian variance between schools in the PISA 2009+ assessment can be explained by socio-economic factors, as compared to the OECD average of 55%, which indicates a far larger gap in most other countries. This is good news for Malaysia, as it shows that our education system is on its way to being truly equitable.

Gap in student performance persists between private and public schools

Private schools using the national curriculum present yet another gap in equity as they score about 6% higher than public schools at SPM. While some of this achievement gap may be due to a better learning environment, it is probable that much of it is due to the self-selecting nature of these schools, which skews them towards a student population that is more economically advantaged. Although enrolment in private schools using the national curriculum currently accounts for only 1% of total student numbers, enrolment is increasing as average household income levels rise.

BUILDING UNITY THROUGH EDUCATION

Malaysia's unique diversity—ethnic, religious, and cultural—has always been its greatest strength, and its greatest challenge. As Malaysia increasingly finds itself in a world where differences can divide, it has never been more important for Malaysians to forge a Malaysian identity and to embrace our diverse heritage. As a shared space for all Malaysians, schools have a unique potential to be a place to foster unity. The challenge is that to date, the system has struggled to measure unity in a systematic manner. The best available data suggests that student and teacher diversity in National schools has decreased, although there is still a fair degree of interactivity across ethnicities inside and outside the classroom.

Unity, a vital component in Malaysia's truly unique social context, is a key factor in realising a society of balanced and harmonious individuals as envisioned in the National Education Philosophy. To that end, the Ministry has taken a range of actions, from ensuring that all ethnicities are fairly represented in the teaching materials used in schools, to organising school-based programmes explicitly focused on building unity. The critical question, however, is how unity can be measured. This section considers several possible measures to paint a picture of where the system stands.

Student enrolment in the overall public education system remains broadly reflective of national demographics. However, there are specific schooling options that have homogenous environments (Exhibit 3-28). For example, primary school students across all options are in highly homogeneous environments. The challenge is that these homogeneous environments make it less likely for students to receive exposure to students of different cultures and ethnic groups, and thus less likely to develop the respect for diversity critical for unity.

However, there is some convergence in secondary school. Most students from the various primary schools enrol in a single secondary school format—the SMK. Nevertheless, some students still receive limited exposure to diversity—for example, a child who transfers from a SJK(C) to an independent Chinese school or that moves from an SK to a National religious secondary school or *Sekolah Menengah Kebangsaan Agama* (SMKA). In addition, there is a small but growing minority of students that leave the public education system and enrol in private schools, and therefore move beyond the Ministry's sphere of influence.

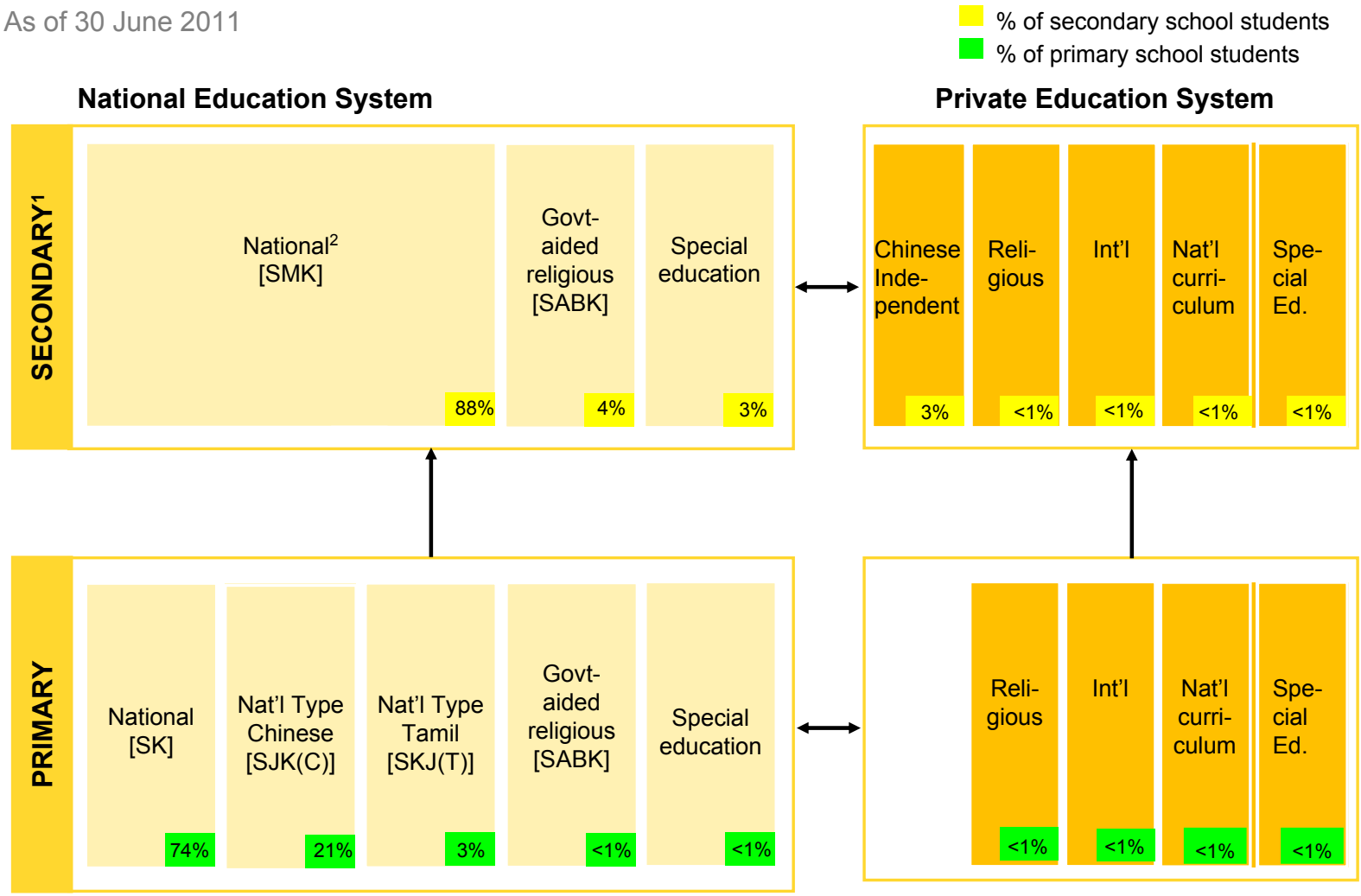
Range of schooling options creating ethnically homogeneous environments

It is important that the nation's diversity is reflected in our schools, so as to give Malaysian children the opportunity to live with and learn from fellow Malaysians of every ethnicity, religion, and culture. Accordingly, one data point considered as a gauge of unity at school level is enrolment trends in SKs, SJK(C)s, and SJK(T)s.

EXHIBIT 3-28

Enrolment rates in different school types

As of 30 June 2011



1 Post-secondary education phase is not included in this analysis
2 Includes specific school programmes such as full boarding schools (SBP), National religious secondary schools (SMKA), technical and vocational schools.

SOURCE: Malaysia Education Statistics (2011)

Diversity of schools in Malaysian education

The Malaysian education system comprises over 20 schooling options at both the primary and secondary levels (Exhibit 3-29).

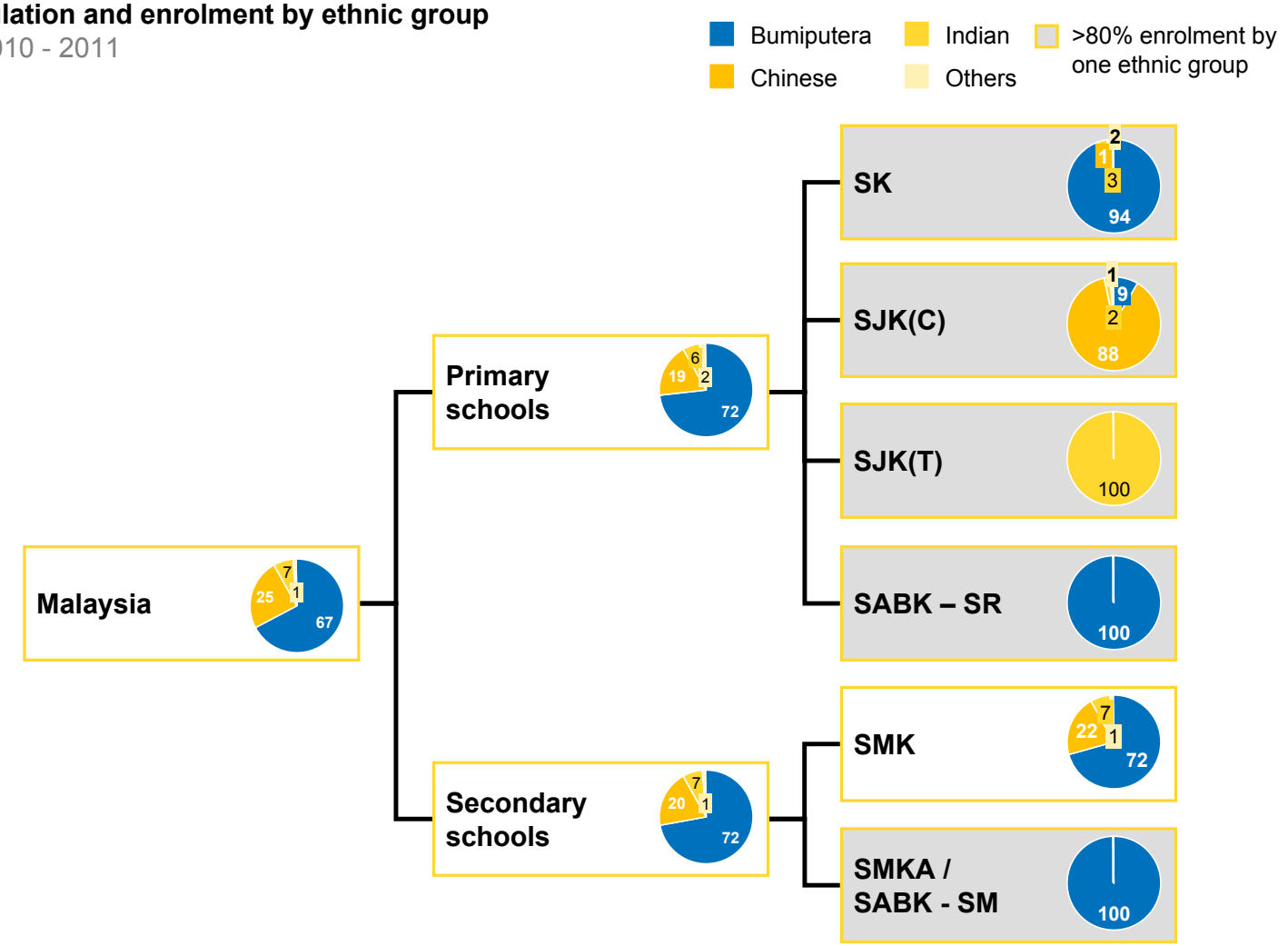
Public primary schools. The primary level comprises three main types of schools: SK, SJK(C), and SJK(T). Each type of school is defined by different mediums of instruction and jointly accounts for almost 99% of total primary enrolments. In addition, there are numerous school types serving niche groups, such as religious (Islamic) and special education schools.

Public secondary schools. The secondary school system is marked by the convergence of most students from the different types of primary schools into a single school format. These National secondary schools (SMK) are taught in Bahasa Malaysia. SMKs comprise 88% of total secondary enrolments. A small but growing percentage of students also opt for alternative schools such as religious schools. Upon completion of lower secondary school (Form 3), students also have a choice to pursue alternate pathways at technical, vocational, sports, arts, and other schooling options.

Private schools. A small but growing number of students enrol in private schools. These schools operate at both the primary and secondary level and include private schools that teach the national curriculum, international schools, religious schools, and Independent Chinese schools. Currently, private schools comprise 1% of total primary enrolments and 4% of total secondary enrolments.

EXHIBIT 3-29

Population and enrolment by ethnic group
%, 2010 - 2011

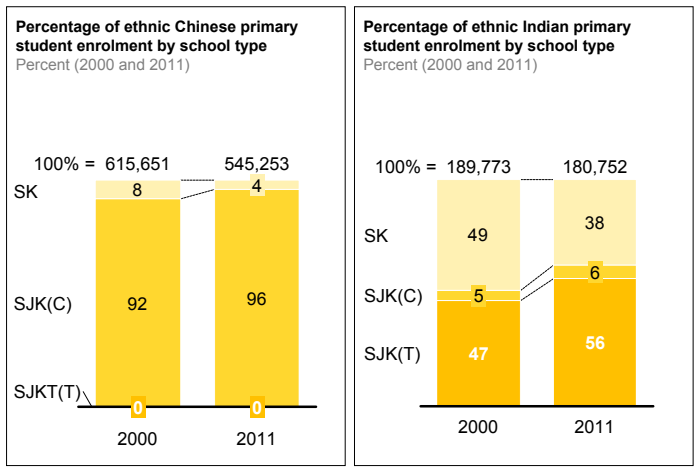


SOURCE: Malaysia Education Statistics (2011); Population Distribution and Demographic Characteristics 2010 (Statistics Department)

In general, there are signs of increasing ethnic stratification in schools. More Indian and Chinese students are enrolling in National-type schools today than 10 years ago (Exhibit 3-30). The proportion of Chinese students enrolled in SJK(C)s increased from 92% in 2000 to 96% in 2011. The shift for Indian students was even more dramatic, showing an increase from 47% to 56% enrolment in SJK(T)s. As such, 94% of students in SKs are now ethnically Bumiputera. This suggests that there is a risk of declining diversity and ethnic mixing across all school types, which in turn reduces the ability of schools to effectively foster unity through inter-ethnic interaction.

EXHIBIT 3-30

Enrolment trends in National and National-type schools (2000-2011)



SOURCE: EMIS database

Teacher diversity in schools

As leaders in the classroom, teachers set a strong example for their students, and often become role models for young people. It is important for students to have role models who are of different ethnicities, to properly reflect Malaysia's diverse population, and to bridge the gaps between the ethnicities. However, the teacher population in SKs is becoming less diverse and less representative of the national population.

In 2001, 78% of the teachers across all National schools were Bumiputera, and this number rose to 81% in 2011. Although the population of Indian teachers remained fairly consistent at 5%, the number of Chinese teachers in National schools dropped from 17% to 14%. The numbers of teachers in the "Others" category remained close to zero percent.

JNJK school inspections indicate a good level of unity

JNJK conducted an inspection of 20 schools in 2011, 55% of which were primary schools. The inspectors looked at two elements: the extent to which schools fostered unity among students, such as through policies on "mixed" seating in the classroom, and the extent to which students themselves demonstrated unity, for example whether students were interacting across ethnicities inside and outside of the classroom setting; and whether student participation in co-curricular clubs was ethnicity-based. The JNJK inspectors found that, on average, student interactions indicated a good level of unity: there were high levels of interaction between ethnicities inside and outside of the classroom, and most co-curricular activities comprised a diverse student group. However, the inspectors reported that there was a need for schools with less diverse student populations to take more active measures to create opportunities for students to interact with those of different ethnicities, religion and cultures.

MAXIMISING EFFICIENCY

The Ministry has consistently directed significant resources towards developing the education system. It is this commitment to providing an excellent education for all Malaysian students that has laid the foundation for the education system's—and the nation's—many successes. As early as 1980, Malaysia's expenditure on primary and secondary education as a percentage of GDP was the highest in East Asia. In 2011, Malaysia's expenditure, at 3.8% of GDP, is higher than the OECD average of 3.4% of GDP. There is reason to believe, however, that Malaysia may not be getting the highest rate of return on its investments. In order to ensure that Malaysia and the Malaysian education system will keep up with its peer countries in this rapidly globalising 21st century, the Ministry is committed once again to maximising its resources in order to provide Malaysia's youth with the very best.

The resources and support that a system provides to schools play a critical role in how the schools perform, by enabling teachers and principals to focus on their core activities of delivering effective teaching and learning. Therefore, a system's ability to effectively allocate, use, and manage its funds is essential to its ability to support schools in achieving the desired levels of performance. This section explores two issues: (i) how Malaysia's expenditure on education compares to that of other countries; and (ii) what the impact of this spending has been.

Malaysia's basic education expenditure is relatively high compared to peers on three different measures

In 2011, Malaysia's basic education expenditure was RM37 billion (in terms of money spent on operations and development). This amount represents 16% of the total 2012 federal budget—the single largest share among ministries. In addition to this budget, another RM12 billion is allocated to MOHE and other ministries that provide education-related services. Collectively, this expenditure demonstrates Malaysia's very serious financial commitment to improving the education of its children, which should be celebrated.(Hereafter, all discussion on Malaysia's education expenditure refers to the operating and development

expenditure of the Ministry only.)Several measures can be used to compare the Ministry's expenditure on education with that of other systems. The first two—expenditure as a percentage of GDP and as a percentage of total government spending—are typically used to account for expenditure relative to other priorities in the country, and for the differences in economic development levels between countries. The third, expenditure per student (adjusted for purchasing power parity) is used to compare absolute spending levels.

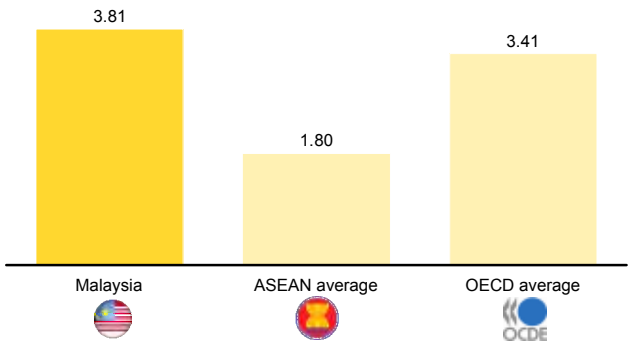
Malaysia's expenditure as a percentage of GDP is twice the ASEAN average

The 2011 World Bank review of government expenditure found that Malaysia's public expenditure on basic education, such as preschool through to secondary, as a percentage of GDP is more than double that of other ASEAN countries (3.8% versus 1.8%), and 1.6% higher than the Asian Tiger economies of South Korea, Hong Kong, Japan, and Singapore (Exhibit 3-31). It is also slightly higher than the OECD average of 3.4%.

EXHIBIT 3-31

Malaysia's basic education expenditure as a percentage of GDP

Percent (2011)



1 Includes operating expenditure and capital/development expenditure

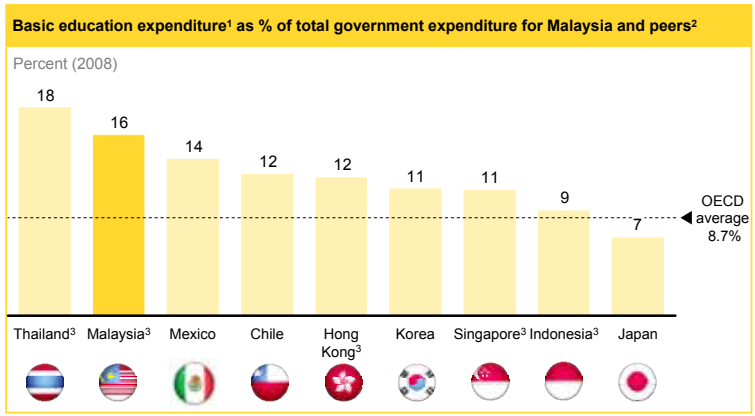
SOURCE: World Bank EdStats 2011

Malaysia's expenditure as a percentage of total government spending (16%) is almost double that of the OECD average

The expenditure on education as a percentage of total government spending is also relatively high, at 16% in 2011. In comparison with regional peers of Thailand, Indonesia, Singapore, Hong Kong, South Korea and Japan, as well as GDP per capita peers of Mexico and Chile, Malaysia is second only to Thailand. Malaysia's expenditure is also almost double that of the OECD average of 8.7% of government spending (Exhibit 3-32).

EXHIBIT 3-32

Malaysia's basic education expenditure as a % of government budget



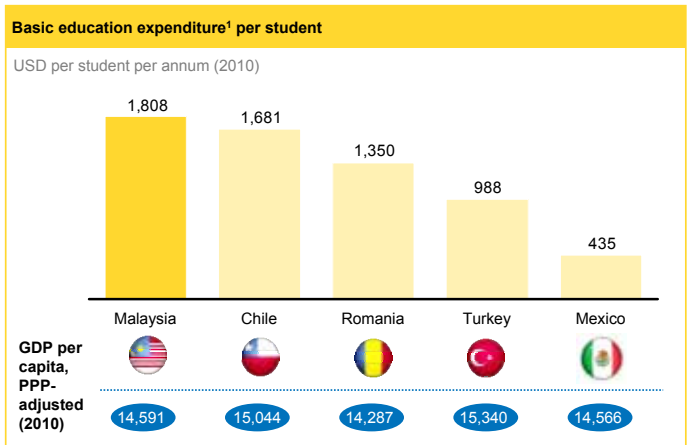
1 Includes operating expenditure and capital/development expenditure for basic education (primary and secondary)
2 Peers based on the following categorisation: Asian Tigers (Hong Kong, Singapore, S. Korea, Japan); SEA neighbours (Indonesia, Thailand Singapore), and comparable GDP per capita (Mexico and Chile)
3 Data for 2010
Note: Data from 2008 or 2010 depending on latest available data
SOURCE: Ministry of Education Malaysia; OECD – Education at a Glance 2011; Singstat; Ministry of Finance Thailand; Ministry of Finance Indonesia; Education Bureau of Hong Kong

Malaysia's spending per student is comparable with peer countries with similar GDP per capita

Finally, looking at expenditure on a per student basis reveals that Malaysia's expenditure is also slightly higher compared to its peers with a similar GDP per capita. Converted to USD per capita for comparison, Malaysia spends approximately USD1,800 on every student per year, which is in line with countries such as Chile and Romania (Exhibit 3-33).

EXHIBIT 3-33

Malaysia's per student expenditure



1 Includes operating expenditure and capital/development expenditure

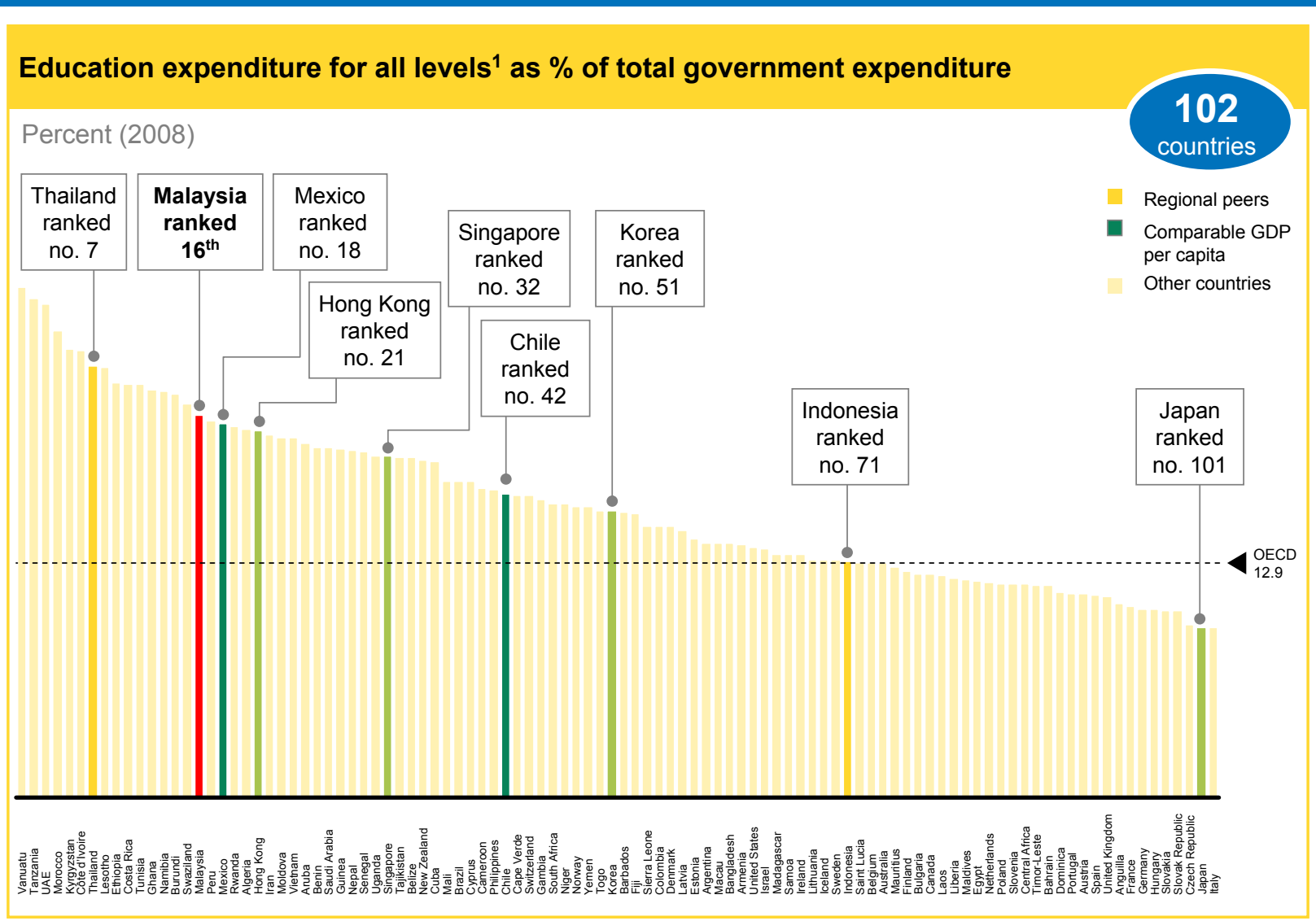
SOURCE: Ministry of Education Malaysia; OECD; World Bank; Ministry of Finance Turkey; EIU. Data from 2010

Which Countries Spend the Most on Education?

This chapter focuses exclusively on the operating and development expenditure of the Ministry of Education, which spans preschool to post-secondary education. This will thus encompass not just the school-level related costs of teacher salaries and infrastructure development, but also the ministry, state, and district-level related costs of operations. While the cost of providing higher education by MOHE is not included here, it is worth noting that, combined, Malaysia has one of the highest education expenditures as a percentage of total public spending. In 2008, of 102 countries worldwide, Malaysia was ranked 16th in terms of government spending on education (Exhibit 3-34).

EXHIBIT 3-34

Comparison of Malaysia's basic and tertiary education budget with other countries (2008)



1 Education expenditure for levels refers to spend on basic education through tertiary education levels for year 2008 as the latest available year

SOURCE: World Bank 2008; OECD 2008; local Ministry websites

Higher spending has translated to better student outcomes in terms of access, but not necessarily in terms of quality

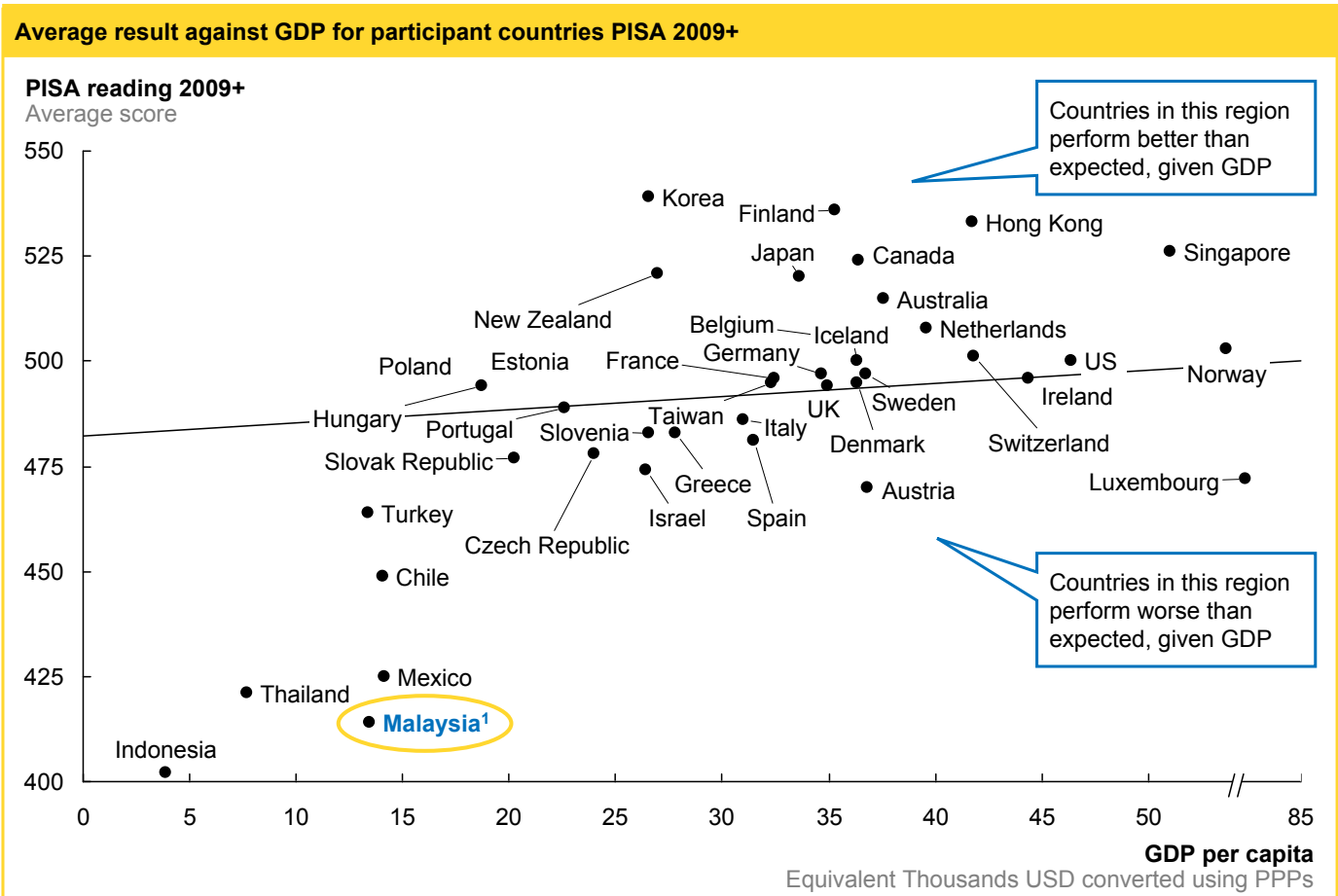
In order to determine how to best utilise the Ministry's resources, it is important to examine the return on investment (ROI) in the current education system, particularly in relation to other countries. As a developing country, Malaysia has invested significant resources into building additional infrastructure, particularly in rural areas and the interior of Sabah and Sarawak, and increasing the size of the teaching force to enable the expansion of access to education. This spending has successfully translated to almost universal access to primary education, and significant improvement in access to secondary education. However, there remain large areas for improvement in moving forward, particularly with regard to quality. Higher levels of spending are not necessarily correlated with better outcomes (Exhibit 3-16). The United States of America, for example, spends more than USD10,000 per student, but performs almost two bands lower than a system like Shanghai which only spends between USD4,000-5,000 per student.

Malaysia's performance lags behind other countries making similar or lower levels of expenditure. Education systems that are making lower investments per pupil, such as those of Thailand and Chile, are nonetheless achieving student outcomes that are either comparable to or better than Malaysia's. This suggests that while a certain threshold of spending is required, it is more important that money is put towards the right factors in order to ensure success.

Additionally, given the country's wealth, Malaysia's performance is lower than expected. International evidence indicates that there is a strong positive correlation between a country's GDP per capita and PISA scores (Exhibit 3-35). However, Malaysia appears to be underperforming when compared against other countries with a similar GDP per capita.

EXHIBIT 3-35

Correlation between wealth and student performance on PISA 2009+



1 GDP per capita PPP-adjusted (2005 constant prices) based on 2010 data

SOURCE: PISA 2009+; Global Insight

As illustrated in this chapter, Malaysia has performed well on access with near-universal enrolment at the primary level and relatively high levels of participation at the secondary level. On quality, there appears to be a mismatch between results of national examinations and international assessments which could be due to differences in standards, or in a misalignment in what assessments test for—content knowledge versus the ability to apply that knowledge. In terms of educational equity, socio-economic status is still the most significant driver of variance in student outcomes, despite the government's concerted investment in financial support for students from low-income families. The best available data on unity suggests that student and teacher diversity in SKs is decreasing, although the level of interaction across ethnicities remains robust. Finally, high levels of spending have not yielded as much impact as desired, which calls for a renewed commitment to ensuring that the nation's funds are efficiently used.

Looking ahead, it is important to understand what drives these outcomes so that the Malaysian education system can scale up its successes, and reduce, if not eliminate, its areas of shortfall. Over the course of the development of the Blueprint, it is clear that the National Education Philosophy and many of the system's existing policies remain as relevant today as when they were first designed. The challenge has been in the implementation of these policies. Accordingly, the next four chapters delve deeper into the more important factors that drive or inhibit student learning and, most importantly, develop solutions to address these concerns.

CHAPTER 4

STUDENT LEARNING

4. Student learning

All education systems are judged by how much students learn and develop during their time in the system. The Ministry aspires to elevate the quality of Malaysian student outcomes to a level at par with the top third of education systems in the world. In line with the National Education Philosophy, the Ministry's approach to education is focused on developing students holistically. This means, the education system addresses intellectual, spiritual, emotional, and physical development, alongside a strong sense of national identity. This section examines how the Ministry plans to achieve its student learning aims by re-assessing its curriculum and assessment, language policy, provisions for students with specific needs, and finally, its ability to translate policy into actions for school improvement.

Curriculum and assessment must be aligned with international benchmarks to ensure that Malaysian students are acquiring the knowledge and skills necessary for their success in the 21st century and beyond, along with a passion for lifelong learning. To fully capitalise on Malaysia's natural multicultural advantages, language policy will be updated to promote proficiency in at least Bahasa Malaysia and the English language. In making these improvements, special care will be taken to ensure that groups with needs that differ from the mainstream still have every opportunity to fulfil their potential. Finally, as school is the centre where learning takes place, state and district capabilities will be strengthened to ensure that ambitious policies consistently and credibly translate into a world-class experience in the school and classroom.

CURRICULUM AND ASSESSMENT

The Ministry will ensure the provision of an all-rounded curriculum benchmarked to international standards to produce students with the skills required to compete at an international level. This curriculum will address the intellectual, spiritual, emotional, and physical dimensions of each student.

It will emphasise the application of knowledge and the development of critical, creative, and innovative thinking skills. It will provide students with the opportunity to learn arts, be involved in at least one sporting activity and other co-curricular activities. The Ministry will also ensure the holistic assessment of students via National Examinations and School-based Assessments or *Pentaksiran Berasaskan Sekolah* (PBS). Measures undertaken will include:

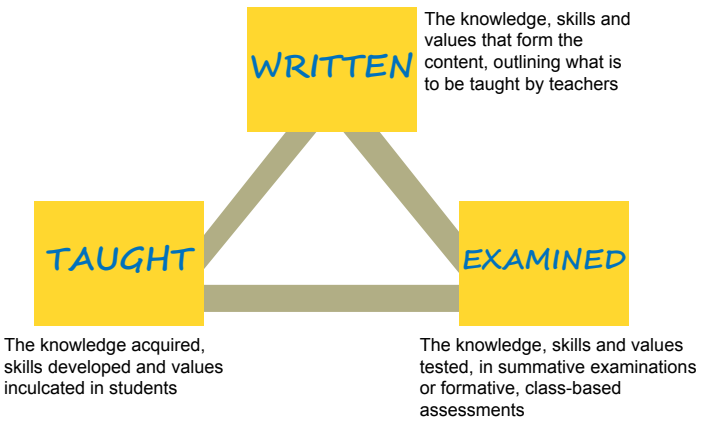
- Redesigning the primary and secondary school curricula to align with international standards;
- Upgrading assessment frameworks to increase items that test higher-order thinking skills in both national examinations and PBS, and to move towards standard-referencing in PBS;
- Intensifying teacher support to ensure the written curriculum is accurately translated into classroom teaching through better teaching resources and an expanded School Improvement Specialist Coach (SISC+) role; and
- Introducing Literacy and Numeracy Screening (LINUS) 2.0 with an expanded scope to address English literacy.

The Ministry enlisted the help of UNESCO and *Universiti Kebangsaan Malaysia* to assess different aspects of curriculum development and implementation. The Malaysian curriculum was analysed from three dimensions (Exhibit 4-1):

- **What is written in the curricula, or the "Written Curriculum":** the knowledge, skills, and values that form the content, outlining what is to be taught by teachers;
- **What is taught in the classroom, or the "Taught curriculum":** the knowledge acquired, skills developed, and values inculcated in students; and
- **What is examined, or the "Examined curriculum":** students' knowledge, skills, and values that are tested, either in summative national examinations such as the UPSR, PMR, and SPM, or through formative and/or summative PBS that guide teaching.

EXHIBIT 4-1

Three dimensions of curriculum



SOURCE: Curriculum Development Division; UNESCO

The Written Curriculum should articulate a holistic education of international standard. Both the Taught and Examined Curricula should be closely aligned with the Written Curriculum. In other words, the curriculum that is taught in the class and examined at the national level should match the intent of the written curriculum.

The curricula currently in place are the KBSR and KBSM. In 2011, the Ministry started rolling out the new KSSR in stages, starting from Year 1. By 2016, the KSSR will be in place for all primary school years. A comparable standard-based reform of the KSSM will be ready to roll-out to Form 1 students in 2017. A revised version of the KSSR will also be rolled out in 2017.

21st Century Skills

Across the globe, educationists have realised that children need more skills than the 3 Rs (Reading, wRiting & aRithmetic) when they leave school. In the globalised 21st century, the need to create high-quality human capital is more important than ever.

While most countries agree that their curriculum needs to include a new set of skills and competencies geared towards the 21st century and beyond, there is still little consensus on what these are. Singapore's Ministry of Education states that individuals equipped for the 21st century will be a confident person, a self-directed learner, an active contributor, and a concerned citizen. In Finland, the core 21st century goals are for personal growth, cultural identity and internationalism, media skills and communication, participatory citizenship, responsibility for the environment, and ensuring personal well-being and a sustainable future.

Here in Malaysia, the Ministry has defined a set of skills and competencies that are aligned with the National Education Philosophy and will give Malaysian students an internationally competitive edge. To this end, the national curriculum aims to create Malaysian students that are balanced, resilient, inquisitive, principled, informed, caring, patriotic, as well as an effective thinker, communicator, and team player. (These outcomes are synthesised in the six student aspirations described in Chapter 2). These skills and competencies will be reflected in the new KSSR and forthcoming KSSM curricula.

The Written Curriculum

The Ministry has developed its written curriculum using a wide range of benchmarks from top-performing education systems to ensure alignment with international standards on the knowledge and skills expected of students at different ages. These international benchmarks have also been aligned with the National Education Philosophy to produce a curriculum that is suitable for the Malaysian context.

Both the primary and secondary curricula offer a comprehensive range of science, social science, and humanities subjects. Important subjects such as Bahasa Malaysia, English language, Mathematics and Science are compulsory throughout school and clearly identified as core subjects (see Exhibit 4-2 for a breakdown of compulsory and elective subjects during each phase of education).

EXHIBIT 4-2

Compulsory and elective subjects

Subjects that must be assessed in the UPSR, PMR and SPM examinations

	Primary (KSSR)	Lower secondary (KBSM)	Upper secondary (KBSM)
Compulsory	▪ Bahasa Malaysia ▪ English language ▪ Chinese language (SJK) ▪ Tamil (SJK) ▪ Mathematics ▪ World of science and technology ▪ Islamic education ▪ Moral education ▪ Physical education ▪ Health education ▪ World of music ▪ World of visual arts	▪ Bahasa Malaysia ▪ English language ▪ Mathematics ▪ Science ▪ Islamic education ▪ Moral education ▪ History ▪ Geography ▪ Living skills ▪ Civics and citizenship ▪ Music education ▪ Physical education ▪ Health education	▪ Bahasa Malaysia ▪ English language ▪ Mathematics ▪ Islamic education ▪ Moral education ▪ History ▪ General Science (for Art stream students) or Biology, Chemistry and Physics (for Science stream students) ▪ Music education ▪ Physical education ▪ Health education
Elective	▪ Arabic ▪ Chinese language (SK) ▪ Tamil (SK) ▪ Iban language ▪ Kadazan-dusun language	▪ Arabic ▪ Chinese language ▪ Tamil ▪ Iban language ▪ Kadazan-dusun language	92 subjects available in the academic, vocational and technical streams including: ▪ Arts ▪ Information technology ▪ Languages and literature ▪ Science and Mathematics ▪ Social Sciences ▪ Vocational and technical

SOURCE: Curriculum Development Division

In addition to academic learning, the curriculum focuses on spirituality, along with artistic and sporting ability, to develop the child holistically. Programmes and initiatives to develop these components are present both during formal class time as well as through a variety of after-school co-curricular activities.

In line with policy that states that every Muslim child must receive Islamic education in school, the KSSR curriculum (as well as the KBSR curriculum before it) provides 160 minutes per week of Islamic Education to Muslim students and 120 minutes per week of Moral Education to non-Muslim students. Additionally, all schools incorporate Visual Arts, Music, Health, and Physical Education classes into their curriculum and adhere to the "1 student 1 sport" (*1 Murid 1 Sukan*) policy by ensuring that each child participates in at least one sporting activity.

Beyond formal class hours, the Ministry encourages active involvement in co-curricular activities. All students are encouraged to participate in one sport, one club, and one uniformed body to ensure access to a breadth of experiences. To enhance the co-curricular experience and ensure that students are exposed to the full diversity of Malaysian society, the Ministry is expanding the RIMUP programme which will allow students from different school types, public and private, to mix during co-curricular activities.

The KSSR standard document is based on two components, content standards and learning standards. The content standards specify the specific knowledge, skills, and values that students need to acquire. In comparison to KBSR, the KSSR has an increased emphasis on skills such as reasoning, creativity, innovation and entrepreneurship. The learning standards describe the degree of proficiency that students need to display in relation to each of the content standards on a year-by-year basis. This year-by-year articulation of learning standards is different from the KBSR and KBSM curricula which described learning objectives at the end of each phase only (see Exhibit 4-3 for a summary of the main differences between the KBSR and KSSR curriculum). The new KSSM, expected to be implemented from 2017, will adhere to a similar approach to standards.

EXHIBIT 4-3

Main differences between KBSR and KSSR curriculum

KBSR	KSSR
▪ Integrated education to enhance **mastery of 3R (Reading, wRiting and aRithmetic)** with focus on **knowledge, skills, values, critical, and creative thinking**	▪ Integrated education to enhance mastery of **4R (Reading, wRiting, aRithmetic and Reasoning)** with additional elements of **creativity, innovation, and entrepreneurship**
▪ **Three pillars:** Communication, interaction with the society, personal development	▪ **Six pillars:** Communication, spiritual attitude and values, humanities, literacy in science and technology, physical and esthetic development, and personal development
▪ **Curriculum written based on learning outcomes**	▪ **Curriculum written based on content and learning standards**
▪ **National examination (UPSR) only**	▪ **National examination (UPSR) + school-based assessment**

SOURCE: Curriculum Development Division

The Taught Curriculum

Historically, the full potential of the KBSR and KBSM has not always been brought to life in the classroom. The reasons for this are two-fold. Firstly, skills and content that teachers perceive will go untested in the National Examinations are often dropped from the lesson plan in favour of content that is more frequently tested. Secondly, some teachers are less effective at teaching the higher-order thinking skills articulated in the written curriculum than would be desired.

The new KSSR offers an increased focus on higher-order thinking and is a clear step in the right direction of curriculum reform. However, if the new curriculum is to be delivered in the way envisioned, it requires complex lesson delivery skills from teachers such as tailoring lesson plans and materials to the needs of students at different levels of performance—even within the same classroom. The UNESCO review reported that there was little evidence that teachers knew about or understood the implications for classroom practice of concepts fundamental to the philosophy and objectives of the curriculum, such as integrated learning, a holistic education, creativity, and innovation.

The Examined Curriculum

In public debate, the issue of teaching to the test has often translated into debates over whether the UPSR, PMR, and SPM examinations should be abolished. Summative national examinations should not in themselves have any negative impact on students. The challenge is that these examinations do not currently test the full range of skills that the education system aspires to produce.

"The point is not that teachers teach to the test but to develop tests worth teaching to"

Emeritus Professor Dylan Williams, University of London's Institute of Education

An external review by Pearson Education Group of the English examination papers at UPSR and SPM level noted that these assessments would benefit from the inclusion of more questions testing higher-order thinking skills, such as application, analysis, synthesis and evaluation. For example, their analysis of the 2010 and 2011 English Language UPSR papers showed that approximately 70% of the questions tested basic skills of knowledge and comprehension.

LP has started a series of reforms to ensure that, as per policy, assessments are evaluating students holistically. In 2011, in parallel with the KSSR, the LP rolled out the new PBS format that is intended to be more holistic, robust, and aligned to the new standard-referenced curriculum. There are four components to the new PBS:

- **School assessment** refers to written tests that assess subject learning. The test questions and marking schemes are developed, administered, scored, and reported by school teachers based on guidance from LP;
- **Central assessment** refers to written tests, project work, or oral tests (for languages) that assess subject learning. LP develops the test questions and marking schemes. The tests are, however, administered and marked by school teachers;
- **Psychometric assessment** refers to aptitude tests and a personality inventory to assess students' skills, interests, aptitude, attitude and personality. Aptitude tests are used to assess students' innate and acquired abilities, for example in thinking and problem solving. The personality inventory is used to identify key traits and characteristics that make up the students' personality. LP develops these instruments and provides guidelines for use. Schools are, however, not required to comply with these guidelines; and
- **Physical, sports, and co-curricular activities assessment** refers to assessments of student performance and participation in physical and health education, sports, uniformed bodies, clubs, and other non-school sponsored activities. Schools are given the flexibility to determine how this component will be assessed.

The new format enables students to be assessed on a broader range of output over a longer period of time. It also provides teachers with more regular information to take the appropriate remedial actions for their students. These changes are hoped to reduce the overall emphasis on teaching to the test, so that teachers can focus more time on delivering meaningful learning as stipulated in the curriculum.

In 2014, the PMR national examinations will be replaced with school and centralised assessment. In 2016, a student's UPSR grade will no longer be derived from a national examination alone, but from a combination of PBS and the national examination. The format of the SPM remains the same, with most subjects assessed through the national examination, and some subjects through a combination of examinations and centralised assessments.

Initial feedback on the rollout of PBS suggests that teachers have yet to fully grasp the magnitude of the change. Some teachers and schools are also struggling to develop their own test questions for the school assessment component. To that end, the Ministry is strengthening the training provided to teachers to ensure that teachers are developing test questions that accurately test the standards laid out in the curriculum, and that grading is done against this absolute standard, rather than a relative standard.

The Roadmap: Developing and applying 21st Century curriculum and assessment

In the last few years, two major changes have been introduced that have the potential to fundamentally change the way students today learn when implemented well: the KSSR and PBS. The Ministry recognises, however, that there is still more to be done. Wave 1 (2013-2015) of the reform will focus on short-term initiatives to improve the written, taught, and assessed curricula individually, while laying the groundwork for more fundamental reform. Waves 2 and 3 (2016-2025) will see the introduction of the KSSM and a revised KSSR, and the development of alternative models to allow for more learning at the students' own pace.

Wave 1 (2013 to 2015): Improving the current curriculum and preparing for structural change

The Ministry intends for the education system to not only improve the quality of its curriculum and assessments, but also achieve much tighter integration across them. In the short-term, the Ministry will roll out initiatives to improve the written, taught and examined curricula individually, as well as to create tighter alignment across all three dimensions.

Refining and revising curriculum content to align with international standards

The KSSR and KBSM will continue to be refined in line with policy that the National Curriculum should incorporate international best practices and be of a standard that produces globally competitive citizens. During the development phase, the Ministry will continue its practice of benchmarking its curriculum learning and content standards against that of high-performing systems to ensure that these standards are aligned and that the syllabi are not "overcrowded"– where the breadth and depth of content covered in the curriculum is more than can be effectively taught in a given school year. Additionally, the Ministry will engage independent, international experts to validate the results of this benchmarking exercise for English Language, Science, and Mathematics.

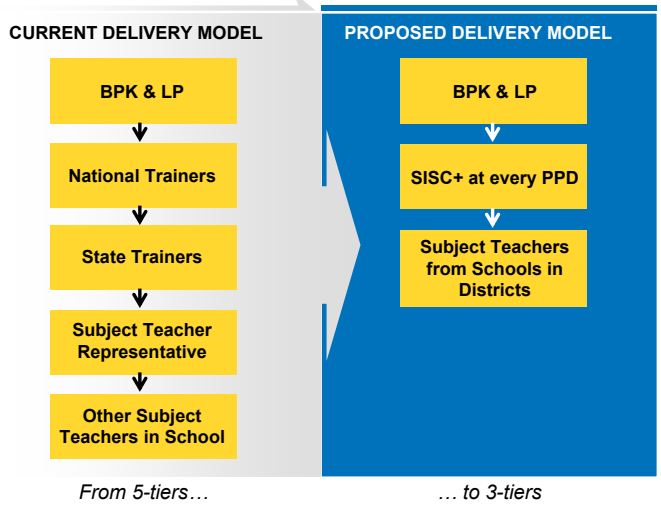
Intensifying support systems for teachers to improve delivery of the curriculum

The SISC+ role will be enhanced from a part-time to a full-time role. They will be placed at the PPD and become the single point of contact between the Curriculum Development Division or *Bahagian Pembangunan Kurikulum* (BPK), the LP, and teachers. This role encompasses the responsibilities of taking new curricula and assessments to the classroom, coaching teachers on pedagogical skills, and monitoring the effectiveness of implementation. The introduction of the SISC+ will have the dual benefit of: (i) reducing the number of tiers involved in curriculum and assessment delivery; and (ii) providing on-the-ground training to teachers.

The current mechanism for rolling out changes to the curriculum and assessment system involves five tiers (Exhibit 4-4). The national curriculum has to be taught to national or federal-level trainers, who then train state-level trainers, who will then train subject teacher representatives from each district, who finally teach the teachers in each school. The multiple tiers often result in a dilution of the curriculum. The introduction of SISC+ to replace the current trainers reduces the number of tiers to three, reducing the likelihood of dilution. The SISC+ will form a direct link between the teachers, on the one hand, and between BPK and LP on the other, allowing the written curriculum to be translated more directly and accurately into taught curriculum.

EXHIBIT 4-4

Comparison of current and proposed delivery model



The number of SISC+ that will be introduced (almost 2,500 SISC+ by 2015) and their focus on coaching (60% time must be spent on coaching activities) will provide teachers with greater, more direct on-the-ground coverage than previously possible. This will keep them more focused on teaching as they do not have to leave school to attend courses. Training will also be more tailored to the teacher in question as SISC+ will have the chance to observe teachers in class and provide instant feedback. The focus of these coaching sessions will be on the mastery of key pedagogical skills such as developing higher-order thinking skills, teaching children of different ability levels, and assessing students effectively.

In addition to the SISC+, the Ministry will roll-out additional teaching resources to ensure that teachers are better able implement KSSR in the classroom. These include supporting materials such as video libraries of exemplar teaching (see Chapter 5 for more information). The Ministry will also examine what materials are required at the secondary level to help teachers deliver the existing KBSM in a manner that emphasises skills and competencies critical for the 21st century. This will be an interim measure until the new KSSM is rolled out with its own set of teacher resources.

Upgrading assessment framework to increase questions that test higher-order thinking skills

Regular monitoring routines will ensure that schools that are struggling to implement the new PBS are identified quickly. Teachers and principals from these lagging schools will receive additional on-site training from the SISC+ on setting and conducting PBS, particularly with regard to standard-referenced grading.

The Ministry will also systematically increase the proportion of questions in both PBS and National Examinations that test higher-order thinking in the next three years. These questions will be based on Bloom's taxonomy, testing skills such as applying, analysing, evaluating, and creating. By 2016, questions that test these skills will make up 80% of UPSR questions, 80% of the Form 3 central assessment, 75% of the questions for SPM core subjects and 50% of the questions for SPM elective subjects.

Piloting the International Baccalaureate (IB) Middle Years Programme (MYP) to explore alternative approaches to learning

The Ministry is continuously exploring new pedagogical approaches to enhance the quality of teaching and learning. To that end, the Ministry will pilot the IB MYP for secondary school students in ten schools, starting in 2013. (This is different from the IB Diploma Programme, a qualification equivalent to the A-Levels, which is already provided by two Fully Residential Schools or *Sekolah Berasrama Penuh* (SBP) in Malaysia). The sample schools will come from Bands 1 to 4 and include both rural and urban SMK and National Religious Secondary Schools or *Sekolah Menengah Kebangsaan Agama* (SMKA). Schools will be selected based on a list of defined criteria focusing on the schools' leadership and infrastructure. Learnings from this pilot will be used to inform the development of KSSM.

The IB Middle Years programme will use the Malaysian curriculum. The pedagogical approach emphasises the use of project-based activities and questioning techniques to develop students' capacity for higher-order thinking and to help students see the connection between different disciplines. IB is used in over 141 countries and its graduates' record of consistently outperforming the OECD average and A-level graduates at university provide the assurance that it will offer many valuable best practices for the broader system.

Introducing LINUS 2.0 with an expected scope to address English literacy

The Ministry's current policy on remedial support states that any child struggling to master reading, writing, and arithmetic must receive the necessary support to catch up with their cohort. LINUS 1.0 was rolled out in 2010 to bolster basic Bahasa Malaysia literacy and numeracy among children in lower primary school. The programme showed encouraging success, improving Bahasa Malaysia literacy from 87% to 98%, and numeracy from 76% to 99% in its pilot cohort.

LINUS 2.0 will build on the successes of LINUS 1.0 to address English literacy as well as Bahasa Malaysia literacy and numeracy. Students who are falling behind will be grouped together during the relevant classes and taught according to their needs. Teachers working with such students will receive targeted training to ensure that they are equipped with the best strategies to help students catch up and transition back to the mainstream curriculum.

Waves 2 (2016 to 2020) and 3 (2021 to 2025): Rolling out new and revised curricula

The new KSSM and a revised version of the KSSR will be rolled out in 2017. These will incorporate the feedback, benchmarking, and stress-testing results from Wave 1. The Ministry will develop the new curricula using the total number of hours in the schooling year as the starting point, and remove non-priority content and skills to avoid overcrowding. Additionally, the skills and competencies identified as important for success in today's globalised environment will be fully embedded in the curricula. The Ministry will also amend existing regulations to give schools flexibility over timetabling as long as schools can still deliver the learning and content outcomes laid out in the curriculum.

The Ministry will also start exploring accelerated learning pathways. This would include allowing high-performing students to complete secondary school in four years instead five and/or primary school in five years instead of six, as well as creating a gifted and talented programme for the top 1% of the student population. The Ministry will carefully research and evaluate these options to ensure that these pathways are psychologically and developmentally beneficial to the children in question and can be implemented in a manner that is not disruptive to the whole system. More details on these programmes can be found in the section on "Students with Specific Needs."

LANGUAGE

The Ministry will aim to develop students who are operationally proficient in Bahasa Malaysia and the English language. Measures taken will include:

- Using one Bahasa Malaysia curriculum and assessment standard across all schools;
- Introducing LINUS 2.0 with an expanded scope to address English language literacy;
- Strengthening the delivery of English language lessons, for example via the Oral Proficiency in English language for Secondary School (OPS English) Programme or "set" teaching where students are grouped based on their skill level;
- Intensifying testing and upskilling of all English language subject teachers;
- Introducing Bahasa Malaysia and English language remedial interventions and support for students who struggle to keep up; and
- Providing access to learning an additional language at primary and secondary level.

In addition to equipping students with a means to communicate, languages provide students with a medium to absorb other knowledge such as Mathematics, Science, History and Geography. Malaysia's language policy has three goals:

- Foster a unique shared identity between Malaysians anchored in the ability to be proficient in the national language, Bahasa Malaysia;
- Develop individuals that are equipped to work in a globalised economy where the English language is the international language of communication; and
- Provide opportunities for students to learn an additional language.

Malaysia is blessed with a multicultural heritage. While Bahasa Malaysia is the national language spoken by all communities, Chinese, Indian, and other minority communities retain deep knowledge and active usage of their languages. Additionally, the English language is an active language largely used in many parts of Malaysian professional and social life. This makes the country well-positioned to develop a nation of people who are at least "operationally proficient" in more than one language. Operational proficiency is defined by the Common European Framework of Reference for Languages (CEFR) as the linguistic fluency required to participate fully in professional and academic life (Exhibit 4-5).

As the world grows more connected and competitive than it has ever been before, it is imperative that Malaysia capitalises on its inherent advantages to strengthen its position in the global economy. Neighbouring Asian education systems in China, South Korea, and Singapore are increasingly focused on developing students that are proficient in their national language, and the English language to maximise their employability in the global workforce. Malaysia needs to develop a similar employee value proposition.

Proficiency in Bahasa Malaysia will remain the cornerstone of Malaysia's language policy and focus will be on ensuring that students across all ethnic groups are universally able to learn and converse effectively in the national language. Additionally, exposure to the English language will be increased and the quality of English language teaching will be raised. In parallel, in recognition of the social and economic value of multiculturalism, steps will be taken to strengthen access to and availability of Chinese language, Tamil, Arabic and other leading global languages as subjects. This language policy is already reflected in the schooling system, where all students learn Bahasa Malaysia and English language and many students learn additional languages.

The aspiration of the education system is to create students that are at least operationally proficient in both Bahasa Malaysia and English. All students will also be encouraged to learn an additional language to independent proficiency. As defined by CEFR, independent proficiency indicates the ability to hold one's own in social discourse. By 2025, the Ministry aims to meet the following targets:

- 90% students achieve a minimum credit in Bahasa Malaysia at SPM level;
- 70% students achieve Cambridge 1119-equivalent minimum credit in English at SPM level; and
- 30% students achieve independent proficiency in an additional language.

EXHIBIT 4-5

Map of Malaysian grades against the Common European Framework of References (CEFR)

	CEFR	Description	Equivalent SPM grades
BASIC (TOURIST) Able to carry out "real life" tasks of a touristic nature	A1	Able to use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type. Able to introduce himself/herself and others, and can ask and answer questions about personal details such as where he/she lives, people he/she knows, and things he/she has. Able to interact in a simple way provided the other person talks slowly and clearly and is prepared to help	G
	A2	Able to understand sentences and frequently used expressions related to areas of most immediate relevance (e.g., very basic personal and family information, shopping, local geography, employment). Able to communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Able to describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need	
INDEPENDENT (SOCIAL) Able effectively express views and hold one's own in social discourse	B1	Able to understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Able to deal with most situations likely to arise whilst travelling in an area where the language is spoken. Able to produce simple connected text on topics which are familiar or of personal interest. Able to describe experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans	D-E
	B2	Able to understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialization. Able to interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. Able to produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options	
PROFICIENT (PROFESSI-ONAL) Able to fully participate in professional and academic life	C1	Able to understand a wide range of demanding, longer texts, and recognize implicit meaning. Able to express himself/herself fluently and spontaneously without much obvious searching for expressions. Able to use language flexibly and effectively for social, academic, and professional purposes. Able to produce clear, well-structured, detailed text on complex subjects, showing controlled use of organizational patterns, connectors, and cohesive devices	A-C
	C2	Able to understand with ease virtually everything heard or read. Able to summarize information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation. Able to express himself/herself spontaneously, very fluently and precisely, differentiating finer shades of meaning even in the most complex situations	

SOURCE: Common European Framework of References

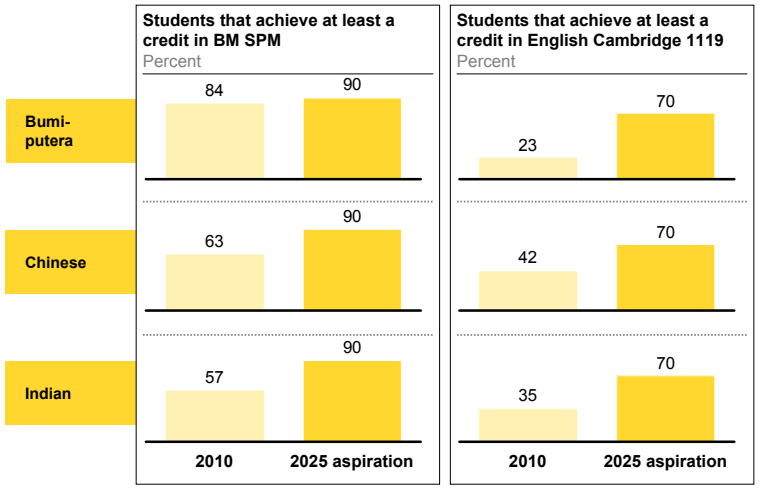
Assessing language proficiency in Malaysia

There is widespread operational proficiency in Bahasa Malaysia amongst students, with 75% of students achieving at least a credit in the 2010 SPM. Bahasa Malaysia also consistently has the strongest pass rates out of the core subjects in UPSR, PMR, and SPM. In National schools, as Bahasa Malaysia is the medium of instruction, over 80% of curriculum time is in Bahasa Malaysia. This ensures full immersion in the language and equips students with the ability to develop and express complex thoughts in Bahasa Malaysia.

To achieve the aspiration of 90% students achieving at least a Credit in Bahasa Malaysia at SPM level, disparities in performance between the various ethnic groups will need to be addressed. Bumiputera students perform strongly with 84% achieving at least a Credit in SPM Bahasa Malaysia. However, only 63% of Chinese students and 57% of Indian students reach the same level of achievement (Exhibit 4-6). This is primarily due to the lower exposure to Bahasa Malaysia in National-type schools. 96% of Chinese and 56% of Indian students attend National-type schools where content subjects are taught in Chinese language or Tamil. As instruction time allocated for languages at National-type schools is split between Bahasa Malaysia, English language, and Chinese language or Tamil, students receive fewer instructional hours in Bahasa Malaysia compared to National school students. To compensate for this, the standards of the Bahasa Malaysia curriculum and assessment are slightly lower for National-type school students.

EXHIBIT 4-6

English and Bahasa Malaysia performance (2010 and aspiration for 2025)



SOURCE: Examination Syndicate

Compared to Bahasa Malaysia, Malaysian students' performance in English language is weaker. Only 28% of students achieve at least a credit benchmarked to Cambridge 1119 in English language SPM. While performance in English language also varies by ethnicity, all three major ethnic groups fall significantly short of the target of 70% proficiency target. Only 23% Bumiputera, 42% Chinese and 35% Indian students achieve at least a Credit benchmarked to Cambridge 1119 (Exhibit 4-6). English language results are also the lowest of the core subjects at UPSR, PMR, and SPM level.

Lower student performance in English language appears to be driven by low proficiency among English language teachers. When a sample of over 7,500 English language teachers took the CPT, a significant number did not meet the minimum proficiency standard required for teaching English language. There is also a mismatch between subjects that teachers were trained to teach and the subjects they end up teaching. Due to unavoidable circumstances, approximately 30% of current English language teachers were not originally trained to teach English while approximately 3,600 that were trained to teach English language are teaching other subjects. Lastly, international research also indicates that Malaysia's 15-20% instructional time in English language may be insufficient for students to build operational proficiency.

The availability of and proficiency in other languages beyond Bahasa Malaysia and English language is relatively good. Approximately 20% of primary school students attend National-type schools with instruction in either Chinese language or Tamil and an additional 2% attend religious schools with some instruction in Arabic.

As per the People's Own Language Policy, all public schools are required to offer a language subject when at least 15 students request it. Under the KSSR, every child may also choose to learn an additional language depending on availability of teachers. Currently, 15% of students pass the optional Chinese language, Tamil or Arabic papers at SPM and there are many other students who opt to learn other languages like Japanese, French, German, and Spanish.

The Roadmap: Creating language proficiency at scale

As a first priority, every child that goes through the Malaysian education system should be operationally proficient in Bahasa Malaysia and independently proficient in the English language, as defined by the CEFR. Students from National-type schools will be proficient in an additional language. This will however require raising Bahasa Malaysia standards in National-type schools, better supporting students that are falling behind in Bahasa Malaysia as well as improving the teaching of English language over the next three years.

Once these improvements have been made, the Ministry will turn its attention to building a system that creates widespread proficiency in Bahasa Malaysia and English language, as well as universally encouraging students to learn an additional language. Efforts to develop Bahasa Malaysia into a Language of Knowledge or *Bahasa Ilmu* will be intensified, building further upon current initiatives. Structural changes that go beyond merely improving the quality of English language teaching to creating a more immersive English language environment will be required. The Roadmap will take place in three waves from 2013 to 2025.

Wave 1 (2013 to 2015): Strengthening the current system

Wave 1 will focus on improving the existing system. Over the coming three years, the Ministry will focus on making the standards of the Bahasa Malaysia curriculum uniform across all schools, improving English language teaching and lesson delivery, and increasing the availability of additional language options for students not in National-type schools. Children struggling with literacy will receive additional support through the LINUS 2.0 programme and additional, after-school remedial support in Years 4 to 6 to enable them to keep up with their mainstream peers.

Improving Bahasa Malaysia standards especially in National-type schools

To overcome lower levels of Bahasa Malaysia proficiency, National-type primary schools, in 2014 for the Year 4 cohort, will switch to the same Bahasa Malaysia language curriculum as National schools, but maintain Chinese language or Tamil as the medium of instruction for all other subjects. Additionally, for Years 4 to 6, up to five hours of remedial classes will be made available each week to students who are struggling with Bahasa Malaysia. These remedial classes will initially be targeted to National-type schools but will be replicated to other schools where there are groups of students falling behind in Bahasa Malaysia. Where necessary, additional Bahasa Malaysia teachers will be upskilled to avoid any teacher shortages. The combination of raising standards and providing additional support throughout primary schooling years will allow the Ministry to do away with the Remove or *Peralihan* class by 2017.

Develop Bahasa Malaysia into a Language of Knowledge

In line with the To Uphold Bahasa Malaysia and Strengthen the English Language policy or *Memartabatkan Bahasa Malaysia dan Memperkukuhkan Bahasa Inggeris* (MBMMBI), Bahasa Malaysia will remain the medium of instruction in National schools, including for Science and Mathematics. For National-type schools, Chinese language and Tamil will remain the medium of instruction.

Efforts to develop Bahasa Malaysia into a Language of Knowledge will be intensified. This includes encouraging academics to develop new bodies of work in Bahasa Malaysia, strengthening the Malaysian Institute of Translation and Books or *Institut Terjemahan dan Buku Malaysia* to translate international research and key terminology into Bahasa Malaysia, and greater provision of training courses in Bahasa Malaysia by *Dewan Bahasa dan Pustaka* and local universities. The Government will also send Bahasa Malaysia teachers abroad to train Malaysians overseas as instructors in Bahasa Malaysia to further spread and strengthen the language.

Strengthening the teaching of the English language

The Ministry will test the proficiency levels of all 70,000 English language teachers by the end of 2012 using the CPT. Teachers will be grouped into three categories based on their results—proficient, requires part-time immersive training over one year to reach proficiency, and requires part-time immersive training over two years to reach proficiency. There is likely to be a small, fourth group of teachers whose grasp of English is too weak to teach the language and who will be redeployed to teach other subjects.

Teachers that do not meet the proficiency standard will be put through an intensive English training course in 2013. The English training course comprises an 8-week immersion programme and 8-week self-learning course. The immersion programme is an in-person, face-to-face course with 30 hours contact time each week. The self-learning course is a modular, computer-based programme with 30 hours of self-directed learning per week. In total, the English training course will provide 480 hours of lessons each time it is taken.

The teachers will be evaluated at the end of the year and those who still do not meet the minimum competency standard in the CPT will be given up to two years to make the necessary improvements. As the average non-proficient teacher only requires training over two years to meet the proficiency standard, it is anticipated that most who adhere to the training regime will be able to pass the evaluation by 2015. Those who still do not meet the proficiency standard will be redeployed to teach other subjects.

Redeployment of teachers who do not meet the proficiency standard by 2015 could result in a small shortfall of English language teachers. These gaps will be proactively filled with teachers that already meet the minimum competency bar in English proficiency. To fill these gaps as rapidly as possible, the Ministry will hire teachers using alternative pathways. The primary sources of these new teachers will be existing English language teachers that are not currently teaching the subject, and new graduate teachers from the IPGs or IPTAs. These groups of people have the advantage of having already completed teacher training and can quickly start teaching. If primary sources do not produce sufficient teachers, secondary sources such as retired teachers will be tapped. Over time, the matching of what teachers have been trained to teach and the actual subject they end up teaching will also be improved. It is estimated that this should release an additional 2,000 English language teachers into the system.

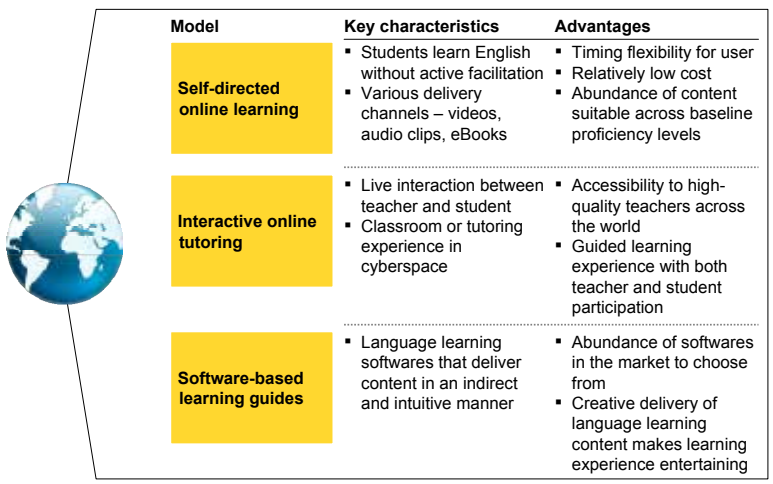
The English Language Training Centre (ELTC) within the Ministry will be strengthened to support the effective training of English language teachers and to continuously develop English language teaching and learning materials and programmes. The Ministry will also launch a series of MBMMBI initiatives to strengthen the delivery of English lessons. The OPS English Programme focuses on improving students' listening and speaking skills and is in the process of being scaled up following a successful pilot. OPS English teaching and learning materials are being refined based on feedback from principals and pilot programmes. Additionally, teachers will undergo training to ensure they can effectively use these new tools to re-focus lessons on listening and speaking skills.

Comprehensive English remedial support will be introduced. In Years 1 to 3, the existing LINUS programme will be expanded from Bahasa Malaysia literacy and Mathematics to include English literacy. Additionally, the Ministry aims to increase differentiation of teaching approaches using the new "set" system to help secondary school students struggling with the English language. Upon entering Form 1, all students will take a diagnostic test. Based on test results, students will be assigned to a "set" with students of similar English proficiency levels. Sets will be smaller than normal classes (each "set" is expected to be 20 to 30 students) and will allow teachers to tailor pedagogical styles according to students' skill level and learning requirements.

Given the planned roll-out of the 1BestariNet system, the Ministry has started exploring the use of ICT models to bring more effective English instruction to students. ICT solutions have the dual advantage of offering personalised learning customised to individual needs and being quickly scalable. Three models are currently under consideration—self-directed online learning, interactive online tutoring, and software-based learning guides (Exhibit 4-7).

EXHIBIT 4-7

ICT models under consideration for English instruction



Setting the stage for structural change

Strengthening English language subject teaching within the current system structure is only the beginning of the journey. To truly transform English language proficiency levels and achieve the 70% target, the structure of the system will need to be refined to create capacity for increased exposure time to the English language.

Increasing English exposure time has extensive operational implications on teacher recruitment and training, curriculum development, and potentially, school hours. Such a programme can only be embarked upon if three criteria are met:

- Bahasa Malaysia standards in National-type schools are equal to those of National schools;
- Delivery of existing English language classes is significantly strengthened; and
- Parents want an increase in exposure to the English language.

If all three criteria are met, the Ministry will offer the option of increasing exposure time to the English language in Wave 2.

Wave 2 (2016 to 2020): Introducing structural change

Successful execution of Wave 1 initiatives is a necessary pre-requisite for embarking upon deeper structural change in Wave 2. Only when the education system is able to deliver universal operational proficiency in Bahasa Malaysia and provide high-quality instruction in the English language as a second language will the education system be in a position to begin to create widespread bilingual proficiency.

In Wave 2, an improved LINUS programme and new Bahasa Malaysia remedial classes for Years 1 to 6 should significantly increase the standards of all students graduating from primary school. This, coupled with identical standards of Bahasa Malaysia curriculum and assessments between National-type primary schools and National schools, will eliminate the need for the *Peralihan* class for students struggling to make the transition to Bahasa Malaysia instruction in secondary school.

Having focused on increasing English language teaching standards and creating universal English literacy in Wave 1, the Ministry will continue to raise proficiency in Wave 2. After-school remedial classes will be introduced for students in Years 4 to 6 of primary school that are at risk of falling behind in English language. If the criteria for structural change are met, the Ministry will explore considering increasing the exposure time to the English language from the current 15-20%, for example via making an expanded English Literature module compulsory at both the primary and secondary level, delivered within existing school hours.

By 2020, the most popular additional language options such as Chinese language, Tamil, and Arabic will be offered at more schools. This will likely require training and deploying more language teachers. In addition, the teaching of additional languages will be integrated into instruction time at secondary school, as is the case in the new KSSR. Larger schools may, subject to resourcing, offer several language options while smaller school will explore leveraging the use of technology to increase the number of language options on offer.

Wave 3 (2021 to 2025): Scaling up structural change

The Ministry will carefully analyse the success of the structural changes introduced in Wave 2 and conduct a thorough National Dialogue to solicit feedback. If outcomes and feedback are positive, models that have been most successful in creating operational proficiency in both Bahasa Malaysia and English language and improving access to an additional language will be rolled out nationally.

In striving towards achieving the targets of 90% and 70% operational proficiency in Bahasa Malaysia and English language respectively, attention will be given to ensure that students receive high quality instruction in both Bahasa Malaysia and English language, that an adequate supply of trained teachers are available and that students that fall behind are adequately supported. Comparable support will be provided for the teaching of additional languages.

GROUPS WITH SPECIFIC NEEDS

The Ministry will ensure that students with specific needs, such as students with special needs, indigenous and other minority students like *Orang Asli* and *Penan*, gifted students and students in under-enrolled schools have the opportunity to get an education that is relevant to their needs.

There are a few groups of students whose circumstances or needs are different enough from the mainstream that they are likely to fall through the gaps and not reach their full potential unless specifically catered to. These groups include children in under-enrolled schools, students from indigenous and minority groups including *Orang Asli* and *Penan*, gifted children, and children with special needs. Programmes, schools, and initiatives that cater to the additional needs of these students will allow them to benefit equally from the Malaysian education system.

Under-enrolled schools

Currently, 34% of Malaysian primary schools have fewer than 150 students and are officially classified as under-enrolled schools or *Sekolah Kurang Murid* (SKM). They account for just 7% of total primary school enrolment.

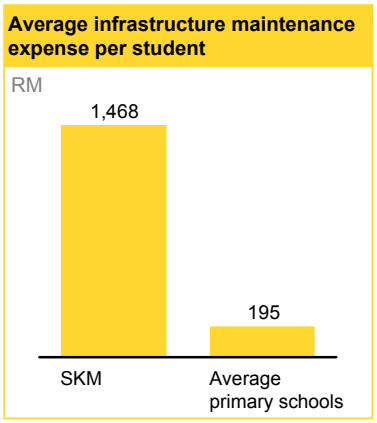
On average, SKM produce weaker educational outcomes in comparison with other public schools. Their average composite scores of 68% trail other public schools by 4 percentage points. This under-performance is linked to three structural challenges. Firstly, 73% of under-enrolled schools are located in distant rural areas. This requires students to travel long distances to attend school and reduces the likelihood of securing high-performing teachers and principals. Secondly, these schools lack the benefits associated with scale: co-curriculum offerings, better facilities, and interactions with a more diverse set of peers. Thirdly, many of these schools are located in low-income areas and face difficulties associated with lower socio-economic status. Low-income families face greater challenges in keeping their children in school due to the costs associated with supplies, uniforms, and transport, which often leads to higher rates of student absenteeism.

Maintenance expenses are seven times more per student at SKMs compared to those of regular schools (Exhibit 4-8). These higher costs coupled with lower teacher-student ratios of 1:6 versus the national average of 1:13 results in SKMs being more expensive to operate.

Despite the significant challenges involved, there are some high-performing SKMs that have beaten the odds to produce exemplary student outcomes and become the pride of their communities. Examples include SK Ulu Lubai, an under-enrolled school in Sarawak that was one of the best primary schools in the country in 2011. These schools are encouraging case studies that provide unique insight on what works in the unusual circumstances that under-enrolled schools face.

EXHIBIT 4-8

Infrastructure maintenance expense by school type



SOURCE: EMIS database; Development Division

Case study: SK Ulu Lubai

Despite being situated in a remote farming community, SK Ulu Lubai actively engages and involves the community in improving student outcomes. Through its efforts, SK Ulu Lubai has continuously achieved 100% passes in UPSR since 2006.

SK Ulu Lubai has received significant national and international recognition. Recently in 2011, the school selected as one of the High Performing Schools under the NKRA initiative -- the first rural school in the country to achieve this status. In 2009, SK Ulu Lubai beat 49 other submissions to receive the Commonwealth Award for its ability to deliver effective education in difficult circumstances. Additionally, SK Ulu Lubai is also the recipient of five national education ministry awards, 14 state awards, and 26 district level awards.

The Roadmap: Working with communities to put students' needs first

The Ministry is committed to working with parents and local stakeholders in determining the future of their schools and ensuring that there is no compromise on the quality of their children's education. For all under-enrolled schools, this will mean scaling up efforts to improve educational quality. To create and scale learning environments that are conducive for all students, the Ministry will facilitate the relocation of schools on a case-by-case basis based on discussions with the local community. The Ministry aims to improve learning outcomes and reduce operating costs at all under-enrolled schools to match the performance of other public schools.

Wave 1 (2013 to 2015): Implementing short-term "quick-win" improvements

Under-enrolled schools are expected to particularly benefit from some of the enhancements that will be rolled out across the Malaysian education system. These initiatives include LINUS 2.0, parent and community engagement toolkits, and infrastructural improvements. To ensure under-enrolled schools maximise and build on these benefits, the Ministry will roll out a School Improvement Toolkit that caters to the unique challenges that under-enrolled schools face. Drawing on the experiences of schools such as SK Ulu Lubai, the toolkit will provide real-life case-studies of successful leadership, administration, lesson delivery, and parent engagement models. To facilitate the toolkit's application, principals and teachers will participate in coaching sessions and observation visits to top-performing under-enrolled schools.

Tailored teacher training will be made available to teachers to provide them with the skills necessary to lead multi-grade classes. The Ministry will also review the existing teacher-student ratio and ICT innovations on distance learning to determine the best way to give these students access to the full spectrum of the curriculum.

Wave 2 (2016 to 2020): Introducing structural change

In the longer-run, two options will be made available to communities regarding the future of under-enrolled schools: relocation or maintaining the status quo. Relocated students will have access to scaled-up learning environments, interaction with more diverse peers, and a broader range of co-curricular activities. School relocations may lead to higher transportation costs, student adjustment difficulties, and the loss of community identity. As such, communities can alternatively choose to maintain the status quo and risk not benefitting from the scaled-up benefits available only at larger schools.

The PPDs will hold discussions with local stakeholders, parents, and school leadership to understand the various perspectives and to arrive at the best possible outcome for the community. Should communities opt for relocation, the PPDs will work with them to determine timelines and the relocation method best suited to their circumstances. Depending on the situation, the Ministry will employ a combination of measures such as subsidising school transportation and providing access to school counsellors for newly relocated students.

For communities that choose to maintain their schools, the Ministry will commit to long-term school improvements tailored to under-enrolled schools. In addition to continuing Wave 1 improvements, the Ministry will introduce educational software, teaching aids, and virtual learning environments specifically designed to raise educational outcomes at schools in remote areas.

Wave 3 (2021 to 2025): Completing structural changes

The Ministry will continue regular dialogue with communities that have under-enrolled schools. It will also evaluate the education outcomes of schools and students relocated during Wave 2 on an ongoing basis to ensure that any issue that may arise is addressed promptly, in a manner suitable to the situation. For all remaining under-enrolled schools, the Ministry will evaluate the impact of the various Wave 1 and 2 improvement measures, identifying areas for improvement and replicating successful practices.

Image by ming1967, Flickr CC 2.0

What happens when a school is relocated?

The Ministry is committed to ensuring the sustainable provision of quality education to all students, including in rural locations. In the long term, this may require changes to the current system of under-enrolled schools. The Ministry recognises the significant impact this would represent—for students, families, and the broader community level—and will have comprehensive discussions with local stakeholders before committing to any action. Should local communities decide that relocation is in their best interest, they may choose between several options depending on their needs:

Merge: Transfer students to a nearby school of the same type;

Move: Relocate under-enrolled school to a more populated area, while retaining the original school name and identity; or

Wind Down: For communities with declining and very small school-age populations, the school will wind down operations and redeploy teachers upon departure of the final student cohort. The Ministry will assist students eligible for new intake with admission to a nearby school.

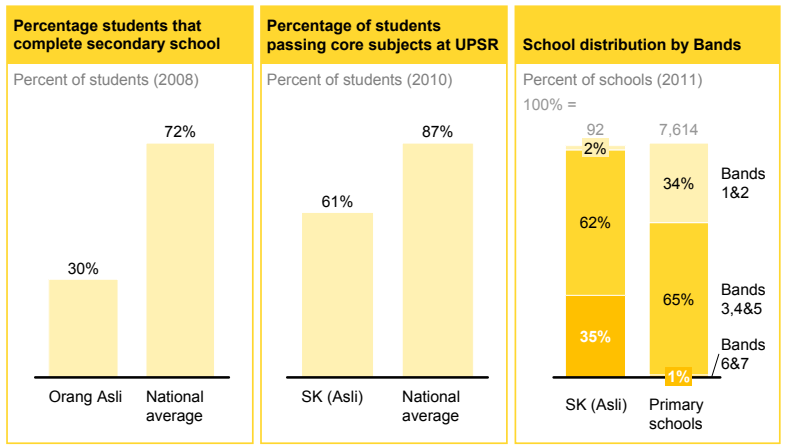
Indigenous and other minority groups

Indigenous and other minority groups (IOMs) comprise groups such as *Orang Asli*, *Penan, Pribumi Sabah* and *Pribumi Sarawak*. They account for 4% of all Malaysian primary and secondary school students. 68% of these students live in rural areas, and 80% in the states of Sabah and Sarawak. Statistics on IOM student outcomes in National schools apart from those regarding *Orang Asli* students is limited. As such, this section focuses primarily on the performance of primary schools with a predominantly Orang Asli student population. (For ease of communication, the write-up in this section will use the term Orang Asli National School or *Sekolah Kebangsaan Orang Asli* (SK Asli)). Interviews with teachers however indicate that other IOM students experience challenges comparable to those of their *Orang Asli* peers. Thus, while acknowledging that some difference in experience is likely to exist between groups, the *Orang Asli* experience will be used as a gauge for how other IOM groups are faring, at least until better data is available.

Drop-out rates for *Orang Asli* students is higher and consequently educational outcomes are poorer when compared to the national average. Only 30% of *Orang Asli* students complete secondary school, less than half the national average of 72%. Compared to the national average of 87%, only 61% of students at SK Asli pass the core subjects in the UPSR national examinations. Only 1% of public schools are in the poor performance band (Bands 6 and 7) compared to 35% of SK Asli (Exhibit 4-9).

EXHIBIT 4-9

Orang Asli student outcomes



SOURCE: "Dropout Prevention Initiatives for Malaysian Indigenous Orang Asli Children", Md Nor et al, (2011); Day School Management Division

Several economic, geographic, and cultural factors limit *Orang Asli* students' access to quality education. Firstly, higher incidences of poverty and the tendency to live in remote locations means that many *Orang Asli* students do not attend preschool and thus start from a low literacy and numeracy base in Year 1. Additionally, Bahasa Malaysia is not the mother tongue for most of these students, which further impedes learning. Secondly, principals and teachers report that existing training programmes do not sufficiently prepare them for the complexities of working with these communities. They struggle to support students on multiple levels: from helping them integrate with their non-*Orang Asli* peers, to convincing them and their families of the value of pursuing basic and further education.

The Ministry has undertaken multiple initiatives to address the issues raised above. Key among them are:

- The development of a contextualised curriculum (*Kurikulum Asli dan Penan*, KAP) tailored to *Orang Asli* and *Penan* students. KAP was piloted in 2007 at 14 *Orang Asli* and 6 *Penan* schools, and contains two elements—a minimum adequate syllabus and a curriculum that has been contextualised to the *Orang Asli* and *Penan* communities. Initial results have been promising. For example, KAP students are reportedly more confident, achieve higher levels of literacy and numeracy, and have better self-esteem;
- The development of a Special Comprehensive Model School Programme (K9) which provides residential education from Year 1 to Form 3. The main objective is to reduce the drop-out rate between Year 6 and Form 1. This programme was piloted in 2007, and thus far, it appears that attendance rates for students have been increasing every year, from 85.7% in 2007 to 97.6% in 2010;
- The inclusion of indigenous and other minority languages in the curriculum. Under the new KSSR introduced in 2011, the Ministry also expanded the elective language choices to include Iban, Kadazan-Dusun and Semai; and
- The provision of *Kelas Dewasa Orang Asli dan Pribum*i (KEDAP) classes for *Orang Asli* adults to provide them with sufficient literacy and numeracy to support their children's learning.

The Roadmap: Improving access and outcomes

The Ministry's current policy is to provide *Orang Asli* and *Penan* students with educational opportunities relevant to their needs. As such, in July 2012, the Ministry launched a dedicated 5-year transformation plan for Orang Asli education that will run from 2013 to 2018, that is during Waves 1 and 2 of the Blueprint. A comparable plan for the groups in Sabah and Sarawak will be launched by 2013.

Wave 1 (2013 to 2015): Improving access and laying foundations for further reform

The focus of Wave 1 will be on improving enrolment and attendance rates of Orang Asli students from primary through to secondary school. The first major initiative is to expand the number of K9 schools from two to six, followed by infrastructural upgrades for existing schools and residential facilities, and the construction of new residential schools.

Secondly, the Ministry will focus on curriculum enhancements. This includes updating KAP to ensure alignment with the design framework and principles of KSSR, and the broadening of the Basic Vocational Education or *Pendidikan Asas Vokasional* (PAV) curriculum at secondary schools to offer more class options. The Ministry will also roll out the KEDAP program to benefit unserved remote communities, especially in Sabah and Sarawak.

Thirdly, the Ministry will improve teacher recruitment, support, and training. To achieve this, the Ministry will increase the number of *Orang Asli* candidates in teacher training programmes, and strengthen resources for indigenous education research at the five National

Image by Yiie, Flickr CC 2.0

Centres of Excellence for Indigenous Pedagogy. To better support teachers in terms of classroom learning activities, the Ministry will expand the number of teacher assistants recruited from Orang Asli communities. The parent engagement toolkit that is being rolled out to all schools in Malaysia (see Chapter 7 on System Structure for more information) will also contain specific information for teachers and principals on working with indigenous and minority communities.

Lastly, to establish accurate performance baselines and goals for all IOM students, the Ministry will refine the student data collection processes. This information will be used to inform the development of further strategies for non-*Orang Asli* or *Penan* IOM students.

Wave 2 (2016 to 2020): Raising standards

The second wave of reform will be centred on raising learning outcomes and curricular standards for all IOM students using tailored interventions. Using enhanced data from improved data management processes, the Ministry will support JPNs and PPDs in tailoring interventions and providing need-based assistance for various IOM communities. During this period, the Ministry will decrease the number of SK Asli schools in Bands 6 and 7 to zero, and refocus efforts on boosting the standards of all SK Asli schools. The Ministry will also pilot and launch ICT education programmes to create interactive, culturally-relevant content for indigenous students, and improve access to high-quality learning materials for students located in remote regions.

The Ministry will also review the KAP curriculum to determine whether it should be extended from a purely primary school curriculum to encompass lower secondary education, or even whether it should be eliminated completely once the basics of literacy and numeracy have been established. If a decision is made to retain the KAP curriculum, the Ministry will look into the development of dedicated examination papers for UPSR that are aligned with KAP curriculum standards.

Wave 3 (2021 to 2025): Continuing successful practices

The Ministry will evaluate the impact of Waves 1 and 2 and identify areas for improvements. The most successful practices will continue to be scaled up nationally.

Education for gifted students

As Malaysia becomes a developed economy, grooming top talent will become increasingly important towards achieving our growth objectives. Competitive Asian economies, such as Hong Kong, Singapore, and South Korea, employ education for gifted students as a driver of human capital development and national innovation. These countries provide an education for gifted children through a two-step process. Firstly, the governments identify gifted students, through measures of aptitude, as well as mathematics and verbal achievement scores. Next, the students are admitted into specialised programmes at the preschool, primary, and secondary levels.

There are currently some programmes in Malaysia that cater to high-performing students in the private and public sector. Within the public sector, the *PERMATApintar* National Gifted Programme conducts School Holiday Camps, a series of science, technology, and mathematics enrichment programmes for students from Year 3 to Form 3. There are also dedicated residential schools for high-achieving students from Forms 4 to 5. However, there are limited centralised policies for the long-term planning, administration, and evaluation of the gifted segment.

The Roadmap: Developing a national strategy for gifted students

Wave 1 of the reform will focus on building a better understanding of the needs of gifted children in Malaysia, and designing programmes

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that address their needs. Wave 2 will see the piloting of these new programmes, with nationwide scale-up occurring in Wave 3.

Wave 1 (2013 to 2015): Identifying areas for improvement

Over the next three years, the Ministry will benchmark local programmes against other systems with top-performing programmes for gifted students to identify areas for improvement and replicate successful practices. Additionally, the Ministry will establish working partnerships with the private sector and leading research institutions to start developing its own set of gifted and talented programmes.

Wave 2 (2016 to 2020): Piloting new gifted and talented programmes

Using the research and partnerships established in Wave 1, the Ministry will start exploring and piloting three programmes—two for high achievers (typically estimated in research to form 15% of the student population), and one for gifted students (1% of the student population):

- **The accelerated curriculum programme** will allow high achievers to complete secondary school and take the SPM in four rather than five years, and to undergo more enrichment activities such as independent research projects. Students will be selected for entry after UPSR, and will be regularly tested each year to ensure the programme is beneficial and has no developmental drawbacks;

- **Laluan Pintas** will allow students to complete Years 1 and 2 in a single year. Students are tested at the beginning of Year 1 for employing a standards-based test developed by Universiti Kebangsaan Malaysia, with typically 10 - 15% of test-takers meeting the required standard for admission each year. Upon successful completion of the programme, students will be promoted to Year 3 in the following academic year; and

- **The gifted and talented programme** for the 1% of the student population that is gifted in a specific area (e.g., Mathematics, Linguistics, Music, Visual Arts). Students will have a tailored, flexible education programme that enables them to receive instruction from experts in their field while still participating in mainstream schooling.

Wave 3 (2021 to 2025): Scaling up success

During the final phase of the Roadmap, the Ministry will refine the design of the three pilot programmes and gradually scale up the pilot programmes nationwide.

Special needs education

In Malaysia, students with special needs include students with visual impairment, hearing impairment, speech difficulties, physical disabilities, multiple disabilities and learning disabilities such as autism, Down's Syndrome, attention deficit hyperactivity disorder and dyslexia. The United Nations estimates that an average of 10% of a developing country's population lives with a disability. In Malaysia, only 1% of the population has been identified as having special needs and are enrolled in suitable special education programmes. This figure is likely to be an underestimate of the number of children in the country who actually have special needs, primarily because people with disabilities rarely come forward to register themselves.

In line with existing policy, students with special needs can currently choose from three different schooling options:

- **Special education schools:** Specific schools where all students have disabilities (all students could have the same disability, such as visual impairment, or different disabilities);
- **SEIP:** Mainstream schools with specific classes dedicated to students with special needs; and
- **Inclusive education programmes:** Mainstream schools that integrate one to five students with special needs into mainstream classes.

Only a small fraction of students with special needs are currently in inclusive programmes (~6%). Most attend integrated programmes (~89%), and the rest attend special education schools (~5%).

While students do have access to these different schooling options, the quality of the education provided across all options have several shortcomings. Firstly, there has been a shortage of qualified teachers and professional support such as audiologists and occupational therapists. Secondly, while a tailored curriculum for certain special needs groups have been developed (for example, *Kemahiran Asas Individu Masalah Penglihatan* for blind students, *Bahasa Isyarat Komunikasi* for deaf students), there is less support for students with learning disabilities such as autism). There are also concerns that these students may be better suited to a more applied and vocational curriculum that better prepares them with life skills than the mainstream academic curricula currently available. Finally, there is a general lack of facilities in mainstream schools such as disabled-friendly facilities, and assistive technological devices such as hearing aids and Braille typing machines.

The Roadmap: Improving quality and inclusion

Following the Salamanca Statement and Framework for Action on Special Needs Education (1994), many high performing education systems have adopted a more inclusive approach to special needs education. The statement says that those with special needs must have access to mainstream schools and that mainstream schools with an inclusive orientation are the most effective means of overcoming discriminatory attitudes, creating welcoming communities and building an inclusive society. Similarly, Article 28 of Malaysia's Persons with Disabilities Act 2008 affirms that special needs children are to be given the necessary support to facilitate their "full and equal participation in education."

Based on international best practices and current national policy, the Ministry is committed to moving more students with special needs towards the inclusive education model, and raising the overall quality of provision. The Ministry will implement a series of initiatives to achieve these objectives with the first wave focused on strengthening existing programmes. The second wave will focus on scaling up initiatives, and increasing the pool of experts available to support students with specials needs–both to deal with an increasing number of such students and the broader range of special needs that are emerging. The third wave will evaluate these initiatives and consolidate successful ones. In implementing these initiatives, the Ministry will collaborate with specialist organisations such as the Southeast Asian Ministers of Education Organisation Regional Centre for Special Education (SEAMEO-SEN).

Wave 1 (2013 to 2015): Strengthening existing foundations

The Ministry will adopt a policy whereby schooling options for students with special needs will be linked to competency levels. High-functioning special needs students who can cope with the mainstream curriculum and assessments will be encouraged to attend inclusive education programmes. Moderate-functioning special needs students will attend SEIP. Low-functioning special needs students will be encouraged to attend special education schools where they can expect to learn a simplified curriculum focused on basic skills, life skills, and social skills.

The Ministry will therefore develop a set of evaluation instruments and screening process to accurately identify the competency levels of students and place them in relevant schooling options. The Ministry will also continue efforts to raise the quality of education by incorporating more vocational skills such as reflexology and computer graphics into all special needs curricula, upgrading infrastructure and equipment in both mainstream and Special education schools, improving special education service centre facilities, providing basic special education training modules at IPGs and public universities, providing in-service training modules with differentiated expertise levels (from basic to expert), and tailoring curriculum and assessment by student ability.

As a result of these efforts, the Ministry is projecting a 15% annual increase in enrolment from approximately 50,000 students in 2011, to 88,000 by 2015. Of these 88,000 students, 30% are targeted for enrolment in inclusive education programmes.

Wave 2 (2016 to 2020): Scaling up initiatives

The second wave will involve scaling up the initiatives from Wave 1, and moving towards more inclusive education. Teacher training programmes will be further strengthened. The aim is for all teachers in the system to undergo basic training in special needs education so they are able to effectively identify students with special needs, and tailor their teaching effectively for students with special needs who are enrolled in mainstream classes, so as to allow for greater inclusion.

In this wave, the Ministry will explore forming partnerships with other organisations, such as NGOs, international organizations, private sector organisations, and government agencies to further improve the provision of support and opportunities for students with special needs. Partnership support could come in the form of funding from agencies, developing joint workshops and programmes for students with these agencies, and securing professional support such as audiologists and occupational therapists.

Wave 3 (2021 to 2025): Evaluating and consolidating initiatives

In the third wave, the Ministry will evaluate the success of all initiatives from the first two waves, and develop a roadmap for the future accordingly. The aim is to give every child with special needs access to a high-quality education that is tailored to his or her particular needs, to have every teacher equipped with basic knowledge of special education, and to have 75% of students with special needs enrolled in inclusive programmes by 2025.

ACCELERATING SCHOOL IMPROVEMENT

The Ministry will ensure that JPNs and PPDs are strengthened and refocused to support student learning in schools and improve the overall performance of schools. Measures that will be undertaken include:

- Enhancing the practice of providing differentiated support to schools by their performance band;
- Empowering and supporting the JPNs and PPDs to tailor their interventions with schools to account for the specific context of each school; and
- Making JPNs and PPDs more responsible and accountable for the overall performance of schools.

Delivering a consistent student learning experience for all Malaysian students means ensuring that across 10,000 schools, the curriculum taught is a true reflection of the intent of the written curriculum, students are receiving proficient instruction in both Bahasa Malaysia and English language, all teachers are teaching to a high standard, and programmes are offered to cater to groups with specific needs. Achieving this consistently across schools requires more than well-conceived policies. It requires tailored support for schools by need, and a concerted focus on school improvement at every level of administration, from the Head Office in Putrajaya, through to all 138 district offices across the country.

Among the more recent efforts launched by the Ministry to improve school performance is the NKRA School Improvement Programme (SIP) launched in 2010. The SIP provides targeted support for schools in Bands 6 and 7, through principal and teacher coaches, and increased monitoring from the PPDs. Additional efforts to tailor support include the provisions for Special Award schools–High-Performing Schools (HPS) and Cluster Schools (CS) that have been recognised for their outstanding performance.

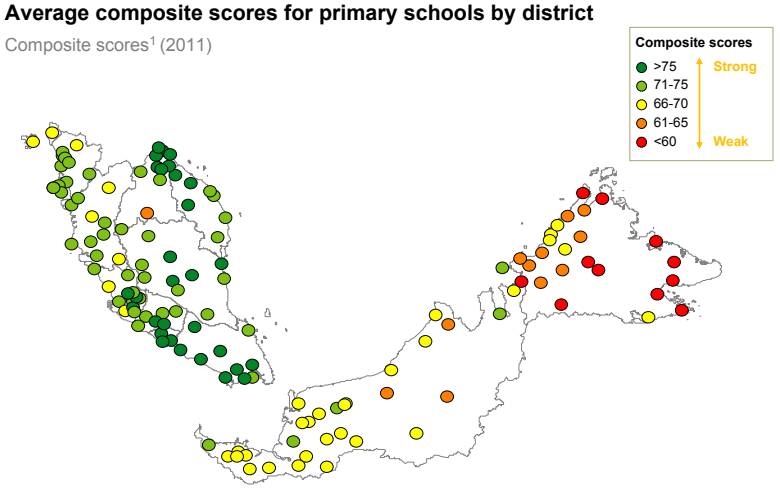
The success of these measures in improving student learning outcomes varies significantly between states. As Exhibit 3-22 illustrated, at UPSR, the best performing state, Wilayah Persekutuan, Putrajaya, has an average GPS score that is 33% higher than the lowest performing state, Sabah. Similar levels of variance exist at SPM level. This variance also exists within states, at district level. For example, Kelantan's and Sarawak's state average composite scores vary from 49% to 75% as compared to states like Johor and Terengganu where the variance is much smaller (Exhibit 4-10).

Differences in wealth or urbanisation alone appear insufficient to explain the differences in performance. For example, Selangor and Penang, which have two of the highest household income levels in Malaysia, only produce average performances with significant variance between districts. By contrast, Johor, a state with an average household income level, performs in the top third of all states, and has one of the lowest variances in UPSR student performance.

EXHIBIT 4-10

Average composite scores for primary schools by district

Composite scores[1] (2011)



1 Based on average composite scores of all primary schools within each PPD
NOTE: Average composite scores are rounded to the nearest whole number

SOURCE: National Key Result Area

The variance in performance suggests that some states and districts have, through sheer discipline and administrative skill, managed to drive significant improvement across all schools and maintain narrow performance gaps between the best and lower-perfoming schools. The student learning experience that these administrations have managed to create has to be scaled-up from a handful of schools to all schools in the system. High-performing school systems recognise that the only way to do this is by creating a strong middle layer–namely the layer of management between the Ministry and the schools. In Malaysia's case, this means empowering the JPNs and PPDs.

The Roadmap: Accelerating school improvement through states and districts

Analysis of twenty of the most improved school systems including Singapore, South Korea, and the UK reveals that successful education transformations drive change through an effective middle layer. State success stories such as that of Johor and Terengganu also suggest that strong state and district management practices are key to creating widespread impact (see case study on Johor for an illustrative example of effective practices).

Special Award schools

The Ministry has two types of Special Award schools that have been recognised for their outstanding performance.

HPS were introduced in 2010 under the National Key Results Area (NKRA) to recognise the best schools in the country. HPS consistently produce excellent academic and non-academic student outcomes, have a distinctive character, and are capable of competing internationally. Schools are selected after a rigorous selection process that looks at two categories: (i) academic achievement; and (ii) performance in co-curricular activities. There are 66 HPS to date. In recognition of their achievements, each HPS receives an allocation of RM700,000 in their first year, RM500,000 in the second year, and RM300,000 annually thereafter to invest in school improvement programmes of their choice. They have greater operational flexibility on specific matters relating to student intake, financial management and human resourcing.

CS are schools that are at the forefront of innovation and excellence in a niche area. CS were introduced in 2007 to serve as models for other schools in the system and span a broad range of specialties such as art and music, science and technology. As with HPS, schools need to apply for consideration and while the bar is still high, the focus on academic excellence is not as strict. As such, CS include schools from Bands 1 to 5. A CS receives greater operational flexibility on how it spends its money to develop its niche area, and can select up to 10% of its student intake. There are currently 170 schools in the system.

Wave 1 (2013 to 2015): Transforming state and district leadership

States and districts that use administration to drive success, give the Ministry insight into what a district needs to be successful. Armed with this new information, the Ministry has developed a state and district transformation programme (the "District Transformation Programme") to enable all states and districts to substantially improve schools. By 2015, the programme aims to reduce the number of Band 7 schools to zero, reduce the urban-rural gap by 25%, and increase student attendance to 95%.

Empowering local leadership

The Ministry will shift the responsibility of engaging with schools to the JPNs and PPDs, and have the Head Office adopt a more strategic role. The officers at the federal level will minimise direct school engagement and focus on setting policies and strategy while providing central services such as data collection and curriculum and assessment development.

Similarly, the JPN role will focus on supporting PPDs in delivery of their new responsibilities and reduce its amount of direct interaction with schools. The JPN will be responsible for determining district targets, managing the performance of PPDs, facilitating collaboration between districts, and allocating resources to districts that need it most.

The PPDs will become the frontline and support the improvement of school performance. Even more so than they do currently, they will engage directly with schools on a regular basis to coach, mentor, and monitor performance. This expanded role will involve:

- Setting targets for individual schools;
- Providing coaching to teachers and principals;
- Monitoring and using data to inform school improvement activities;
- Holding principals and teachers accountable for their performance and holding performance dialogues;
- Creating collaboration across schools, for example through rolling-out best practices; and
- Targeting resource deployment to schools that need it most.

Anchoring the system to common goals

The Ministry has developed a set of KPIs anchored on the system goals of access, quality, equity, unity, and efficiency. These KPIs have been cascaded downwards from the Ministry to schools, ensuring consistency and coherency of targets throughout the system. Starting at the national level, each JPN, PPD, and school will have their performance tracked against these KPIs on a yearly basis.

Within states, PPDs will be ranked based on these KPIs to help JPNs understand which districts require more support and what factors might be driving their underperformance. Similarly, within districts,

What practices really make a difference to student outcomes?

The Ministry found a high degree of commonality between practices of rapidly improving and good schools. Conversely, there was a stark contrast between the practices of these rapidly improving and good schools with under-performing schools.

Under-performing schools generally struggled with the sheer number of potential programmes they could implement, and reported feeling stretched and overwhelmed. In rapidly improving or good schools on the other hand, principals had a strong understanding on what was critical for their schools and acted decisively to focus their teachers and school community on a core set of practices. This illustrates the critical role that principals play in shaping school performance.

What are the types of practices that rapidly improving or good schools believe make a difference?

1. Safeguard and extend teaching and learning time: Good schools limit activities that encroach on the regular timetable, for example, by not calling teachers out of class for meetings, requiring all teachers to find a replacement in the event they need to leave the school for meetings or training sessions, and in some cases, extending the amount of time available for teaching and learning such as through after-school remedial classes for weaker students. One school in Sabah, SK Babagon Toki has even set up learning booths that are manned by teachers during the daily recess break. Students who visit these booths and complete fun-filled learning activities receive stars, with a prize at the end of each month being awarded to the student with the most stars.

2. Intensify support for teachers: Among the good practices noted was the provision of extra support to new teachers, for example through the shared teaching of classes with more experienced teachers, the creation of a timetabled slot each week for teachers to spend in lesson-planning workshops, and the assigning of mentors from the pool of more experienced teachers to provide on-going coaching and feedback. Good schools also tend to have increased the lesson observations requirement beyond the minimum prescription of twice a year.

3. Tailor support to the needs of students: Good schools also tailor the support they provide to students, particularly those who are weaker. In Johor, for instance, all schools are required to group students into three categories: weak, average and strong. For each category, teachers differentiate the depth at which the syllabus is covered (the state has defined the minimum syllabus that is adequate for weaker students), the level of difficulty in the exercises that are applied, and even the size of the class (with weaker students put into smaller classes so that teachers can provide them with more attention). One school in Sabah even streamed students by subject so that students would always be taught at a level that is most appropriate to their needs.

4. Use data aggressively: In Johor and Terengganu, the state's examination data tracking system is used extensively at the school level to inform changes in teaching practice. Within a few days of each assessment, teachers are able to determine groups of students who are at the threshold between grades, particularly those on the verge of a pass grade, or others who are "near-misses" for achieving A grades, for instance. The analysis is further supported through an item analysis, where exam responses are examined in detail to determine the particular type, scope and difficulty of questions that are giving students problems. Lessons are then devised to help students practice in the weaker areas.

5. Intensify engagement with parents, communities and students: Good schools often enlist parents, students and even communities as partners in the learning process. Critically, this engagement is focused on what each party can do to improve learning outcomes. For example, some schools provide explicit guidance to parents on what they can do to help their child: check their homework daily, ensure they spend at least an hour each day on revision, etc. Others also engage parents and students in joint discussions on their goals for the year, and then get them to sign an *aku janji* pledge as a commitment to working towards that goal.

Johor's Best Practices -- Identifying the Right Things and Doing Them Well

Johor is one of the better performing states in Malaysia at the primary level. In 2010, it ranked second in the country, behind WP Putrajaya, on the UPSR examinations. While it dropped in rankings in 2011, the difference between the states that jumped ahead of it was a marginal 0.3 to 2.0 percentage points. Nonetheless, Johor continues to have one of the lowest variances in student performance in UPSR across its PPD. What is impressive is that Johor has made the journey from Bottom 5 to one of the top states in the country in the span of just five years.

Johor's success can first and foremost be credited to the strength of its leaders at the State and District level, particularly three successive State Education Heads driving its transformation programme.

1. Clarity of shared vision. At the start of Johor's reform journey, the JPN leadership started rallying districts together around the share vision of "Johor Top 5". This was both simple to understand, and compelling in its level of ambition (as Johor was starting from the bottom 5 in the national examination rankings). Five years later, this shared vision remains on the lips of all officers, principals, teachers and even parents. Without prompting, they would offer this refrain as a succinct articulation of what the state was constantly striving for.

2. Prioritisation of programmes to focus on academic outcomes. During the initial roll-out of the Johor Top 5 strategy, there was pressure from stakeholders – both within and outside the State Education Department – to broaden its focus. The JPN leadership however held firm on the grounds that schools could not afford to spread themselves too thinly, and that improving academic outcomes would have a positive knock on effect on the other issues facing the system (e.g. discipline). This commitment to delivering on a small handful of priorities remains a hallmark of the Johor story.

3. Strong performance culture anchored on data. Johor started using its online-based performance reporting system (Headcount) in 2006 which tracks data to the student level. The system collects student examination results (down to each subject question) from every state and national assessment. At the school level the principal will have a performance discussion with the school's teachers to understand why the students may have failed or succeeded in meeting their targets. Critically, the focus is on identifying the appropriate remedial action to support students (for example, extra classes after schools). A similar performance dialogue is then held between the district head and school principals, and the JPN head and district heads. Rankings are communicated in a timely manner to all districts and schools.

4. Phased professional development targeted at districts and school leaders. In parallel with the roll out of the Headcount system, the JPN also rolled out a professional development programme targeted at principals, deputy principals and district officers. The programme started with the fundamentals of instructional leadership so that the principals and districts would be equipped to develop solutions to the challenges they were identifying with the Headcount data. The state continued to focus all professional development on the topic of instructional leadership for 2 to 3 years until all school leaders and officers had a strong grasp on the topic, before rolling out a new programme on change leadership.

5. Prescription to ensure a minimum standard of good practices. The State prescribes a number of different programmes to create a certain degree of uniformity in practice. This includes: 1) Plan J, which sets out the number and difficulty level of homework questions for each lesson, differentiated by the student's abilities, and 2) a Minimum adequate syllabus that teachers can use for academically weaker students

6. Differentiated interventions based on performance. This is not only evident at the school level, where streaming and tailored drills are common practices, but also at the system level, where school clusters of different performance bands receive different types of support from the district and state. For example, Band 4 and 5 schools are coached on improving teaching and learning practices, while Band 3 schools are coached on improving school management. Within schools, each school is required to create at least three differentiated tiers of student ability – good, average and poor. This manifests as groupings such as *Bintang, Sinar* and *Harapan*, for example. Each group applies a differentiated programme, be it in the approach taken to teaching and learning in the classroom, or the attention students get from their teachers, or in the intensity and pace of the drills given to the students. PPDs adopt schools and give more focus to underperforming schools

Johor's officials are quick to point out that the system is not doing anything particularly new or difficult. What differentiates it from the other states is the rigour and discipline with which every action is followed through. It has ingrained in its system a performance culture that is centred around data and clear evidence, a strong grasp of the notion of differentiated interventions based on ability, and an atmosphere of collaboration in which the stronger districts, schools and teachers help support the weaker ones.

PPDs will be able to use the NKRA performance bands and school performance against these common KPIs to target resources where they are most needed. At the end of each year, the top five most improved PPDs nationwide will be recognised for their efforts.

This new set of KPIs will be piloted in Sabah and Kedah from January 2013 and rolled out nationwide by the end of 2013. The Ministry will continuously monitor their usefulness to informing the school improvement process, and make adjustments as required. The Ministry will also review the current calculation methodology for the NKRA performance bands to determine if further refinements are required.

Providing support where it is most needed

PPDs will build off centrally-administered policy to develop interventions targeted to the specific contexts of schools. JPNs will provide the necessary resources and support for the execution of these initiatives. An example of an issue that benefits from the additional flexibility is student attendance. Student attendance tends to have a broad range of root causes that are often context-specific. For example, poor access, parental attitudes, or an unattractive school environment may be reducing school attendance. The strategy employed has to vary with the root cause in order to be effective—a transport solution where access is poor, home visits by teachers to parents who do not understand the importance of schooling, and maintaining a beautiful school compound to increase physical attractiveness schools. In these situations, the PPDs are best positioned to determine the best course of action, and should have the freedom and resources to do so.

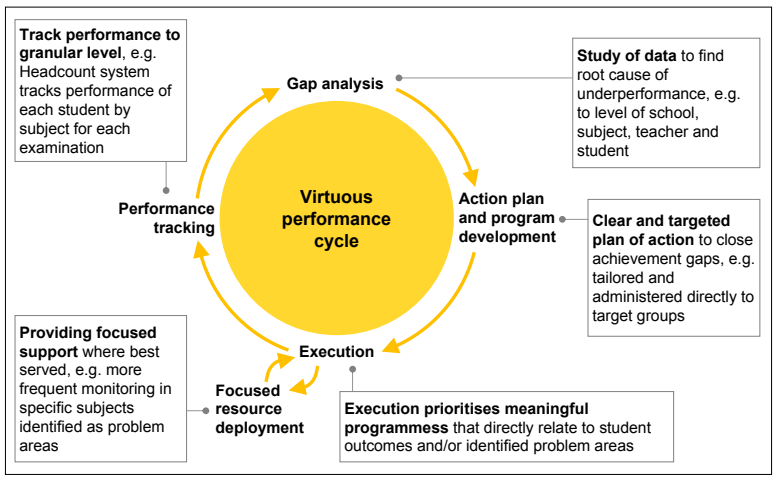
Monitoring, problem solving, and taking action

The Ministry, JPNs, PPDs, principals, and teachers will conduct regular performance dialogues to ensure that schools, districts, and states are on track to achieve their targets. The performance dialogues are characterised by the use of granular performance data to identify both strengths and weaknesses, followed by immediate revisions to the implementation plan to ensure issues are solved. These performance dialogues are expected to be held at least twice a year (Exhibit 4-11).

EXHIBIT 4-11

Performance dialogue cycle

Based on good practice example: Johor



Wave 2 (2016 to 2020): Increasing operational flexibility for JPNs, PPDs and schools

Having strengthened state and district management capabilities and significantly reduced Bands 6 and 7 schools, the Ministry will look into ways to give state, district, and school leadership greater independence. At the state and district level, the Ministry will look into providing these offices with greater operational flexibility over budget allocation and personnel deployment. Further, in line with the roll-out of KSSR and KSSM, the Ministry will change existing regulations to give schools greater flexibility over curriculum timetabling, as long as they are able to deliver the learning and content standards expected.

Wave 3 (2021 to 2025): Scaling up decision rights

Based on learnings from Waves 1 and 2, the Ministry will continue to review the types of decision rights accorded to JPNs, PPDs and schools. The expectation is that at this stage, most if not all schools would be ready for greater school-based management and autonomy. Additionally, the Ministry will start exploring the introduction of new infrastructure that will facilitate more autonomous learning both at the school and student level. This could include introducing video-conferencing facilities to facilitate twinning programmes with schools in other countries, tablet computers for students to reduce reliance on traditional textbooks, and faster internet connectivity (see Chapter 6 on Ministry transformation for further information).


SUDUT MEMBACA

The Ministry is at the starting point of its journey to develop an education system capable of producing Malaysians who will be competitive in a globalised, 21st century world. This requires a reconsideration of what student learning means, and a rearticulation of the kinds of skills that the Malaysian education system wants to inculcate in its students. In order to truly transform student learning, change needs to happen at all levels—the Ministry, states, districts, schools, principals, and teachers.

In the initial years of its journey, the Ministry will focus on strengthening existing foundations as well as delivering early results. The Malaysian education system will also evolve from a one-size-fits–all approach to implement context-specific solutions in order to thrive. As the system improves, the Ministry will roll out more structural reforms to curricular and assessment and award greater operational flexibility to states, districts, and schools.

CHAPTER 5

TEACHERS AND SCHOOL LEADERS

5. Teachers and School Leaders

Teachers and school leaders are the most important school-based drivers of student outcomes. Seminal research conducted in the state of Tennessee, USA in the mid-1990s showed that high-performing teachers can improve student achievement by up to 50% over a three-year period, relative to low-performing teachers. Similarly, an outstanding principal, one who is focused on instructional and not simply administrative leadership, can raise student outcomes by as much as 20%. This chapter investigates the challenges facing the profession, from selection through to ongoing professional development and performance management. It discusses the Ministry's vision of teaching as a vibrant and rewarding profession of choice, and the measures being developed to provide teachers and school leaders with an integrated solution in terms of workload, continuous professional development, career progression, and performance management.

Over the course of the review, the Ministry engaged over 24,000 teachers and school leaders and more than 26,000 members of other stakeholder groups—via written surveys, interviews, focus groups and during the National Dialogue. In all of these engagements, one consistent message was the need to enhance the quality of teachers and school leaders in the system. These respondents all intuitively grasped what international research has also demonstrated: good teachers and school leaders are the bedrock of any system. Going forward, the Ministry will recruit the very best into the profession and equip them with the tools and support to deliver high-quality outcomes for every child in every school.

TEACHERS

The Ministry will ensure the delivery of effective student-centred and differentiated teaching and learning in every classroom and elevate teaching to become a profession of choice. The Ministry will achieve this goal by introducing a new Teacher Career Package to fundamentally change the way teachers are selected, developed and rewarded throughout their entire careers.

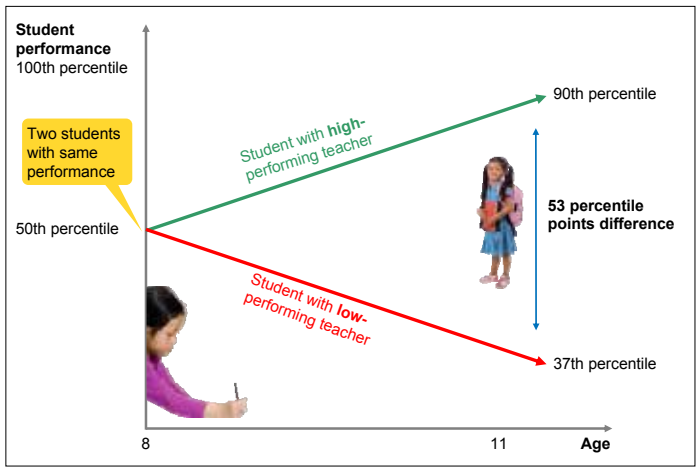
Measures undertaken will include:

- Raising and enforcing entry standards into teacher training programmes;
- Improving the effectiveness of pre-service and continuous professional development; and
- Developing exciting new career pathways that support fast-tracking based on performance and competencies, along with opportunities for redeployment for consistent underperformers.

The quality of teachers is the most significant school-based determinant of student outcomes. Seminal research conducted in the state of Tennessee, USA in the mid-1990s showed that when two average, eight-year-old students were given different teachers—one high-performing and the other low-performing—the students' academic performance diverged by more than 50 percentile points within three years (Exhibit 5-1). Similar results have been found in studies conducted in Dallas (USA), Boston (USA), and England.

EXHIBIT 5-1

Impact of teaching quality on student performance



SOURCE: Sanders and Rivers 'Cumulative and residual effects on future student academic achievement' (1996)

Demographics of the teaching force

The Ministry has steadily expanded the size of its workforce over the past decade to reduce the overall student-to-teacher ratio. As a result, Malaysia now has 410,000 teachers and one of the lowest student-to-teacher ratios in the world. It currently stands at 13:1, which is lower than that of high-performing systems such as Singapore (16:1) and South Korea (20:1), as well as the OECD average (16:1).

"The quality of a school system cannot exceed the quality of its teachers."

Barber and Mourshed (2007) "How the World's Best Performing Systems come out on top."

This recent expansion has created a workforce that is relatively young in age. Approximately two-thirds of teachers in Malaysia are under 40 years old, making it likely that approximately 60% will still be teaching in 20 years, and 50% will still be teaching in 30 years. In terms of demographic makeup, the profession does not currently reflect the broader Malaysian population: in particular, there are not as many male and ethnic minority teachers as the industry would like.

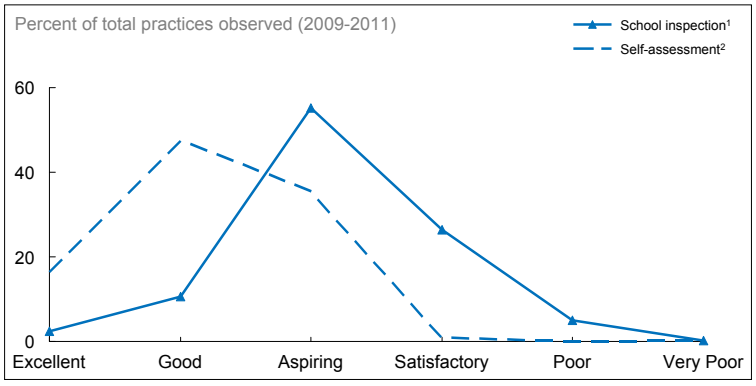
Quality of teaching

In 2011, researchers from the Higher Education Leadership Academy or *Akademi Kepimpinan Pengajian Tinggi* (AKEPT) at the MOHE observed 125 lessons in 41 schools across Malaysia. They found that 12% of lessons were delivered at a high standard, utilising many best-practice pedagogies and 38% met satisfactory standards. However, 50% of the lessons were observed to be delivered unsatisfactorily. Lessons did not sufficiently engage students, relying on a more passive lecture format of content delivery by the teacher. The focus was more on achieving surface-level content understanding for summative assessment purposes, rather than on cultivating higher-order thinking skills. For example, students were more likely to be tested on their ability to recall facts (70% of all lessons observed) than to analyse and interpret data (18%) or synthesise information (15%).

There also appears to be differences in perceptions of what constitutes good quality teaching and learning between schools and the JNJK. For example, 63% of schools rated themselves as having Good or Excellent teaching and learning practices, as compared to just 13% by school inspectors (Exhibit 5-2). Combined, these data points suggest that more can be done to build a common understanding of what good teaching looks like, and to prepare teachers to meet that expectation.

EXHIBIT 5-2

Effectiveness of teaching and learning practices as assessed by schools and JNJK



1 N = 3,352 for 2009; N = 1,552 for 2010; and N = 5,049 for 2011
2 N = 9,859 for 2009; N = 9,849 for 2010; and N = 7,714 for 2011 (excluding secondary schools)

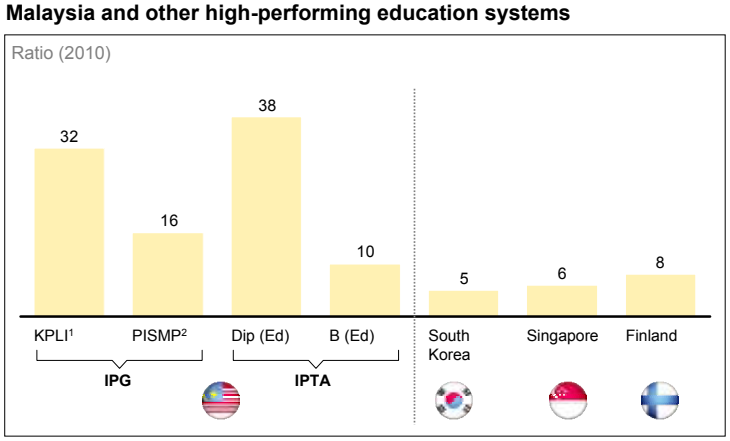
SOURCE: School Inspectorate and Quality Assurance

Selection

The Malaysian system attracts a large number of applicants for its teacher trainee programmes. The applicant-to-trainee ratio is as high as 38 applicants per place, and surpasses that of high-performing education systems like Singapore, South Korea, Finland (Exhibit 5-3). This is promising as it implies that there is strong interest in the profession.

EXHIBIT 5-3

Applicant to student ratios for teacher training programmes in Malaysia and other high-performing education systems



1 KPLI refers to Kursus Perguruan Lepasan Ijazah, a Post-graduate Teaching Course
2 PISMP refers to Program Ijazah Sarjana Muda Perguruan, a Bachelor of Education programme

SOURCE: Ministry of Education (Malaysia); Ministry of Higher Education (Malaysia); Ministry of Education, Science and Technology (South Korea); Ministry of Education (Finland); Ministry of Education (Singapore); Press search

In line with international best practices, applicants are selected based on a range of factors including attitude, aptitude for teaching, and personality. The Ministry also sets a minimum academic requirement for entry into IPGs. For example, the requirement for the Bachelor of Education programme or *Program Ijazah Sarjana Muda Pendidikan* (PISMP) is three distinctions and three credits in the SPM. The Ministry has also recently started prioritising applicants with a minimum of seven distinctions. This prioritisation is producing a fundamental shift in the profile of teacher trainees.

In 2010, 93% of PISMP applicants scored below the minimum academic requirement, and only 1% of applicants had at least seven distinctions. In contrast, in 2012, the percentage of applicants scoring below the requirement had dropped significantly to 38%, while the percentage of applicants with at least seven distinctions had risen to 9%. More importantly, the prioritisation effort led to 65% of academic high-performers receiving offers in 2012 as compared to 3% in 2010 (Exhibit 5-4). The Post-graduate Teaching Course or *Kursus Perguruan Lepasan Ijazah (KPLI)* has also seen a slight improvement in intake standards, from 7% of academic high-performers receiving offers in 2010 to 13% in 2012. These are promising steps towards the practices of top-performing systems like Finland, Singapore, and South Korea where only the top 10-30% of students are accepted into teaching.

There are two additional points worth noting. Firstly, there are sometimes insufficient qualified applicants for specific subjects and locations. The Ministry is therefore exploring ways to attract high-performing candidates from a broader range of backgrounds into the teaching profession. Secondly, at least 50% of each new teacher intake is trained in programmes run by IPTAs. Comparable data on the academic results of IPTA teacher trainees was not available.

Pre-service training and ongoing professional development

Given the age profile of the teaching force and ongoing challenges in attracting sufficient qualified candidates, training is a particularly important mechanism for improving the quality of teachers. Pre-service training gives teachers a solid foundation towards making effective contributions in the classroom from day one. Ongoing professional development allows teachers to maintain and enhance their skill set, including staying up-to-date with the latest developments in pedagogy.

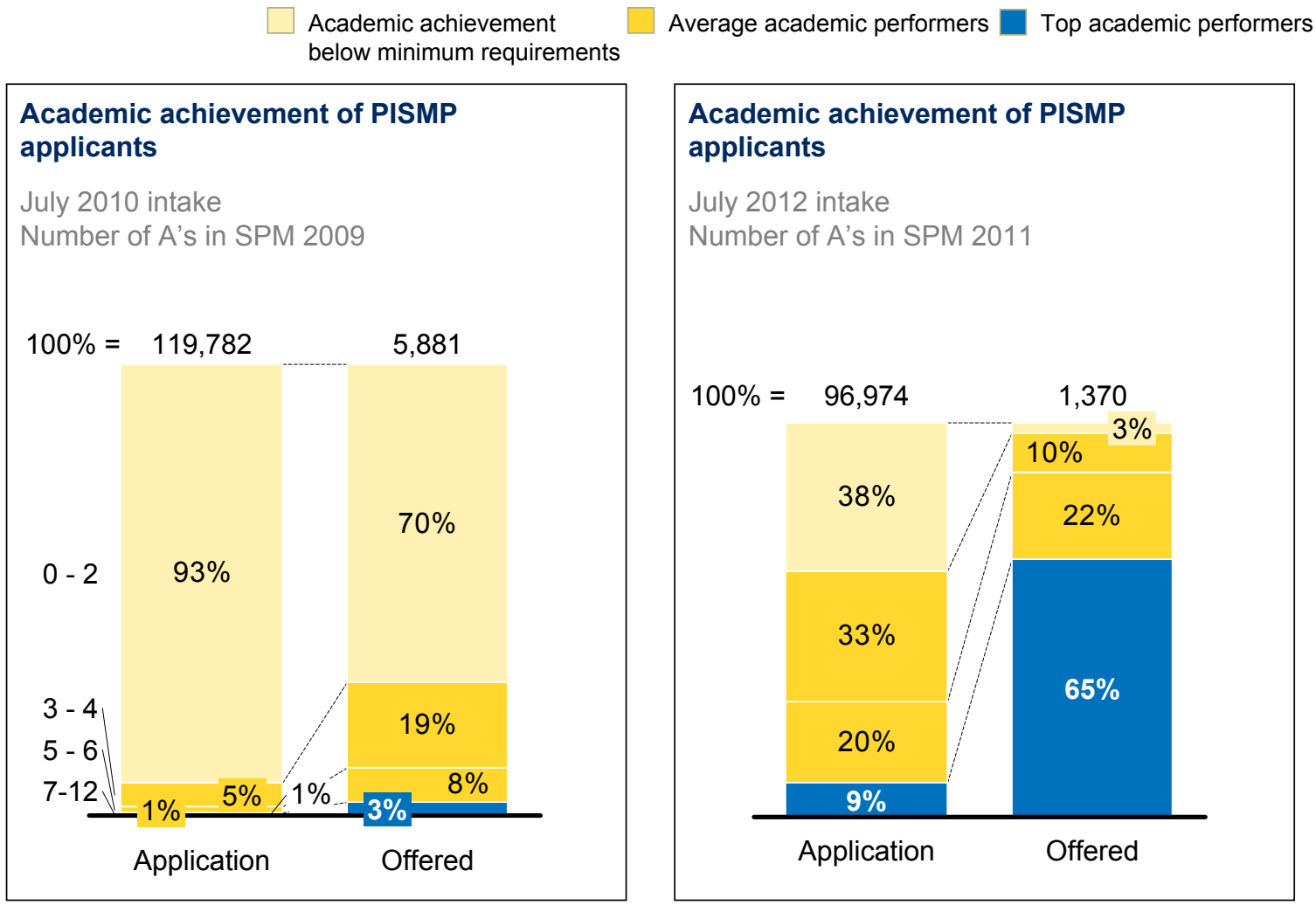
Pre-service training

In 2007, the Ministry raised the minimum pre-service training qualification from a diploma to a bachelor's degree for primary teachers, in line with the existing practice for secondary school teachers. The Ministry provided allowances for existing teachers to further their education to deliver on this aspiration. The results are promising. As of 2010, 31% of primary school teachers had at least a Bachelor's degree.

Despite these gains, the Ministry recognises that there is still room for improvement. In comparison to top-performing education systems, Malaysia's pre-service programmes appear to have a limited practical component in which trainees are able to practice their skills in schools under the guidance and supervision of an experienced teacher. For

EXHIBIT 5-4

Breakdown of academic results for PISMP applicants (2010 and 2012)



NOTE: PISMP refers to Program Ijazah Sarjana Muda Perguruan, a Bachelor of Education programme

SOURCE: Teacher Education Division, MOE

example, in the KPLI, approximately 20% of the credit hours are allocated to practicum. In contrast, top-performing teacher education programmes at the National Institute of Education in Singapore and the Melbourne Graduate School of Education in Australia allocate around 40% of the course time to this component.

Ongoing professional development

The results from Malaysia's participation in the Teaching and Learning International Survey (TALIS) suggest that participation in professional development activities has been very good. Over 90% of teachers report that they spend approximately 10 days each year on professional development, which is more than the Ministry-mandated requirement of seven days per year. This training spans the spectrum of self-study and off-site workshops to school-based coaching activities such as classroom observations and lesson planning. These findings demonstrate that Malaysian teachers are strongly committed to self-improvement.

Reform in teacher training

In 2008, all 27 IPGs were brought under one central management to standardise quality. Firstly, the curriculum and qualifications were upgraded, from a three-year diploma to a five–and-a-half year foundation and degree programme. Similarly, the post-grade programme curriculum and qualification was upgraded from a certificate to a diploma. The selection criteria for lecturers were also enhanced to ensure more lecturers held a Masters or Ph.D. qualification. Finally, an induction programme was introduced in 2012 to build the capabilities of new lecturers.

The reforms are gaining traction. As of 2010, 31% of primary school teachers had at least a Bachelor's degree. Out of the 3,947 IPGM lecturers in 2012, 308 hold a Ph.D., and 3,057 hold a Masters degree. The first lecturer induction training programme was held in March 2012 across six states (Kedah, Terengganu, Perak, Malacca, Sabah, and Sarawak) and had 503 participants in total.

The aspiration is to raise the percentage of school-based professional development activities, such as peer observations and lesson planning, from its current level of 16% today. This is based on international research which demonstrates that on-site training grounded in what actually happens in the classroom is more effective than off-site training programmes. Focus groups of Malaysian teachers also reported that they find it most useful when their subject head or principal observes them in action, as it enables them to receive direct insight into how they should improve their classroom practices.

Placement

During pre-service training, teachers specialise in a subject known as their "option." This is to ensure they have sufficient content knowledge and understanding to teach the subject effectively. The Ministry aims to place teachers by option but is not always able to do so due to unavoidable circumstances. This has led to a situation wherein teachers teach subjects in which they were not specifically trained, and for which they may not be adequately skilled. In 2011, for example, approximately 6,000 primary school Bahasa Malaysia teachers were assigned to teach other subjects as there were more teachers than available positions.

Working conditions

The Ministry examined several dimensions that directly affect the teaching experience: the availability of adequate working spaces for teachers, average class size and student-teacher ratio, total working hours, and types of activities teachers take on. Each of these dimensions will be considered in turn in this section, except for the discussion on the quality of school infrastructure which can be found in Chapter 6.

Average class size and student-teacher ratio

92% of primary schools and 88% of secondary schools have class sizes of less than 35 students, in line with the current guideline for maximum class size (Exhibit 5-5). This implies that the majority of teachers work with class sizes that are within the targeted threshold, and in schools where the student-teacher ratio is at or below the OECD average of 16:1. Schools with class sizes larger than 35 students tend to be popular, urban schools.

Working hours and distribution of work

A teachers' role encompasses many activities. In Malaysia, it is expected that teachers not only spend time on instructional activities such as lesson planning, classroom teaching, and grading homework, but also on tasks such as running co-curricular activities, attending or facilitating professional development activities, and engaging parents and the community. Further, teachers are also expected to engage in administrative duties related to teaching and learning such as filling out student report cards and tracking student attendance in class.

Malaysian teachers have raised serious concerns about the long work hours, and the range of activities expected of them. A 2011 Ministry survey of 7,853 teachers found that they report working anywhere between 40 and 80 hours per week, with an average of 57 hours. It is worth noting that other surveys of teacher workloads have found

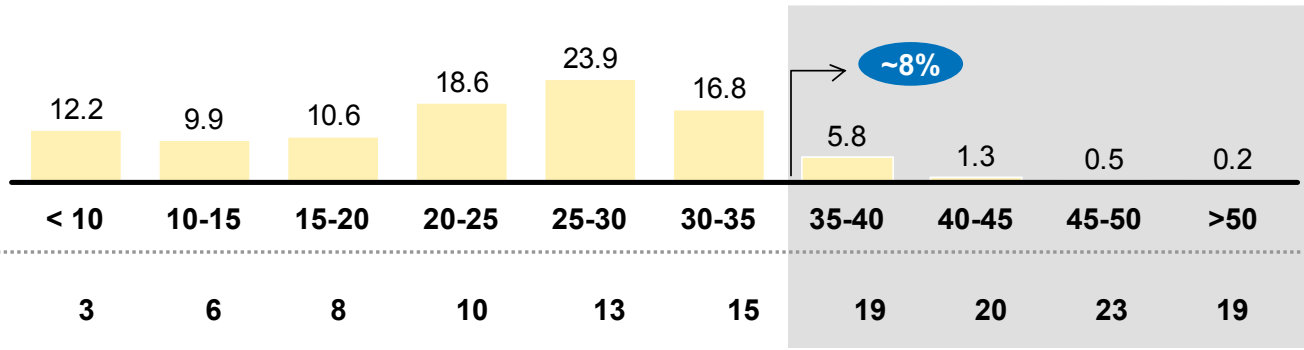
EXHIBIT 5-5

Breakdown of average student-teacher ratio and class size for primary and secondary schools

x% Schools with an average class-size of > 35 students

Distribution of average class size and student-teacher ratio at primary level

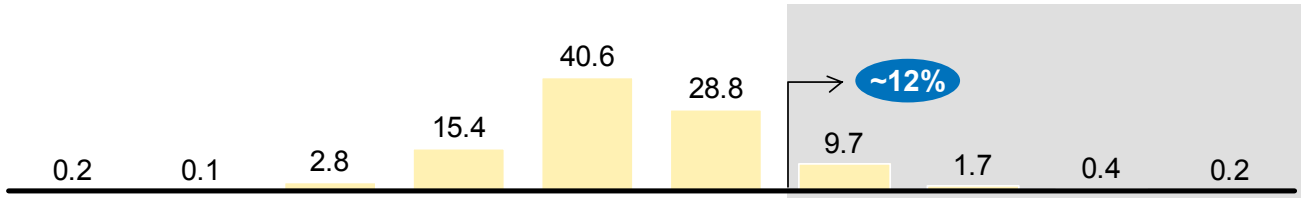
2011
N = 7,656[1]



Average class size	< 10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	>50
Average student-teacher ratio	3	6	8	10	13	15	19	20	23	19

Distribution of average class size and student-teacher ratio at secondary level

2011
N = 2,170[1]



Average class size	< 10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	>50
Average student-teacher ratio	3	5	8	10	13	15	17	18	17	14

1 Excludes 163 schools in the system with incomplete data

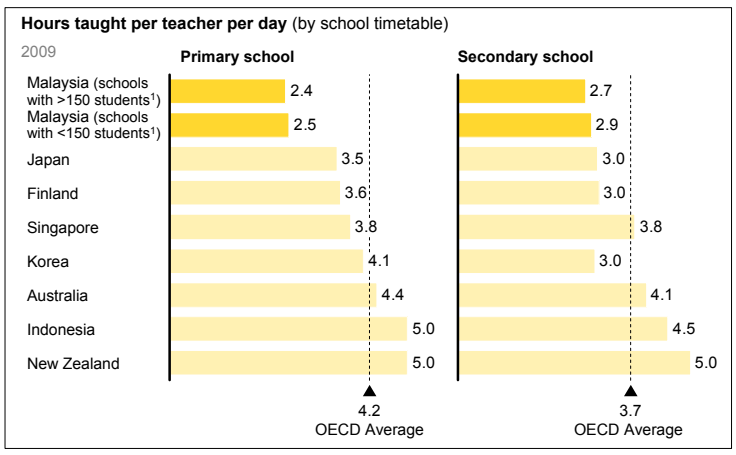
SOURCE: EMIS database

average hours reported to be as high as 77 hours per week (*Universiti Pendidikan Sultan Idris* 2011 survey), which would imply a working day of 15 hours. This could reflect a reality wherein some teachers simply work longer hours than others.

While total working hours are long, the proportion of time spent teaching in the classroom is relatively low. Based on the Ministry's Education Management Information System (EMIS) database, teachers only spend between 2.4 to 2.9 hours a day on average teaching in the classroom (this does not include time spent on lesson preparation, homework grading, or one-on-one student contact time). This is about 40% lower than the OECD average (Exhibit 5-6).

EXHIBIT 5-6

Comparison of teaching hours in Malaysia and other systems



1 Based on average number of periods taught per teacher (excluding teachers who have been posted to other departments such as IPNs or PPDs by primary and secondary schools in 2011. Each period consists of 30 minutes and 40 minutes respectively for primary and secondary schools

SOURCE: EMIS database (2011); OECD (2009)

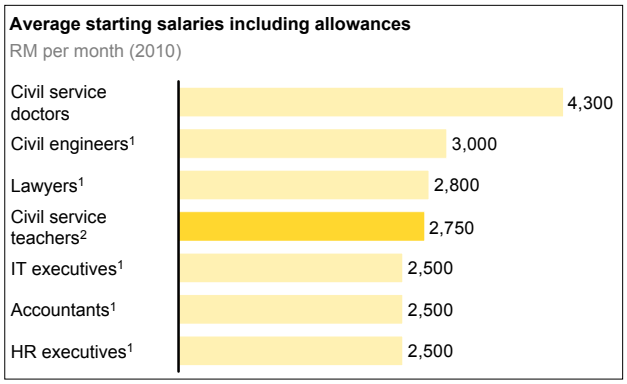
It appears that administrative duties are taking up a larger portion of teacher time (anywhere from 15% to 30% depending on the survey) than would be desired. During the National Dialogue, teachers consistently raised concerns that administrative paperwork reduced their ability to focus on teaching and learning. Given the large pool of teachers and the relatively low proportion of their time spent on classroom teaching, there appears to be an opportunity to optimise how teachers spend their time.

Remuneration and performance management

The 2011 World Bank expenditure review of the Malaysian education system noted, "There is a widely held impression that teachers are poorly paid… this does not appear to be the case." As Exhibit 5-7 demonstrates, starting salaries for civil service teachers are comparable to those of other public and private sector professions in Malaysia, including lawyers, accountants, and IT executives. Further, the salary for a teacher with 15 years of service in Malaysia, as a percentage of GDP per capita, is comparable to that of top systems like Finland (Exhibit 5-8). (Percentage of GDP per capita was used to allow for comparability across different education systems). The exceptions are countries like South Korea and Singapore that have made explicit trade-offs in the size of the workforce to enable them to pay teachers better.

EXHIBIT 5-7

Average starting salaries of teachers in comparison to other professions in Malaysia

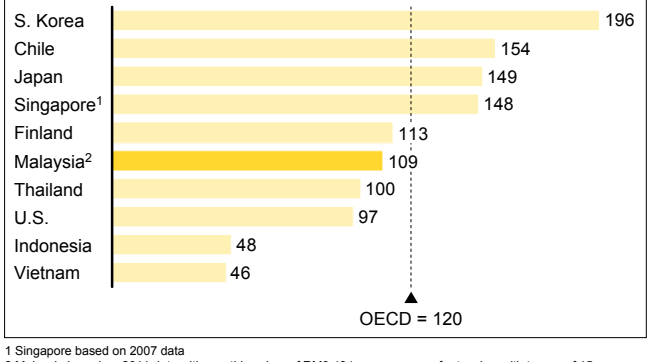


1 Private sector includes only base salary as allowances are usually provided to reimburse out-of-pocket expenses and do not form a significant portion of compensation
2 Weighted average of starting salaries of graduate teachers based on teacher trainee data, assuming average of approximately RM 2,000 (range of RM1,786 to RM2,510) basic salary and RM 750 in allowances.

SOURCE: Human Resource Management Division, Ministry of Education; Public Service Department; JobStreet; Kelly Services; OECD; McKinsey & Company, 'Closing the Talent Gap' (2010)

EXHIBIT 5-8

Mid-tenure salary levels of teachers in Malaysia and peer systems



1 Singapore based on 2007 data
2 Malaysia based on 2011 data with monthly salary of RM3,434 as an average for teacher with tenure of 15 years and grade DG44 with allowances of RM400 for housing, RM400 for remuneration allowance and RM100-300 for cost of living based on location

SOURCE: Human Resource Management Division, Ministry of Education; Public Service Department; JobStreet; Kelly Services; OECD; McKinsey & Company, 'Closing the Talent Gap' (2010)

The Ministry has also improved career progression prospects through the introduction of the *Guru Cemerlang* track in 1994. This track allows faster promotions for teachers if they can demonstrate excellence in both subject matter and pedagogy. Since its inception, 13,300 teachers have been designated as *Guru Cemerlang*. All teachers can also choose to pursue leadership roles (either at school, district, state or federal levels) or to move to IPG or IAB as a lecturer.

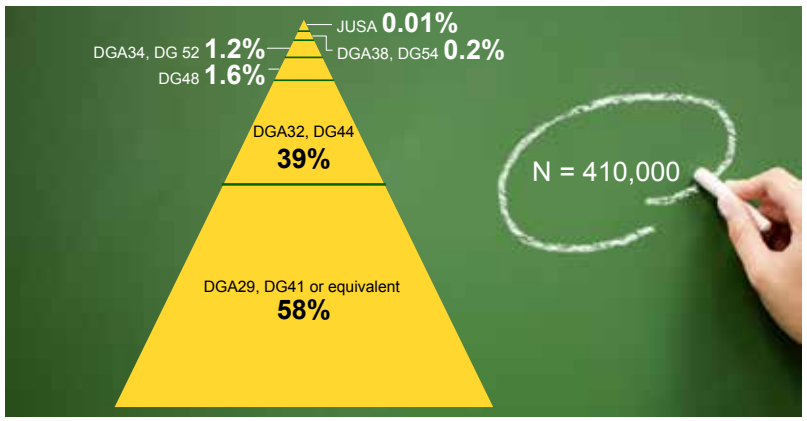
The new 8:8:6:3 system is a marked improvement on the previous progression cycle as it now enables graduate teachers to progress from DG41 level (the starting pay scale for a fresh graduate teacher) to DG54 level (the highest possible pay scale for a teacher in a non-leadership

role) in 25 years. Nonetheless, this progression is still primarily tenure-based which may reduce incentives for teachers to constantly develop themselves. Further, a 25 year promotion timeframe is still relatively long and will not address the current challenge wherein there are insufficient senior teachers to coach new teachers as they enter the system. 58% of teachers are still at the lowest grade level of DG41 or DG29, as compared to 1.2% at DG52 or DGA34 (Exhibit 5-9).

Another challenge to effective career progression is that the primary instrument used in teacher evaluations, the Annual Performance Report or *Laporan Nilaian Prestasi Tahunan* (LNPT) is not tied to specific teaching competencies, such as subject knowledge and the mastery of a range of teaching strategies. As the LNPT is the same instrument used for all civil servants, its evaluation dimensions are relatively generic and do not lend themselves well to performance differentiation. In a 2010 sampling of approximately 48,000 teachers, more than 60% of respondents were graded above 90%, while a further 38% scored between 70% and 90%. 2% of respondents were graded below 70%. This lack of differentiation does not allow the Ministry to provide targeted support to those who need it.

EXHIBIT 5-9

Distribution of teachers by grade level
Percentage of teachers, 2012



SOURCE: Human Resource Management Division

To counter this shortfall, the Ministry has developed other instruments to support the evaluation process. However, this solution has inadvertently created some confusion among teachers as to which dimension or criteria really matter. Teachers have also raised concerns that this duplication becomes a waste of time and resources.

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The trade-off between better salaries and teacher numbers

South Korea and Singapore have both deliberately chosen to limit their numbers of teachers, which allows more spending per teacher and raises the bar for entry into the profession. This choice is reinforced by a growing body of evidence that other factors like class size have relatively less impact on the quality of student outcomes, in contrast to teacher quality. Thus, South Korea's student-to-teacher ratio is 20:1, compared to the OECD average of 16:1 and the Malaysian ratio of 13:1. This enables the South Korean system to pay each teacher substantially more while maintaining the same overall funding level as other OECD countries. Singapore has pursued a similar strategy. Additionally, since Singapore and South Korea need fewer teachers, they are also in a position to be much more selective about who enters the profession. These strategies create a virtuous cycle that raises the status of teaching and consequently the quality of those applying, making the profession even more attractive.

The Roadmap: Transforming the teaching profession into a profession of choice

The Ministry remains committed to its long-standing policy of strengthening the teaching profession to make it a vibrant, rewarding, and prestigious profession in Malaysia. Drawing on the successes of previous efforts, and preliminary engagements with teachers and teacher unions, the Ministry proposes rolling out a new Teacher Career Package in waves. This Career Package will address challenges currently faced by teachers at each point in a teacher's career, from recruitment and teacher training through to retirement. It encompasses raising entry standards, increasing individualised continuous professional development opportunities, enabling teacher progression by competencies and performance, and creating a peer-led culture of excellence.

Wave 1 (2013 to 2015): Improving standards and support systems

Wave 1 will focus on raising professional standards, and improving support systems and working environments. Four measures will be taken: (i) raising entry standards; (ii) linking performance to competencies; (iii) increasing investment in continuous professional development; and (iv) reducing the administrative burden on teachers. Collectively, these measures are intended to provide teachers with the support and opportunities needed to boost their skills and excel at their jobs.

Raising entry standards for teacher trainees and new intakes

The Ministry will further tighten its selection process for IPG intakes, with the intent of moving to an end-state where teacher trainees are only selected from the top 30% of any graduating class. The Ministry may also reduce the size of its intake if the applicant pool for any given year has fewer qualified candidates. Further, the Ministry will work with IPTAs to ensure that comparable entry standards are set for their teacher training programmes.

The Ministry will also put in place more stringent standards for graduation from teacher training programmes into teaching roles at the Ministry. This means that in the near future, graduates will only be hired if they can demonstrate, through their practicum placement and ongoing coursework, that they have met the minimum competencies expected of a fresh, incoming teacher. This is to ensure that only the best and most qualified teachers enter the system. Existing teacher trainees in IPGs and IPTAs will not be affected by this policy.

The Ministry is also looking into gradually scaling back its annual intake of approximately 15,000 teachers by up to 50% over the next five years. This is due to the fact that absolute teacher shortages are no longer an issue for the system. Coupled with normal retirement rates, this is projected to lead to a net reduction of the current cohort size by at least 10% by 2025. The Ministry will monitor these changes to cohort size to ensure that any reduction will not come at the expense of class sizes or student outcomes. Rather, this cohort reduction will be made possible by optimising how teachers spend their time, and improving their productivity.

Strengthening the link between performance and competencies

Improving the quality of teachers starts with a clear articulation of what excellence in the teaching profession looks like. The Ministry will then be better able to identify which areas teachers need support in, and will then provide as much targeted support as possible.

To that end, the Ministry will develop a single instrument that clearly articulates the competencies expected of teachers of different tenure levels across four dimensions: teaching and learning, professional values, non-classroom activities, and professional contributions. This instrument will be piloted in 2013 and rolled out by 2014. The intent is for this instrument to replace all other instruments currently in use, including the LNPT.

EXHIBIT 5-10

Example of competency expectations against proposed dimensions

Dimensions	Level 1	2	3	4	5	6
I Teaching and Learning ▪ Lesson preparation ▪ …	▪ Lesson plans have clear objectives. Choice of instructional tools may not be appropriate		▪ Lesson plans have clear objectives that can be measured. Activities planned to meet objectives with appropriate instructional tools		▪ Lesson plans have clear objectives that are measurable and tailored to students' abilities. Activities planned to meet objectives using engaging instructional tools	
II Professional values ▪ … ▪ …	▪ Unable to give full contribution to assigned tasks		▪ Sometimes gives contribution to assigned tasks		▪ Gives full dedication and contribution to his assigned tasks	
III Non-classroom activities ▪ … ▪ …	▪ Unable to prepare special task plan		▪ Prepares a plan for special tasks but not comprehensive or clear.		▪ Prepares full special task plan that is clear, precise and comprehensive.	
IV Professional Contributions	▪ Does not reflect on self improvement		▪ Seeks out self improvement for career learning		▪ Seeks out relevant self improvement for career	

Under the new evaluation instrument (see Exhibit 5-10), it is proposed that ~60% be based on the teachers' effectiveness in teaching students. This will be determined both by observations of the teacher in the classroom, as well as the student outcomes of the classes the teacher works with. The Ministry also proposes using more than one evaluator for each teacher, including a peer evaluator, and creating an appeals process for teachers who disagree with their evaluation. The objective is to create an approach that ensures greater consistency and objectivity across evaluations and to instil a stronger performance culture in schools.

Emphasising continuous professional development

The Ministry recognises that teachers may need assistance in meeting the new competencies expected of them, and is deeply committed to providing teachers with the support they need to succeed. As such, the Ministry will build up its portfolio of training programmes to address each aspect of the competency requirements in the new instrument. Some of these modules will cover fundamental competencies expected of all teachers, such as pedagogy to support development of students' higher-order thinking, and will therefore be made compulsory. Others will be electives that teachers can choose from depending on their personal strengths and interests, or the areas for development identified via the new instrument. In developing this portfolio, the Ministry will focus more on school-based learning programmes which international research shows to be the most effective form of professional development.

e-Guru Video Library

The Ministry has compiled a video library of "what good teaching looks like" along each aspect of the teaching and learning competency dimension. This video library will be hosted on an online portal on 1BestariNet to enable teachers to access these videos anytime, anywhere. It will also serve as an important teaching aid for the SISC+ during their coaching sessions with teachers.

The Ministry also intends to develop a video library of daily lessons for the critical subjects of Mathematics, Science, Bahasa Malaysia, and English, from Year 1 through to Form 5. This will be done by identifying the best *Guru Cemerlang* in these subjects, and video-taping their lessons across the school year. This resource can then be tapped by teachers seeking inspiration for their lesson plans, or even by students as a revision aid.

The Ministry intends to keep building the content of this library through an annual *e-Guru* contest. Teachers will submit their own exemplar videos for consideration by users of the *e-Guru* portal. Prizes will be awarded on Teachers' Day for the videos with the highest user ratings.

Two initiatives will be launched in January 2013 to give teachers a taste of the new professional development programmes on the horizon. The first is an *e-Guru* video library of exemplary teaching. This will enable teachers to concretely visualise good classroom skills, so that they can implement these in their own classrooms. These videos can also be used during training and coaching sessions on pedagogical skills.

The second initiative is an expansion of the School Improvement Specialist Coaches (SISC+) teacher coaching programme first introduced under GTP 1.0. Specifically, three changes will be made. Firstly, the SISC+ will become full-time positions to allow them to work with greater frequency with more teachers. Secondly, the SISC+ will now be responsible for coaching along the three interlinked dimensions of curriculum, assessment, and pedagogy. Thirdly, the SISC+ will focus on providing school-based coaching to teachers in lower band schools (Bands 5, 6, and 7). The new SISC+ role will be rolled out as part of the broader District Transformation Programme discussed in Chapter 4.

The Ministry also remains committed to ensuring that 60% of primary school teachers and 90% of secondary school teachers are graduates by 2015. The Ministry will therefore also continue to provide support for teachers to further their education.

Improving working conditions for teachers

The Ministry recognises that excessive administrative work takes time away from teachers' core business of teaching and learning, and dilutes their effectiveness. As such the Ministry will undertake two main actions during the first wave to reduce unnecessary workload.

First, the Ministry has started streamlining existing data collection and management systems to eliminate duplication of data requests. Three databases have been targeted for the initial streamlining process: SAPS which is used to consolidate student results from school-based semester exams, the School-based Assessment Management System or *Sistem Pengurusan Pentaksiran Berasaskan Sekolah* (SPPBS) which is used to track results from the new school-based assessment, and the Student Information System (SIS) which contains school and teacher data. This move should eliminate duplication of data requests, and simplify the process of entering new data into the system. The Ministry is also looking into current documentation and reporting requirements (for example, those required for the ISO certification), to identify areas for streamlining.

Secondly, the Ministry will explore ways of addressing the issue of overcrowding in schools with average class sizes that are larger than 35 students. This will include building extra classrooms, deploying additional teachers, and/or the tighter enforcement of enrolment quotas. However, the Ministry will not be lowering the maximum number of students per class from 35, given international evidence that class size is a less important factor for student outcomes compared to teacher quality.

Wave 2 (2016 to 2020): Enhancing career pathways and progression

Wave 2 of the new Teacher Career Package will build on the Wave 1 focus on raising standards by improving the quality of pre-service training programmes and ensuring that only the best graduates are recruited into the teaching profession. It will also see the roll-out of enhanced career pathways that offer different specialties for teachers depending on their interests, as well as faster progression for high-performing teachers and redeployment options for consistently under-performing teachers. It is worth noting that the groundwork for all of these reforms will need to begin during Wave 1, to allow for immediate implementation in 2016.

Further developing of pre-service training and recruitment systems

The Ministry will review the pre-service teacher training curriculum in IPGs to ensure that teachers are being adequately prepared to teach the 21st Century Skills desired of Malaysia's students (refer to Chapter 4

for more information on the changes envisioned to curriculum and assessment). It will also discuss with MOHE incorporating similar curriculum in IPTAs. Further the Ministry will improve the consistency and quality of teachers' practicum experience in terms of increasing time spent on practicum training and engaging experienced teachers with strong mentoring skills to supervise trainees. This measure will enable teachers to increase their effectiveness in the classroom from day one.

Enhancing career pathways

The Ministry is looking into formalising three different tracks: (i) a teaching track for teachers who wish to stay focused on teaching students; (ii) a leadership and management track for teachers who wish to take up leadership positions, whether at the school, district, state or federal levels; and (iii) a subject matter expert track for teachers who wish to become teacher coaches and trainers, IPG and IAB lecturers, or curriculum and assessment developers. These pathways will be developed during Wave 1 after consultations with teacher unions, and will be aligned with a similarly planned reform for principals (detailed further in this chapter's section on Principals).

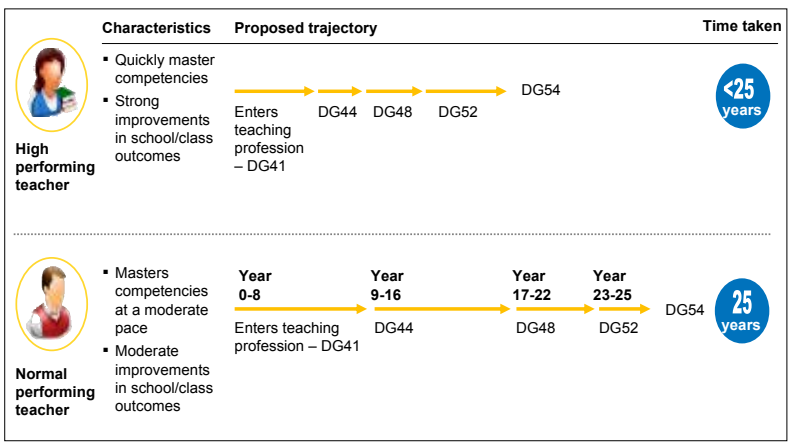
For each of these tracks, the Ministry will build off the instrument developed in Wave 1 to define how teachers' competencies are expected to evolve with each promotion. The Ministry will also ensure that promotion opportunities are comparable across all three tracks, and that movement between tracks is possible.

Revamping career progression

The Ministry intends to enhance the existing *Guru Cemerlang* scheme. Under the revised fast-track scheme, high-performing teachers are expected to progress from DG41 to DG54 within a much shorter time frame compared to the current 25 years (Exhibit 5-11). Progression speed will depend on how quickly each teacher masters the competencies expected of each level. Extra credit will be given to teachers who successfully complete short, three-to-five-year deployments in rural and/or under-performing schools. This accelerated movement is intended to reward outstanding performance and to incentivise the best teachers to work such schools. It will also shift the current composition of the teaching force from one that is predominantly filled with junior-level teachers towards one with more teachers at higher skill levels. Current estimates suggest anywhere between 2% to 5% of teachers per year will benefit from the fast-track scheme.

EXHIBIT 5-11

Proposed pathway for high performers

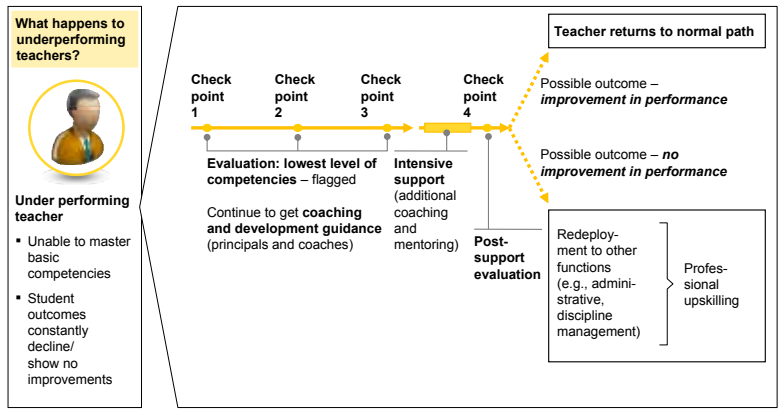


The Ministry will also launch a transition scheme for teachers who perform poorly for three consecutive years despite the provision of intensive support. The Ministry recognises that retaining such teachers in teaching roles does a disservice to them as they will lack opportunities for advancement. Their future prospects would be brighter if they were able to find a role more suited to their particular talents.

The Ministry is committed to providing teachers with these options, and ensuring they receive sufficient support to make the transition. Under this scheme, the Ministry will redeploy teachers to other functions within the school such as administration, discipline management, or co-curricular management (Exhibit 5-12). The Ministry will also explore different retraining options to ensure that teachers are set up for success in their new chosen role.

EXHIBIT 5-12

Proposed pathway for consistent underperformers



Wave 3: Creating a peer-led culture of professional excellence

By 2021, all elements of the new Teacher Career Package are expected to be in place. The profession will look very different, with teachers enjoying different pathways, personalised professional development master plans, and rewards for performance and not tenure.

During Wave 3, the Ministry will focus on ensuring that all teachers fully utilise the flexibilities accorded to them in prior Waves over professional issues related to curriculum timetabling and lesson organisation, pedagogical approaches and school-based assessment. The aspiration is to create a peer-led culture of professional excellence wherein teachers mentor and inspire one another, share best practices and hold their peers accountable for meeting professional standards. The Ministry may also consider setting up a certification scheme that is linked to the mastery of the teacher competencies set out in Wave 1. As with all measures, the Ministry will work collaboratively with teacher representatives to achieve these aims.

SCHOOL LEADERS

The Ministry will ensure that every school, regardless of location and performance level, will have a high-quality principal and supporting leadership team to provide instructional leadership and drive overall school performance. The Ministry will achieve this goal by introducing a new career package to enhance the way principals are selected, developed and rewarded.

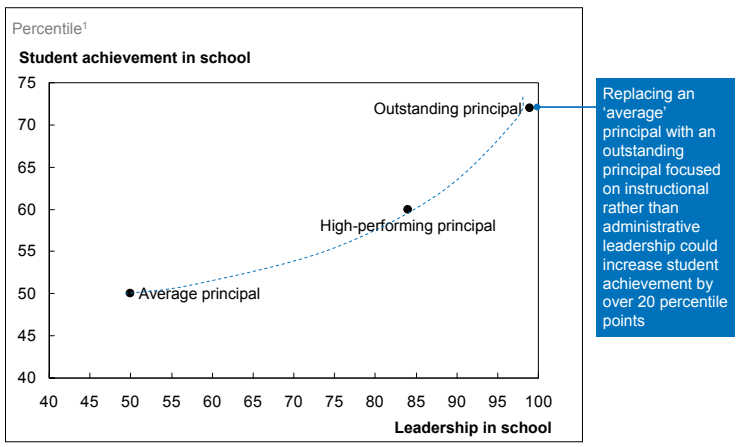
Measures undertaken will include:

- Refining and clarifying the selection criteria;
- Building a pool of potential future school leaders;
- Improving preparatory and continuous professional development; and
- Introducing a performance and competencies based performance management approach.

Good teachers alone are not enough. The international evidence clearly shows that strong school leadership is also required to produce significant improvement in student achievement. In high-performing school systems, principals are more than just administrative leaders—they are instructional leaders who focus on improving the quality of teaching and learning in their schools. Similar to high-performing teachers, the impact of an effective principal is significant. Research shows that replacing an average principal with an outstanding one can improve outcomes by up to 20 percentile points (Exhibit 5-13).

EXHIBIT 5-13

Relationship between principal performance and student achievement



1 For leadership and student achievement, percentile implies the relative placement within the distribution
SOURCE: A 'meta-analysis' of 69 studies of school leadership conducted between 1978 and 2001, involving an estimated 14,000 teachers and 1.4mn students, Marzano, Robert J., Timothy Waters, and Brian A. McNulty (2005)

Research also shows that top performing school systems are moving away from the idea of one "heroic" leader to one of "distributed leadership" where assistant principals and other members of middle management such as subject heads have a greater share in decision-making in schools. Due to limited system data on assistant principals and subject heads, the diagnostic has focused solely on the role of the principal (encompassing both *Pengetua* and *Guru Besar*). Nonetheless, the proposed roadmap forward takes a more expansive view of school leadership to encompass principals, assistant principals and other teachers in a school leadership position.

Selection of principals

A rigorous, clear, and transparent principal selection process is critical for building and sustaining effective schools. As with the promotion of teachers, the selection criteria for new principals in Malaysia are more linked to tenure than competencies. Selection is based primarily on the achievement of a minimum civil service grade, which in turn, is linked to length of service. This presents a clear opportunity to enhance the professional criteria required for selection.

Another challenge is the length of the current selection process. As many parties are involved at the district, state and federal level, the end-to-end process from identification of a suitable candidate to a formal appointment can take up to a year. This situation is exacerbated by the historical existence of two schemes: one for non-graduates in primary schools and one for graduates in secondary schools. The Ministry's move to raise minimum qualifications (as discussed in the section on teachers) has led to more and more graduate teachers serving in primary schools. The principal post in primary schools is, however, still designated for non-graduates, which eliminates qualified, graduate primary school teachers from consideration.

Demographics of school leadership

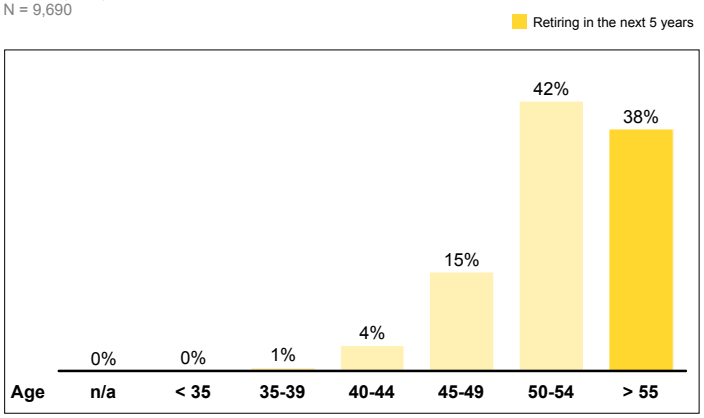
The tenure-based appointment of principals has resulted in an aging cohort, with 40% of principals due to retire within the next five years (Exhibit 5-14). The implications of this bias towards length of service are twofold. Firstly, this prevents the system from securing the best talent available in the entire teaching body for its leadership positions. Secondly, talented principals will serve in their role for a shorter time than would otherwise be the case. In contrast, a number of other systems actively seek to identify and develop school leaders early on

in their length of service (such as in Singapore, and England's Future Leaders programme). As a result, Malaysia's principals are generally appointed later in their tenure than their counterparts in other systems (Exhibit 5-15).

EXHIBIT 5-14

Distribution of principals in Malaysia by age

Percent (2011)
N = 9,690

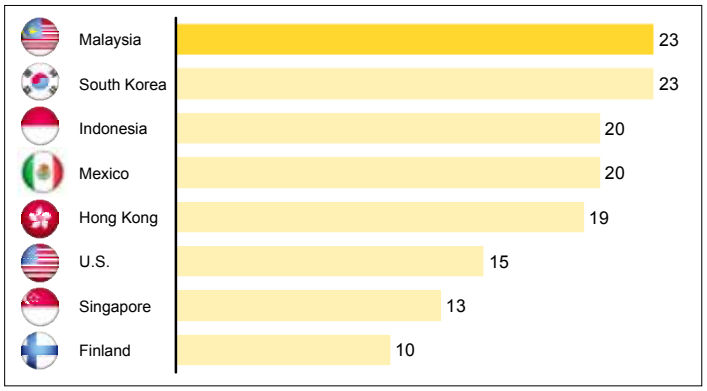


SOURCE: EMIS database

EXHIBIT 5-15

Average tenure of principal at appointment for Malaysia and peers

Years of teaching prior to appointment



SOURCE: Ministry of Education; TALIS Survey; Commonwealth Department of Education, Science and Technology; Press search

The exception to this practice is in rural schools, where the difficulty in placing principals has led to a high occurrence of teachers being promoted at a younger age. This practice has its pros and cons. On one hand, it allows for the promotion of young talent who can serve for many more years until retirement. On the other hand, those promoted may be unprepared for the responsibilities of leadership.

Training and professional development

As with teachers, principals need adequate training prior to appointment and throughout their service, particularly on the key dimension of instructional leadership. This is particularly true for the first three years, a period which international research has shown to be critical for the formation of a principal's leadership style and skills.

Preparatory and induction training

In 1987, the Ministry introduced an induction programme, the Educational Management and Leadership Course or *Kursus Kepimpinan dan Pengurusan Pendidikan* (KKPP), to equip principals with the skills required for their critical first three years of principalship. For aspiring, high-potential candidates for principalship, the Ministry introduced a preparatory training programme called the National Professional Qualification for Educational Leaders (NPQEL) (formerly known as the National Professional Qualification for Headship, NPQH). Upon their appointment as principals, graduates of the NPQEL programme are exempted from attending KKPP as the curricula of the two training programmes are quite similar.

England's Future Leaders programme: Identifying and developing school leaders early

The Future Leaders programme is a three-year leadership development programme that aims to fast-track high-performing teachers into school leadership roles such as senior teacher, assistant principal, and principal within four years. In particular, it aims to develop school leaders who are committed to working in schools in the most disadvantaged areas around the country (termed "challenging schools").

Candidates are selected following a rigorous assessment and interview process that evaluates their thinking, leadership, and interpersonal skills. They are then put through a three-year programme that starts with a summer of intensive leadership training, followed by a year of "residency" in a challenging school, under the guidance of a mentor principal. Thereafter, candidates are supported in applying for a full-time school leadership position. If successful—and 95% of candidates are—then the programme will continue to provide one-on-one coaching and off-site training over a further period of two years as the candidates carry out their roles in school leadership. The expectation of the programme is that it is possible to transition from a teacher to a principal within a period of four years, with this intensity of training and support.

The programme started in 2006 with 20 candidates. In just 6 years, the programme has grown over tenfold. Collectively, there are now 350 Future Leader graduates working in 200 schools across the country, of which 95% are in senior school leadership positions and 24 are full principals.

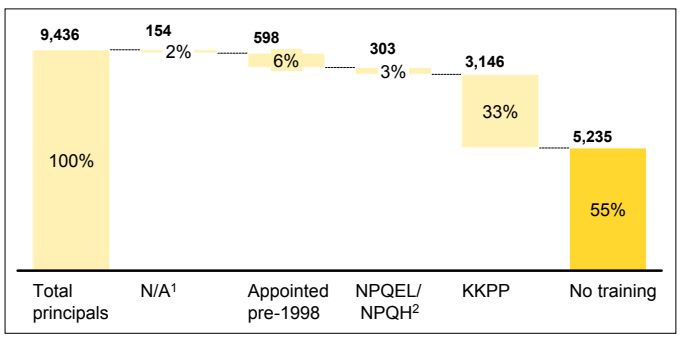
Reviews indicate that these training programmes are effective. For example, research conducted by *Universiti Malaya* and *Universiti Pendidikan Sultan Idris* has shown that newly-appointed principals who have undergone NPQEL training are better prepared for their duties compared to those who enter without such training.

Attendance of these programmes by principals is low. Reviewed collectively, approximately 55% of current principals have not participated in either the KKPP or NPQEL training programmes (Exhibit 5-16). Further, only a quarter of all NPQEL graduates since 1999 have actually been appointed as principals (Exhibit 5-17), potentially due to the fact that participation in the programme is neither a prerequisite for promotion nor a fast-track opportunity.

EXHIBIT 5-16

Participation rates of existing principals in preparatory or induction training for principalship

Percent of principals (2010)



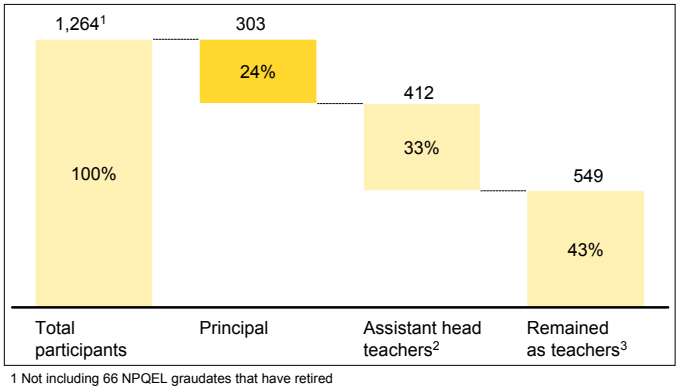
1 Data on principals' year of appointment not available
2 Includes 65 principals who took both NPQEL and KKPP

SOURCE: Institut Aminuddin Baki

EXHIBIT 5-17

Position of graduates who have completed the principal preparatory training course (NPQH / NPQEL)

Percent of NPQEL graduates (1999-2010)



1 Not including 66 NPQEL graudates that have retired
2 Includes *Penolong Kanan Akademik, Penolong Kanan Hal Ehwal Murid, Penolong Kanan Kokurikulum, Penyelia Petang and Penyelia Tingkatan 6*
3 May include teachers who have other leadership positions of subject head and department head

SOURCE: Institut Aminuddin Baki

Ongoing professional development

Participation in ongoing professional development activities is much higher. Under the stewardship of IAB, a wide range of courses and delivery methods (including direct coaching and mentoring) have been developed. Participation is strong, with 87% of 1,662 principals reporting in a 2011 survey that they completed the minimum seven-day requirement.

At the moment, principals self-determine their training needs and which courses to attend. They self-assess their development needs online according to the IAB's leadership model, School Leadership Competency, or *Kompetensi Pemimpin Sekolah* (KOMPAS), and then use the information to guide their choice of courses. The 2011 self-assessment results suggest, however, that principals tend to rank all dimensions fairly equally, suggesting that they may struggle to effectively identify their real developmental needs. In circumstances like this, the effectiveness of training can be significantly curtailed. This issue is exacerbated by the fact that there is no formal tracking mechanism to record which training programmes the principal has completed. Better tracking and matching of programmes to individual needs is needed to realise the full impact of professional development.

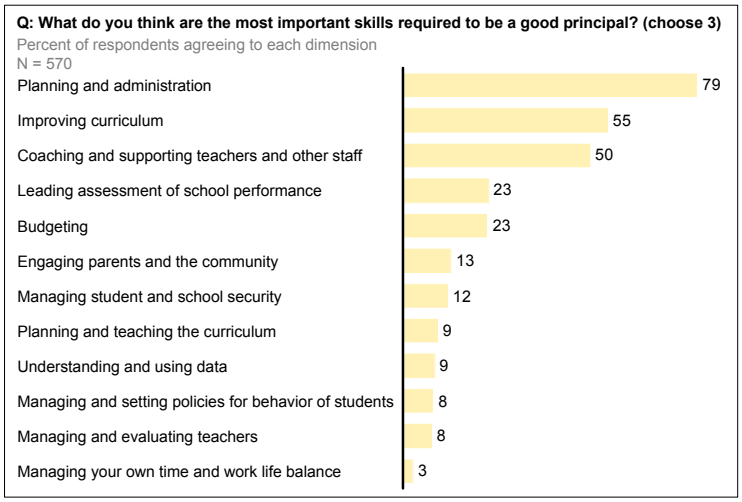
Current working conditions

The impact that principals can have on a day-to-day basis depends, to a large extent, on how they allocate their time and how much importance they assign to different activities. Research has shown that instructional activities that directly raise the quality of teaching and learning in the school such as lesson observations and curriculum planning have more of an impact on student outcomes than administrative activities like completing paperwork.

Today, principals in Malaysia split their time fairly evenly across instructional and administrative activities. Further, principals generally understand the importance of instructional leadership. A 2011 principal survey found that two out of the three most important skill sets as identified by principals were related to instructional leadership—teacher coaching and improving the curriculum. However, other key skills, such as the ability to understand and use data and the ability to lead assessments of school performance, were ranked relatively lowly on the participants' list of priorities (Exhibit 5-18). These activities are critical to guiding the principal in forming meaningful strategies for moving the school forward.

EXHIBIT 5-18

Perception of principals on most important skills required



SOURCE: Education System Review Principal survey 2012

Career progression and performance management

As with teachers, the Ministry has introduced the *Pengetua* and *Guru Besar Cemerlang* track to improve progression opportunities for principals. Since its inception in 1994, 2,364 principals have received this designation and this cohort has become a powerful force for improvement in the community. The Council of Excellent Principals, or *Majlis Pengetua Cemerlang* runs a mentoring programme for newly-appointed principals in every state, and frequently consults with the Ministry on issues pertaining to teachers and principals.

IAB has also developed a very comprehensive principal competency framework based on its leadership model KOMPAS and has linked this framework to its schedule of training programmes. However, this framework is not linked to the annual performance evaluation instrument, the LNPT. As with teachers, this means that performance is not evaluated on the basis of the competencies expected of a good principal, and that it can be difficult to differentiate between performing and under-performing principals. In a 2008 sample of 181 principals from an under-performing state, for instance, 97% of the principals were rated more than 90% on LNPT.

The Roadmap: Ensuring high-performing school leaders in every school

The Ministry's objective is to ensure that every school has a high-performing principal capable of improving the school's performance regardless of its starting point. The Ministry will also broaden its focus on principals alone, to include school' middle management such as assistant principals, subject heads and department heads. As with teachers, the Ministry will develop a new career package for principals, which balances a deep commitment to building the capability of the school leadership cohort with a higher set of professional standards and accountability.

Wave 1 will focus on raising standards, improving support systems, and laying the foundation for creating a large pool of highly-competent leaders in all schools in Malaysia. Wave 2 will see the roll-out of new career pathways and progression schemes, and support the transition towards a distributed leadership model involving assistant principals and subject heads. Wave 3 will see greater empowerment of all school leaders as the system moves towards a model of school-based management.

Wave 1 (2013 to 2015): Improving selection standards and support systems

During the first wave, the Ministry will standardise and improve the selection and preparation process for new principals in recognition of the fact that 40% of current principals will retire over the next five years. The Ministry will also invest in building the capabilities of existing principals through better CPD programmes and strengthening the link between performance and competencies.

Utilising non-tenure-based selection criteria, and a standardised process for selection

The Ministry will refine existing selection criteria to raise the competency bar and ensure principals can serve for a longer length of time prior to retirement. The first priority will be to ensure that all incoming principals demonstrate a minimum leadership competency bar, for example, through prior experience as a subject head or assistant principal. The Ministry also aims to only appoint candidates who have a minimum of three years of service before retirement, and who have completed the NPQEL training programme. The Ministry will ensure that the latter condition only comes into force after a sufficient notice period to allow potential principal candidates to apply for and undergo the NPQEL programme.

The Ministry will target a back-to-back transition process between the outgoing and incoming principals. This means that the Ministry will need to ensure that the selection process for every retiring or transferring principal commences early enough, and that the selection process is shortened by at least 50%. To that end, the Ministry will widen the pool of potential candidates through a more aggressive recruitment campaign. This will improve dissemination of information regarding openings, boost interest, and encourage aspiring candidates to step forward and apply. The Ministry will also create a tracking database that allows for earlier identification of upcoming vacancies and that matches vacancies against high-potential candidates in that location.

Reviewing incentives for hard-to-fill positions

The Ministry will revise its existing set of incentives for positions that are typically hard to fill, such as at rural and under-performing schools. Apart from an increase in allowances, the Ministry is considering measures such as giving principals' children priority placement for Fully Residential Schools or *Sekolah Berasrama Penuh* (SSP) (as long as they meet qualifications), and fast-tracking principals for further promotion upon successful completion of a rural appointment.

Establishing a principal residency programme and enhancing the existing immersion programme

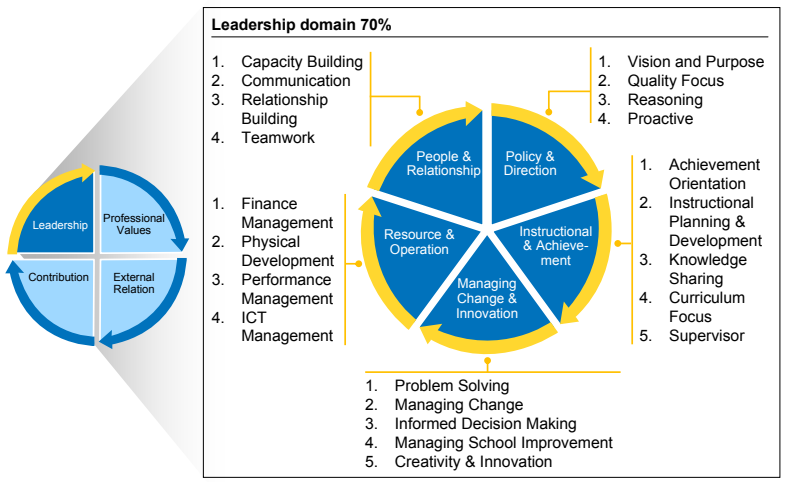
The Ministry will establish a principal residency programme and enhance the existing immersion programme to support newly-appointed principals in their transition so they are able to act effectively from the beginning of their tenure. The former is an on-boarding programme where the incoming principal spends one month with the outgoing principal at the school in question. This period not only allows the new principal to acclimatise to the school, but also provides them with direct mentoring from an experienced principal. The immersion programme, on the other hand, is a formalisation of the voluntary mentoring programmes many state-based *Majlis Pengetua Cemerlang* already run. Here, principals will receive seven days or 42 hours of direct coaching and mentoring from an experienced principal or School Improvement Partner (SiPartner+) (more information on the SiPartner+ coaching programme can be found in Chapter 4).

Strengthening the link between performance and competencies

In conjunction with the New Teacher Career Package, the Ministry will also introduce a single instrument that clearly articulates the competencies expected of principals at every tenure level. This will be piloted in 2013, and rolled out concurrently with the teacher competency instrument by 2014. It will be based on four dimensions—Leadership, Professional Values, Contribution, and External Relations (Exhibit 5-19).

EXHIBIT 5-19

Four domains in proposed performance assessment framework



SOURCE: Institut Aminuddin Baki

Leadership will be the core dimension of the new instrument and contribute to 70% of the overall weightage. It will include key aspects of school leadership such as instructional leadership and people leadership. The other dimensions will encompass attributes such as personal integrity, individual contribution to the broader profession via activities such as mentorship, and how effectively the principal manages relationships with stakeholders. As with the teacher instrument, the dimensions will remain the same throughout the principal's career. However, the competencies expected will differ as they rise through three levels: Competent, Excellent, and Expert.

The Ministry proposes evaluating principals on both their individual competencies as well as the impact they have on their schools. As such, their final score will be a composite of their individual performance score plus the school improvement score. This new instrument will likely replace the LNPT component of the New Deal reward.

Enhancing professional development programmes

As with teachers, the Ministry will increase its investment in professional development support for principals. IAB is thus upgrading its existing portfolio to improve the effectiveness and relevance of individual programmes. The focus during this wave will be on building instructional leadership skills particularly as it pertains to the ability to adapt internal structure, methods and procedures to the needs of teachers and students. IAB will also ensure a sufficient range of programmes for principals at different performance levels. For example, high-performing principals can expect opportunities such as short-term attachments to senior managers in other government agencies or private corporations. Under-performing principals, on the other hand, will benefit from intensive, one-on-one coaching from a SiPartner+. The goal is to ensure individualised professional development support for every principal.

Wave 2 (2016 to 2020): Elevating the profession and moving towards distributed leadership

Wave 2 of the new Principal Career Package will see further enhancements to the selection and enhancement processes, and a single scheme for primary and secondary principals. The Ministry will also roll out fast-track and transition options for principals, expand capability building support to assistant principals and subject heads, as well as increase decision-making autonomy for principals based on performance.

Enhancing the selection and appointment processes

The Ministry will merge the two existing schemes for principals of primary and secondary schools into one new scheme. This new scheme—to be designed during Wave 1 with input from principals and the Civil Service Department—will create a larger pool of candidates for leadership positions, as well as comparability of salaries and grades for principals, regardless of the school they serve in. In doing so, the Ministry hopes to gradually eliminate arbitrary distinctions between primary and secondary school leaders, recognising that each position comes with its own unique challenges.

Enhancing career progression

The Ministry will enhance the existing *Pengetua* and *Guru Besar Cemerlang* Scheme to reward principals who display consistently high performance and quickly master the competencies expected of the next level of performance. This option will include "extra credit" for principals who successfully take up challenging positions in schools in hard-to-fill rural and/or under-performing schools.

There will also be a transition option for principals who consistently underperform. As with teachers, under-performing principals will receive training and support to help them get back on track. If underperformance is deemed an issue of the specific context and environment they are in rather than intrinsic abilities, they will be given the chance to move to a new school for a fresh start. Principals who nevertheless consistently underperform are likely better suited to a different role, and will be redeployed as a senior teacher in another school.

Expanding capability-building support and operational flexibility

In line with international best practices, the Ministry will move towards a model of distributed leadership where effective, high-quality school leadership permeates the entire organisation of all schools. The Ministry will therefore raise selection standards for the appointment of assistant principals, and subject heads departments, and develop a succession planning process and targeted training programmes for these roles.

The Ministry will also look into empowering principals to lead their schools and students towards success. It will do so by giving schools that meet a certain performance criteria greater decision-making flexibility over budget and curriculum.

Wave 3 (2021 to 2025): Creating a peer-led culture of professional excellence.

By 2021, all elements of the new Principal Career Package are expected to be in place. The Ministry also expects that there will be high-performing principals and supporting school leaders in every school, who have the leadership skills to drive ongoing improvement and innovation.

During Wave 3, the Ministry will focus on ensuring that all school leaders fully utilise the flexibilities accorded to them in prior Waves. This includes instructional leadership matters such as school improvement planning and curriculum and co-curricular planning, as well as administrative leadership matters such as allocation of school funds. As with teachers, the aspiration is to create a peer-led culture of professional excellence wherein school leaders mentor and train one another, develop and disseminate best practices and hold their peers accountable for meeting professional standards.

No education system can succeed without the dedication and commitment of its teachers and school leaders. No true reform can occur without taking the needs of teachers and principals into serious consideration, and looking for ways to nurture and sustain excellence. While it is of crucial importance to provide existing teachers and school leaders with greater resources in the form of more support and professional development, and better career pathways, it is also important to make teaching a profession that is vibrant, self-sustaining, and rewarding, so that it will attract and retain the very best talent that Malaysia has to offer.

CHAPTER 6

MINISTRY TRANSFORMATION

6. Ministry transformation

The Ministry assumes a key role in the journey of the Malaysian education system, providing leadership, policy direction, and the necessary support wherever needed. As it upholds the hopes and aspirations of the rakyat and faces the challenges ahead, the Ministry will need to transform the way it operates and organises itself to bridge the gap between policy formulation and delivery capacity and to ensure optimal return on investments. This is particularly true for two of the most capital-intensive investments managed by the Ministry: school infrastructure and ICT.

The system aspirations for improved access, quality, equity, unity, and efficiency are ambitious, and necessary. Meeting these aspirations will require the Ministry itself to transform the way it operates. This transformation will centre on two key areas.

Firstly, the Ministry will strengthen its delivery systems to ensure better implementation of policies. This will require redefining the roles and functions of JPNs and PPDs, and empowering them with greater decision-making power, operational flexibility and accountability so that they can devise and deliver tailored solutions for schools. Having capable, committed individuals in place at all levels of the organisation is also critical to successfully driving this process. The Ministry will therefore continuously improve the way it attracts, develops, and retains the talent required for these changes. This will cut across the entire organisation, from education-related functions such as curriculum development and teacher education, to managerial functions such as planning for human capital development and infrastructure.

Secondly, the Ministry will improve resource productivity by focusing on its core concern of student outcomes, allocating resources to those initiatives with high ROI. The goal is to provide faster delivery with greater consistency and reliability on the initiatives that drive critical outcomes. This not only requires the ability to rapidly redeploy existing funds to priorities for reform, but also fundamentally changes the way the Ministry allocates resources, and monitors its projects and services.

These changes will be further fleshed out in this chapter in two of the most capital-intensive investments managed by the Ministry: school infrastructure and ICT. While focusing on its core business, the Ministry will also work more closely with internal and external stakeholders such as other ministries and PIBGs, leveraging each party's competitive advantages to deliver better results with fewer resources.

THE DELIVERY SYSTEM

The Ministry will ensure that it has the capacity and capabilities to provide the right type and levels of support to schools and students. This will require a fundamental transformation in the Ministry's organisation to develop its JPNs and PPDs, which are closer to schools, and more attuned to their specific needs.

Measures undertaken will include:

- Refocusing the roles and responsibilities of each level of the Ministry to enable organisational specialisation and a clearer delivery channel down to individual schools;
- Empowering and holding JPNs and PPDs accountable for delivering on their enhanced role of supporting schools; and
- Strengthening core functions at the federal level.

The Ministry assumes several different roles within the education system: at the federal level, it is a policymaker and macro-level implementation planner; at the intermediary "middle layer" of the states and districts, it is responsible for cascading administrative, instructional, and financial policies and programmes from the federal administration (Head Office) to all schools. To achieve its many roles, the Ministry is a massive operational delivery agency. It employs approximately 6,800 officials and support staff at the federal level, almost 6,400 at the state level, and a further 6,000 at the district level. This is in addition to approximately 420,000 principals and teachers in schools, and more than 13,100 officials and support staff in the IPGs, IABs, and matriculation colleges.

Assessment of the current position

A review was conducted to provide insight into the Ministry's performance, identifying areas in which the Ministry is strong or performing well, and areas in which it needs to improve. The scope of the review covered both results (in terms of effectiveness and efficiency) and the organisational management factors that underpin performance.

The gap between planning and delivery

In general, the review confirms the quality of policy development in the Malaysian education system. In this role, the Ministry sets out a clear vision for education, focusing on expanding access, student achievement, and equity of outcomes. Strategies toward these aims are set out at a relatively high level. The 2012 UNESCO review reported that the Ministry's "policy documents articulate rational, well-defined, and forward-looking programmes for education development."

At the other end of the spectrum, though, the planning process has been less effective in establishing the actions required and ensuring clarity about who has responsibility for delivery. Over the past few decades, the Ministry has launched numerous programmes that seek to address a broad spectrum of issues, ranging from teacher remuneration to curriculum changes. In interviews with stakeholders such as state and district officials, principals, teachers, and parents, some of these programmes have been identified as powerfully transformative, while others have been less so. Feedback has been that these policies have been well-designed, but the Ministry does not always deliver the intended outcomes. This has been corroborated by a recent *Universiti Malaya* study (2011) on the impact of seven major education policies and 72 sub-policies implemented between 1957 and 2011.

The UNESCO review identified specific weaknesses in the policy-making and implementation process that need to be addressed:

- **A large number of programmes leading to a lack of focus for schools:** Schools report that they are expected to manage a very large number of programmes in any one year—in some districts the total can exceed 100—encompassing both academic and non-academic areas (Exhibit 6-1). Some of these programmes are "legacy" programmes carried over from previous years, while others are new. In 2011 alone, the Ministry issued about 30 circulars on programme additions and adjustments. Additional directives were also issued at the JPN and PPD levels, potentially tripling the total number of programmes. While good schools are typically able to manage this demand, weaker schools struggle, both in terms of handling the increased workload, as well as in the dilution to their focus on teaching and learning that this brings;

- **Limited use of data to inform decision-making:** The Ministry has invested substantially in data collection and management systems over the past few decades. However, data-driven decision-making is still not as widespread or effective as desired. In a 2011 survey conducted by *Universiti Putra Malaysia* of over 800 officers, principals, and teachers, the respondents raised a number of concerns, ranging from the user-friendliness of the databases (due to, for example, poor connection speeds and complexity of the user interface) to the duplication of requests for identical data made by different divisions across the federal, state and district levels;

- **Lack of coordination across key divisions creating overlaps or gaps in activities:** In some instances, implementation and planning is hampered by siloed practices within the Ministry. For example, 2011 saw the launch of the new KSSR by BPK, with a new set of content and learning standards. In parallel, LP launched a new school-based assessment system that had its own set of performance standards based on the content standards of KSSR. In the first year, the BPK and LP training sessions were not conducted together, leading to initial confusion amongst teachers regarding how these different standards were related. Although subsequent training has seen better coordination between BPK and LP, upfront collaboration remains an area for improvement; and

EXHIBIT 6-1

Selected examples of programmes run in Malaysian schools

Programmes

From federal level	From state and district level	From school level
▪ Nilam ▪ 1Malaysia Reading Camp ▪ LINUS ▪ PLBS / PBS ▪ SMART ▪ PLANT ▪ SMART Prayers Camp ▪ TASMIK Class ▪ MBMMBI ▪ PPSMI ▪ PROTIM ▪ School Improvement Programme ▪ 1 Student 1 Sport ▪ 1Malaysia Run ▪ 1Malaysia Grassroots Camp ▪ Identify the Talent TID Programme ▪ MSSM ▪ SJK(C) Bahasa Malaysia Campaign Competition ▪ Uniformed Body, Club and Association, Sport and Game ▪ "Syiar Islam" Development Programme	▪ Excel Programme ▪ Strengthening Pedagogy ▪ SAGA ▪ TELT ▪ 200m Programme ▪ Final Acceleration Programme ▪ Answer for Success ▪ UPSR Motivation Camp SJK(C) ▪ Success in UPSR Programme SJK(C) ▪ Professional Learning Community (PLC) ▪ TORA TORA Teaching & Learning for Teachers ▪ MSSN ▪ Hockey Talent Camp ▪ Language Village ▪ MSSD ▪ Integrated Uniform Unit Camp	▪ ELITE Programme ▪ Emerald Programme ▪ Al-Fatah Programme ▪ Big Brother/Sister Programme ▪ Mentor-Mentee Programme ▪ Excellent Student Award ▪ Motivational Programme (UPSR, PMR, SPM, STPM) ▪ Techniques to answer questions / marking scheme ▪ UPSR Clinic ▪ Planned Revision Programme ▪ Junior teachers ▪ SPM / PMR Clinic ▪ Enzyme-making Programme ▪ Gardening Programme ▪ School annual sports ▪ Project "Boom" ▪ 1 Teacher 1 Co-curriculum ▪ *SERASI* Programme ▪ *LESTARI* Programme ▪ *KEKAS* Programme

SOURCE: Focus group discussions

- **Monitoring focused on process rather than outcomes, resulting in weak consequence management and follow-through:** All programmes designed at the federal, state, and district levels require close tracking to ensure effective implementation. However, most tracking measures are process-based (for example, the percentage of schools that have conducted a certain training programme), rather than outcome-based (for instance, the proportion of teachers that demonstrate competency in a given area following training). Further, these outcomes are not always explicitly linked to improvement in student performance. This focus on process rather than outcomes reduces the ability of school and system leaders to resolve why certain programmes may not be yielding the impact expected, or how they should be adjusted to better contextualise the programme to the needs of schools.

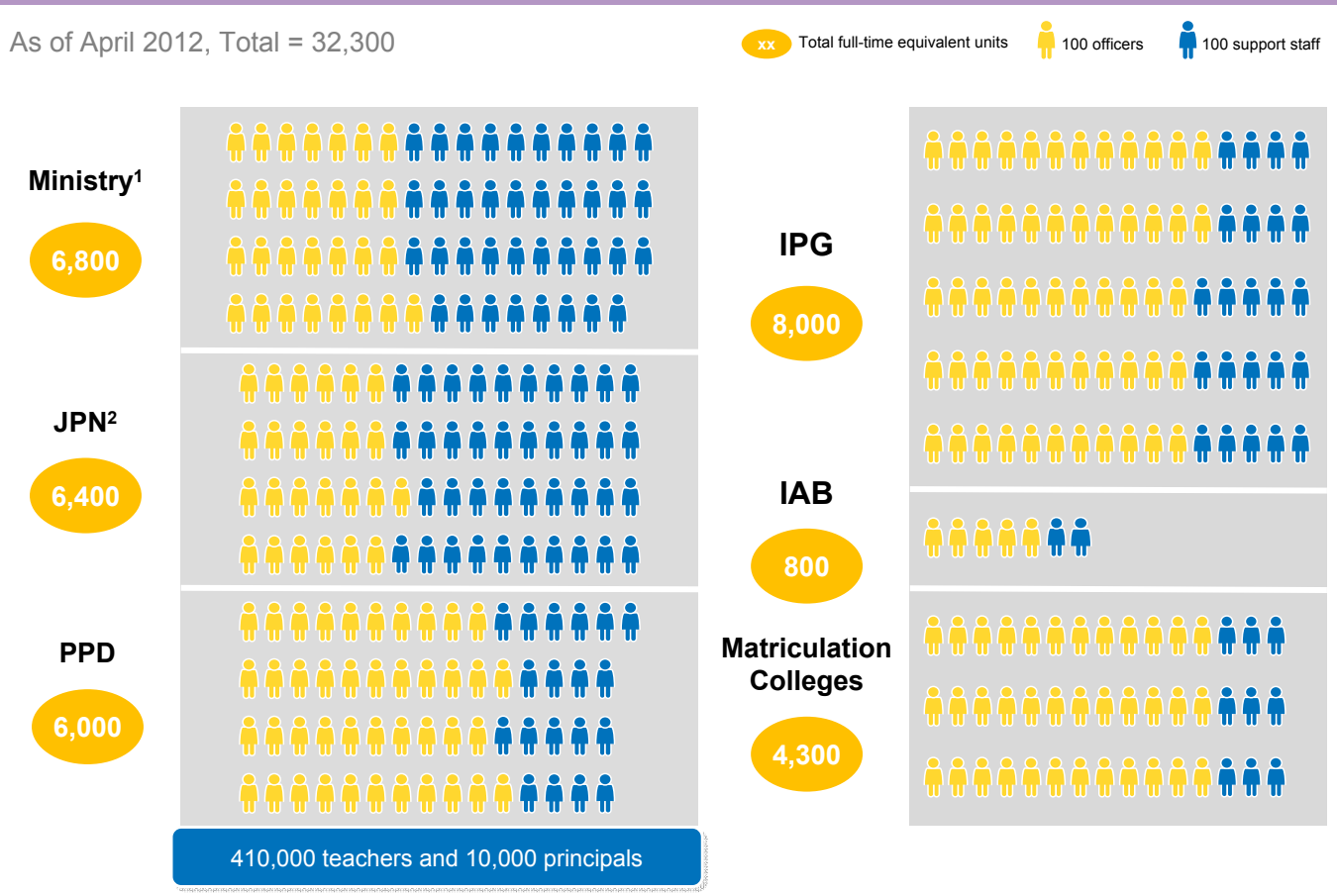
The Ministry is well aware of these issues and a number of initiatives are already in place to address them. These efforts are beginning to bear fruit, as the implementation of more recent programmes such as LINUS are cited as examples of successful programme implementation.

Highly centralised structure of the organisation

The Ministry's current organisational structure is similar to that of a rectangle (Exhibit 6-2), with the federal, state, and district all featuring similar staffing levels. This implies that relatively few Ministry personnel are deployed nearer to schools, and are consequently further from where the learning actually occurs. The organisation is also characterised by a large pool of support staff (overall, between 50-80% of staff are support staff at each level). The 2012 UNESCO review noted that "Malaysia arguably has one of the largest central (federal) education administrations in the world, relative to the number of schools."

EXHIBIT 6-2

Ministry organisation structure



1 Does not include staff who are pursuing studies, on various types of leave, and budgeted positions for new schools
2 JPN headcount includes approximately 2,200 BTPN officers stationed in state offices

SOURCE: Human Resource Management Division, Ministry of Education

The Ministry's large Head Office, consisting of 36 divisions, is the legacy of a highly centralised education system. Multiple divisions are often involved in key day-to-day processes such as teacher recruitment and placement, and development planning. While this is the natural consequence of a system as complex as the education system, this has also given rise to process inefficiency.

For example, teacher recruitment and placement currently involves at least six different divisions at any one time, each of which is responsible for a different part of the process (Exhibit 6-3). The difficulty with this arrangement is that each division is optimising for a slightly different outcome, and that there is no single division responsible for ensuring that the different objectives are drawn together. The result is that the Ministry struggles with mismatches in the supply and demand of teachers, though each division has delivered precisely on its requirements.

EXHIBIT 6-3

Teacher recruitment and placement process

	Activities	Optimises for…
BPPDP	▪ Forecast demand of teachers by comparing with current teacher stock ▪ Estimate no. of training places required	*… estimating future requirement* *… closing gaps in supply and demand of teachers*
BPKP[1] / BPG	▪ Compile candidate information ▪ Conduct pre-screening and conduct candidate interviews	*… select the best candidates suited for the teaching profession (within limits of specified option)*
IPTA / IPG	▪ Offer seats to teacher trainees ▪ Conduct pre-service training to provide teachers with relevant knowledge and skills	*… filling up available seats and maximising graduation rates*
SPP BPSM	▪ Provide names of new graduates from IPG and IPTA to SPP for interview (BPSM) ▪ Interviews new graduates from teacher training programmes (SPP) ▪ Allocate names of successful candidates (from SPP) to BPSH for placement (BPSM) ▪ Issue letters of appointment and/or placement of teachers to JPNs and PPDs (BPSM)	*… selecting the most suitable graduates for the job* *… matching supply of teachers to demand*
BPSH and other related divisions	▪ Reviews needs by each state ▪ Allocate teachers based on preference ▪ Post teachers to schools based on needs indicated by JPN	*… fairly allocating individual teachers to fill gaps at each state*

1 BPKP,a unit of MOHE, is responsible for screening candidates for the teacher training programmes run by IPTAs. BPG is responsible for screening candidates for the programmes run by IPGs

LINUS case study on strong programme implementation

LINUS programme, launched as part of the Education NKRA, is frequently cited by states, districts, and schools as an example of a policy that has been planned and implemented well. To begin, the Ministry clearly communicated the objectives and targets of the programme to all states and districts. The Ministry also followed up with participants to ensure all parties had a strong grasp of the programme objectives, implementation plan, and other details.

Secondly, adequate support systems were built in during the planning phase. For example, full-time literacy and numeracy coaches (FasiLINUS) were appointed at the district level. The number of coaches per district was based on a ratio of 30 schools to every coach—significantly lower than the typical ratio faced by master trainers during the implementation of new programmes (generally there are 2 master trainers per district, regardless of the size of the district).

Thirdly, there is detailed, continuous performance tracking down to the individual student level. There are also regular performance dialogues between the school teachers and their designated FasiLINUS, the FasiLINUS and the district leaders, and so forth.

While the federal level was designed for top-down policy making, JPNs and PPDs were historically conceived as an administrative arm of the Head Office. This explains both their smaller size and the weighting towards support staff. As the needs of schools have evolved, however, so too has the scope of activities expected of JPNs and PPDs. As the closest Ministry entity to the frontline of schools, PPDs in particular are expected to be very hands-on, providing direct support to schools and managing their performance.

The challenge is that this change in role expectations has not been followed by a change in resourcing. For example, there is a real shortage of coaches who can support principals and teachers. In Selangor, just two principal coaches support 900 schools in the state. Unsurprisingly, these coaches are only able to see a third of schools each year at best, and each visit is limited to one day at most.

The Roadmap: Closing the implementation gap

While problems of execution are not unique to Malaysia, the Ministry will actively improve its processes, from the moment when policy is designed, right through to the point when it is rolled out from the federal level down to the states, districts, and schools. The Ministry will also realign its organisation structure with these improved processes. A number of key objectives guided the development of a model for the future state of the Ministry through to 2025. These were the following:

- **Establishing clear priorities.** The Ministry will articulate a clear sense of direction both for itself and the overall education system. This will provide Ministry initiatives with a more coherent long-term focus and instill greater confidence in the education system among stakeholders;

- **Establishing a nimble, responsive organisation.** The Ministry must be able to recognise, diagnose and solve problems purposefully. This will require the design and realignment of the Ministry's organisational structure and business processes. It will also mean investing deeply in building the capabilities of every Ministry official to enable it to become a learning organisation, capable of continuous improvement. Achieving these changes will enable the Ministry to better carry out its mission in a more cost-effective manner; and

- **Increasing accountability for system performance.** The Ministry will move from a predominantly administrative role to one focused on improving system performance. It will ensure that every programme undertaken is linked to clear student outcome targets to ensure that all activity contributes to the system's improvement.

In Wave 1, the Ministry will develop a proposal and secure the approval of the Public Service Department or *Jabatan Perkhidmatan Awam* (JPA) on how the functions and structure of the federal, state, and district offices will be realigned. During this planning phase, the Ministry will also implement a few interim measures to strengthen the capacities of the JPNs and PPDs. Wave 2 will see the commencement of the full-scale reorganisation, including the streamlining and strengthening of core functions at the federal level. This process will be completed by the end of Wave 2. Wave 3 will see greater decentralisation of the system, as schools receive greater decision-making rights and take on increased accountability for their performance. With the completion of the transformation, the Ministry's structure will be fundamentally changed (Exhibit 6-4).

EXHIBIT 6-4

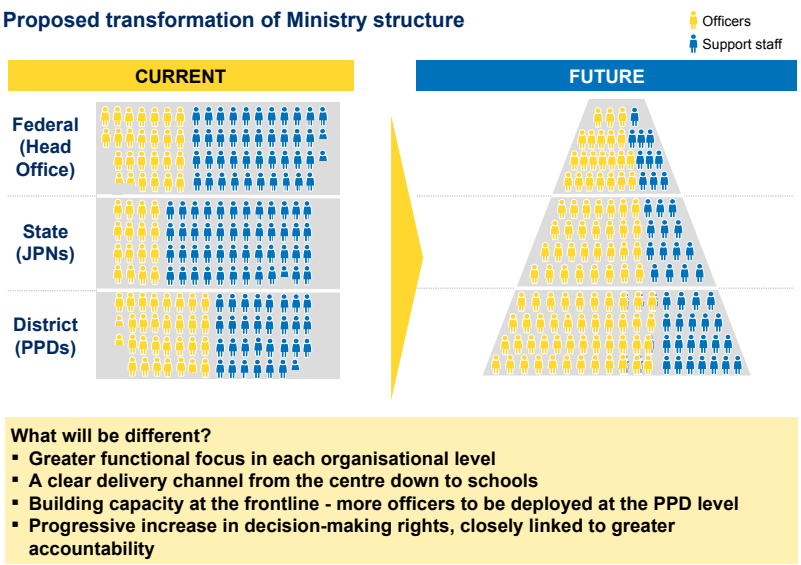
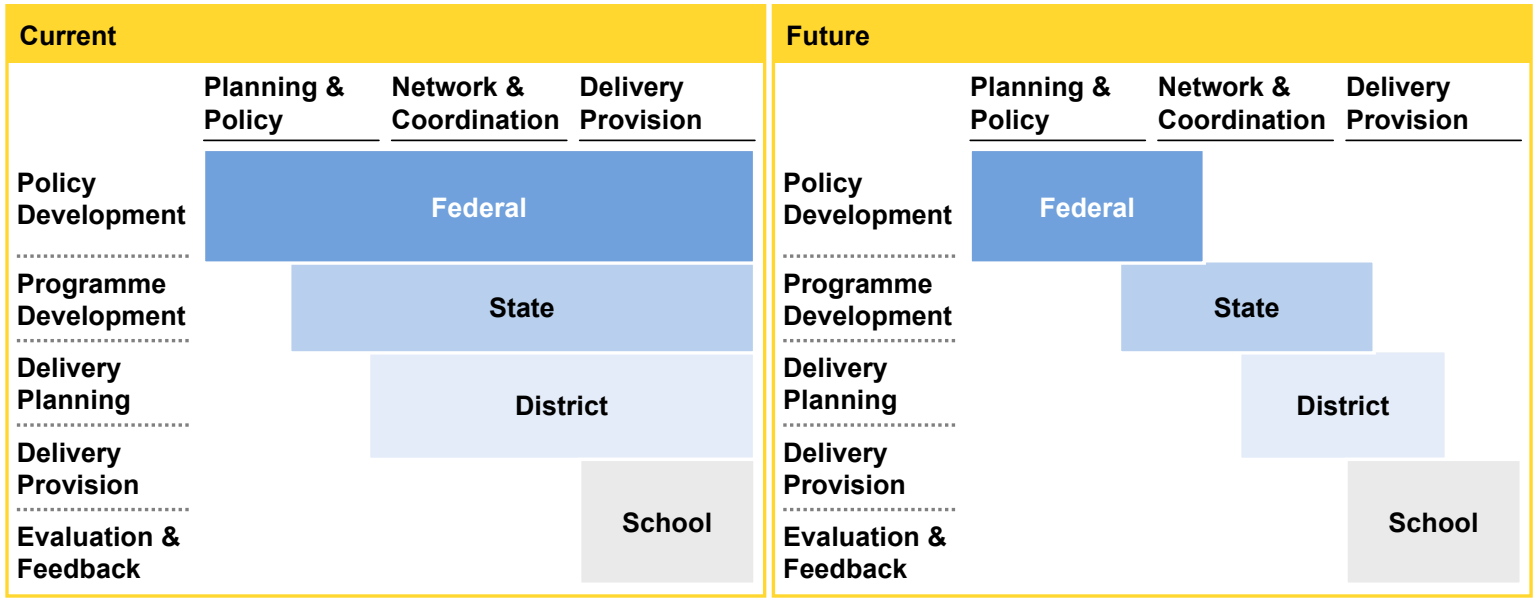


EXHIBIT 6-5

Current and future roles of the layers within the Ministry



- **Similar functions.** JPN and PPD structures and roles are mirrors of MOE
- **Overlapping functions.** Overlap of functions in multiple levels
- **Generalised responsibilities.** Lack of specialisation within various functions

- **State as coordinator and administrator.** JPN will assume more coordination, procurement and administration work from PPD
- **District as support partner and monitor.** No direct intervention to school from Head Office and JPN; PPD to have greater decision-making power, and to be the main coaching and support partner to principals and teachers
- **Greater school based management** for schools that meet minimum performance criteria

Wave 1 (2013 to 2015): Redefining roles and strengthening JPNs and PPDs

The complexity and breadth of the upcoming transformation requires a fundamental improvement in the Ministry's capacity and capability to implement policies and programmes. Wave 1 will therefore need to combine long-range planning on what the end-state structure and functions should look like, and short-term measures to bolster the work of the PPDs, which are responsible for accelerating school improvement through systematic, district-led initiatives.

Developing a clear end-state vision

The Ministry will work collaboratively with the central agencies, particularly JPA to clearly articulate what the restructured Ministry should look like. This includes not only the roles, organisational structure and headcount of the federal, state, and district offices but also implementation details on how the transition will occur over the subsequent waves. Relevant parties will agree to a finalised plan by the end of 2013, with implementation commencing in 2014.

Refining federal, state, and district roles and responsibilities

State and district roles currently mirror that of the federal itself (Exhibit 6-5). This leads to significant overlap in functions across multiple levels. Occasionally, there are interventions from the Head Office or JPNs directly to schools, bypassing PPDs entirely. The generalised set of responsibilities also leads to a lack of specialisation and focus within the various functions. For example, Quality Assurance officers in PPDs are simultaneously responsible for International Organisation of Standardisation (ISO) qualification in schools, teaching quality of teachers, and coaching for principals.

The Ministry will revise existing roles and responsibilities to provide a clear delivery channel from the centre down to individual schools. The proposed new roles and responsibilities will be piloted in 2013 with Kedah and Sabah, in line with the District Transformation Programme and the development of the broader Ministry transformation plan. Once approved by the JPA, roll out will start in 2014. The proposed roles and responsibilities for each level are:

- **Federal:** The Head Office will retain its functions of policy-setting and macro-planning;

- **States:** JPNs will focus on coordination and delivery planning, providing the vital link between policy development and on-the-ground implementation. They will customise implementation of programmes and initiatives based on the different needs and segmentation of districts within their state. They will be responsible for monitoring the progress of each PPD and encouraging collaboration and sharing of best practices across districts. Additionally, they will manage stakeholders at the federal level and within the state to coordinate resources in order to have greater impact.

- **Districts:** In line with the District Transformation Programme, PPDs will act as support partner and monitors to schools. Critically, this requires that PPDs have the capability to analyse school data, diagnose underlying problems, and design differentiated support for schools. PPDs will also assist schools in engaging parents and the broader community to maximise the impact of delivery provision. Most importantly, PPDs will be the primary communication channel to schools, integrating all directives from the federal or state offices and reducing bureaucratic confusion and gridlock.

The Ministry will streamline and clarify decision-making rights between the federal, state, district, and school levels based on these new roles and responsibilities. This will include granting JPNs and PPDs greater decision-making rights in selected areas such as principal deployment (Exhibit 6-6). For example, previously, all requests for transfers of principals required final approval at the federal level. Under the new system, PPDs will be allowed to approve transfers within a district and JPNs may approve in-state transfers across districts, while the Head Office will retain the right to approve transfers between states. These enhanced decision-making rights will be balanced by greater accountability at the JPN and PPD level for performance to ensure delivery of targets.

EXHIBIT 6-6

Example of realigned decision rights after Wave 1

	Decision Authority		
Key Decision	**Federal**	**JPN**	**PPD**
Principal Deployment	Across States *(All Grades)*	Across Districts *(All Grades)*	Within District *(All Grades)*
Teacher Deployment	Across States *(All Grades including GCs)*	Across Districts *(All Grades including GCs)*	Within District *(All Grades including GCs)*
SISC+ Deployment	Across States	Across Districts	Within District
SiPartners+ Deployment	Across States	Across Districts	Within District

Strengthening JPN and PPD leadership

Having the right set of leaders is critical to any successful change. The process of organisational transformation will require respected leaders who are capable of driving the process and winning credibility and support from all stakeholders.

In parallel with the development of the broader Ministry transformation plan, the Ministry will start taking measures to strengthen the leadership of the JPNs and PPDs. It will do so by evaluating the performance of existing JPN and PPD leaders against a set of leadership competencies. (Clear rubrics will be developed for each required leadership competency to enable objective assessments). Leaders will be grouped into high-, medium-, and under-performing groups, with those in the medium- and under-performing groups provided with tailored capability-building support to further develop their leadership abilities. By the end of 2013, all JPN and PPD leaders will have been assessed and upskilled. Current JPN and PPD leaders who are unable to demonstrate improvement despite the extra support may be redeployed to other positions upon evaluation.

Deploying full-time SISC+ and SiPartners+

Another measure that will need to be taken in parallel with the development of the broader Ministry transformation plan is the selection and deployment of full-time teacher and principal coaches (SISC+ and SiPartners+, respectively) at the PPD level. As noted previously in Chapters 4 and 5, coaches are currently part-time positions, leading to inconsistent and insufficient coverage of schools. By creating full-time positions at the PPD level, coaches will be able to specialise in mentoring, and can develop stronger relationships with their teachers and principals. The level of support provided by the SISC+ and SiPartners+ will be differentiated based on the school's performance band.

These coaches will be appointed from various sources within the education system: *Guru Cemerlang, Pengetua Cemerlang*, IAB or IPG officers, existing FasiLINUS, and JPN and PPD officers. More than 450 SISC+ (with an initial focus on Bahasa Malaysia, English language, and Mathematics) and SiPartners+ coaches are expected to be deployed by January 2013 to support the pilot District Transformation Programmes in Kedah and Sabah. By 2015 almost 2,500 SISC+ and SiPartners+ are expected to be deployed to all districts nationwide.

Enhancing performance management and capability building for all JPN and PPD officers

To help JPN and PPD officers adjust to these enhanced functions, the Ministry will clearly articulate expectations on how the day-to-day activities of these offices and officers will change. For example, to reflect their shift from a more administrative role towards more planning and coordination, JPN Directors will be expected to spend 20% of their time on planning activities such as setting clear goals for their districts, 30% on coordination, 30% on monitoring and troubleshooting, and only 20% on administrative duties. These priorities will be cascaded appropriately throughout the organisation across all levels. PPDs will also receive similar guidance for their shift towards supporting and sharing best practices with schools.

These changes will be supported by a new performance evaluation process linked to achievement of key results and required competencies. This evaluation system will be cascaded at every level throughout JPNs and PPDs. As an example of the new performance measures, JPN and PPD leaders will be evaluated based on the performance of their state or district against a set of pre-agreed targets and their demonstrated leadership competencies. These targets will be customised to account for the different starting points and conditions in each state and district. Comparable processes will be put in place for all officers.

To help officers and support staff meet these new competencies and targets, the Ministry is committed to providing an improved set of CPD programmes. It may also mean including sponsorship or loans for Ministry officers to obtain bachelors, masters, and doctoral degrees, where appropriate.

Reconciling data collection and management systems to establish a solid platform for decision-making

The Ministry will link system data (covering both operations and financial data) to obtain clearer, timelier insight into performance. Currently, financial and operational data are not linked and remain scattered across multiple platforms, such as the Modified Budgeting System (MBS), EMIS, and e-Procurement (*e-Perolehan*). Creating a single, integrated dashboard will provide the Ministry with the relevant, timely information required to enable quick analyses of performance along key measures down to the level of individual schools.

The Ministry will use 1BestariNet as its central platform for consolidating all data. This will entail identifying the key datasets (at the student, school, and system levels) that the system leaders require in making critical decisions, assessing the present database's ability to meet these requirements and augmenting them as need be, and training database staff to ensure that they are capable of providing the required data entry and data synthesis services. The Ministry will also agree with key stakeholders on a unified method for distributing information on a regular basis. The goal is to ensure easy and timely access to data to inform decision-making at all levels.

Wave 2 (2016 to 2020): Implementing wide-scale reorganisation of the Ministry

The Ministry will further empower the JPNs and PPDs to shift towards a more streamlined organisation in line with international best practices. This requires streamlining the federal level while further increasing decision-making power and accountability in the JPNs and PPDs. The intent is to produce a model that replicates functions to ensure direction, but with clearly differentiated roles at different levels.

Strengthening core functions, streamlining roles at the federal level

The Ministry will focus on strengthening its central functions, starting with the divisions of BPPDP, BPK, BPG, LP, and JNJK. These five divisions were prioritised as they are core to the planning (BPPDP), curriculum development (BPK), teacher education (BPG) and quality control processes (LP and JNJK) of the Ministry. One measure being considered for these divisions is the delegation of greater decision-making power by setting them up as independent bodies or centres of excellence. Once these divisions have been strengthened, the Ministry will turn its attention to other divisions such as the Technical and Vocational Education Division or *Bahagian Pendidikan Teknik dan Vokasional* (BPTV) and Special Education Division or *Bahagian Pendidikan Khas* (BPKhas) that will need to be further strengthened to deliver the Blueprint initiatives under their jurisdiction.

Rationalising functions at the Ministry : school inspections and quality assurance

School inspections are critical to the quality assurance and control process of any education system. In Malaysia, this function is delivered by the JNJK.

The JNJK currently conducts 2,500 inspections per year. These range from fully comprehensive inspections to targeted inspections that are made in response to complaints from parents. However, these inspections only cover a small percentage of Malaysia's schools each year, with over one third of schools not having been inspected since 2005.

The Ministry will review the current inspection process to determine how the existing review model can be streamlined in order to ensure that every school is inspected at least once every three years. It will also look into the current recruitment process to ensure that the JNJK is able to recruit a sufficient cadre of highly experienced teachers and principals to the role of inspectors. Finally, it will consider the possibility of establishing the inspectorate as an independent entity to provide it with greater operational flexibility and freedom in its reporting.

The Ministry will also prioritise the ongoing development of core managerial and administrative functions within the organisation, such as Finance, ICT, Development and Procurement. This includes determining the extent of duplication across these core functions and identifying opportunities for streamlining, or even restructuring. This will provide a strong foundation for ongoing initiatives to improve organisational effectiveness and resource productivity, as detailed in the subsequent sections in this chapter. Critically, the Ministry will also look into ways of breaking down the present silos so that there is greater cross-functionality and coordination in the planning and implementation process.

Empowering and holding JPNs and PPDs accountable

In parallel, the organisation of JPNs and PPDs will be restructured into specific clusters. This will allow greater specialisation and provide clearer mandates for officers. The clusters are:

- **Curriculum** will oversee subject curriculum, assessment, and pedagogy. It will be structured according to subject to ensure specialisation. There will also be a separate unit to control academic, co-curricular, and sports programmes to ensure holistic student development;
- **School management** will oversee the running of schools. It will also monitor implementation of non-academic programmes and initiatives such as KWAPM. It will be structured by different schooling options to ensure tailored responses; and
- **Finance, Human Capital, Procurement and Administration** will be responsible for finance and accounting, school maintenance and procurement, and other administrative functions.

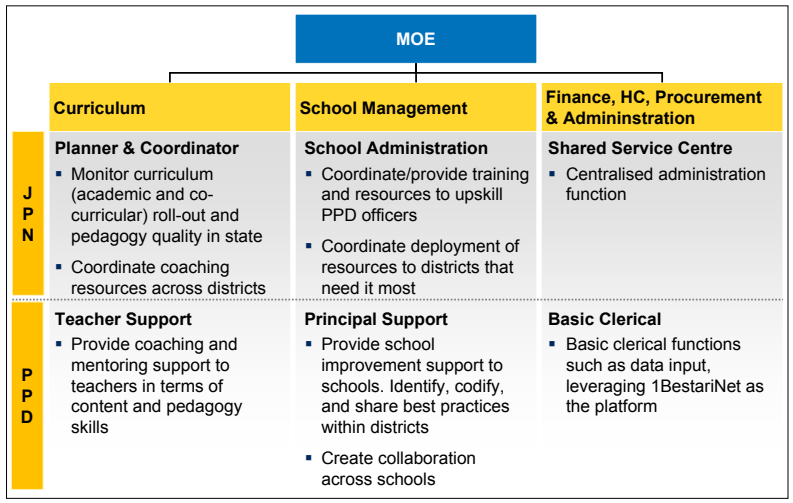
Although JPNs and PPDs will have similar clusters, their roles and responsibilities will differ. JPNs will mostly focus on school administration, planning and coordinating curriculum implementation, and providing a shared service centre with centralised administration functions in order to ease the administrative burden of PPDs. PPDs will provide limited administrative support (mostly focused on data entry, as well as clerical support to ease the administrative burden of teachers) and continue to focus on teacher and principal support (Exhibit 6-7).

Expanding school-based management and autonomy

As the quality of the education system improves, the Ministry will provide greater school-based management opportunities to schools that meet certain performance criteria. For example, schools will be given more operational flexibility over budget allocation and curriculum timetabling (see Chapter 4 for further details). The Ministry will use 1BestariNet to ensure that schools are equipped with the best ICT practices to facilitate such school-based management.

EXHIBIT 6-7

High level overview of proposed future role demarcation



Wave 3 (2021 to 2025): Reinforcing organisational strengths

As the Ministry completes its reorganisation, it will have a strengthened delivery channel that provides the results the *rakyat* want and expect. It should also have the systems and processes in place that support this objective. Moving forward, the Ministry will continue to reinforce this progress by strengthening the link between competency and performance for all officials and enabling faster, competency-based progression. The Ministry will also continue to provide more schools with greater school-based management opportunities as their performance improves.

RESOURCE PRODUCTIVITY

The Ministry will ensure that it maximises the student outcomes from every ringgit. This will be accomplished through a shift in the way the Ministry evaluates, allocates resources, and monitors its programmes and initiatives. The focus will be on results: priority will be accorded to programmes and initiatives that will have a substantial impact on student outcomes.

Measures undertaken will include:

- Linking every programme to clear student outcomes and rationalising low-impact programmes to reallocate Ministry resources to the programmes that have the highest impact;
- Developing more strategic financial management and procurement within the Ministry, including outcome-based budgeting; and
- Upskilling relevant staff in critical competencies such as value management.

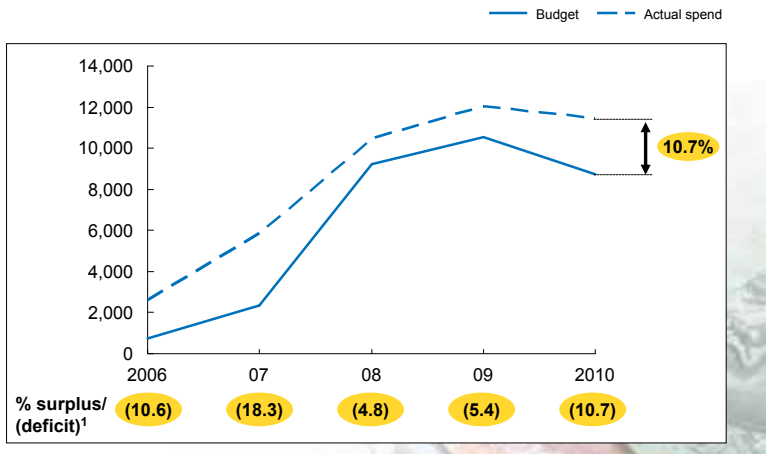
As highlighted in Chapter 3, the Government is highly committed to education. Basic education expenditure for the Ministry was RM37 billion (in terms of the operating and development expenditure) in 2011. This is the single largest budgetary item, representing 16% of the total 2011 federal budget. This also excludes the additional RM12 billion allocated to the MOHE and other ministries providing education-related services.

Malaysia's financial commitment to education compares favourably to peers. Malaysia spends 3.8% of GDP on education, more than twice the ASEAN average of 1.8%, and substantially more than the Asian Tiger economies of South Korea, Hong Kong, Japan, and Singapore. The level of expenditure on education as a percentage of total government spending is not only relatively high when compared to regional peers, but also against GDP per capita peers such as Mexico and Chile.

However, the Ministry's education expenditure has for the last five years exceeded its allocated budget (Exhibit 6-8). Much of this variance was due to unanticipated changes and events. As the World Bank reports, "There were unanticipated changes in policy or priorities requiring the reallocation of funds from lower to higher priority areas or additional funds for new initiatives." In addition, some planned activities could not be implemented because of delays in tendering or delivery of goods and services.

EXHIBIT 6-8

Ministry operating education budget vs. actual expenditure
RM million (2006-2010)



1 Computed as surplus or deficit divided by budget allocated
SOURCE: World Bank Public Expenditure Report 2011

There is also significant variation in expenditure between states. While some of this variance can be attributed to their different operating circumstances (for example, Sabah and Sarawak have a much higher proportion of rural schools than states like Selangor and Penang), there is still an opportunity for states to learn and adopt relevant best practices from one another.

As a developing country, Malaysia has invested significant resources into building additional infrastructure, particularly in rural areas and the interior of Sabah and Sarawak, and increasing the size of the teaching force to enable the expansion of access to education. This spending has successfully translated to almost universal access to primary education, and significant improvement in access to secondary education. However, there remain areas for improvement in other dimensions such as quality and equity. Chapter 3 illustrated that education systems that make lower investments, such as Thailand, Chile, and Armenia, achieve comparable or better student outcomes. This suggests that the Malaysian education system may not be allocating funds towards the factors that have the highest impact on student outcomes such as teacher training. High-performing systems such as Singapore and Shanghai, however, do spend more funds per student than Malaysia. The education system is also about to embark on a major transformation effort. Consequently, Malaysia's expenditure levels should be maintained but the efficiency and effectiveness of how funds are allocated and spent should be reviewed.

The Roadmap: Maximising student outcomes for every ringgit

Moving forward, the Ministry will ensure greater effectiveness in education expenditure, raising the ROI, and conducting a clear socio-economic cost-benefit analysis of each major investment. The goal is to minimise the requirement for additional funds while maximising the ROI in critical areas such as student outcomes. To this end, the Ministry will seek to reprioritise and rationalise the current set of policies and programmes to ensure that funds are directed to the most important priorities. The Ministry also commits to implementing the recommendations of the Auditor-General, such as more careful monitoring of expenditure, compliance to financial regulations, and improved disbursement of allocated budgets.

In the short term, this will require delivering "quick wins" through the rationalisation of programmes and the revision of procurement processes as current contracts come up for renewal. In addition, the Ministry will continue with current efforts to revamp its financial management system with the introduction of outcome-based budgeting. As these changes to the funding system are completed and the reorganisation of the Ministry takes place in Wave 2 (as detailed in the prior section on delivery capacity), the Ministry will focus on more strategic financial management, including differentiated budget allocation based on student needs. By Wave 3, the Ministry expects the improvement of the financial management systems and processes to be complete. The Ministry will therefore focus on maintaining best practices in fiscal discipline developed during earlier waves.

Wave 1 (2013 to 2015): Quick wins in rationalisation

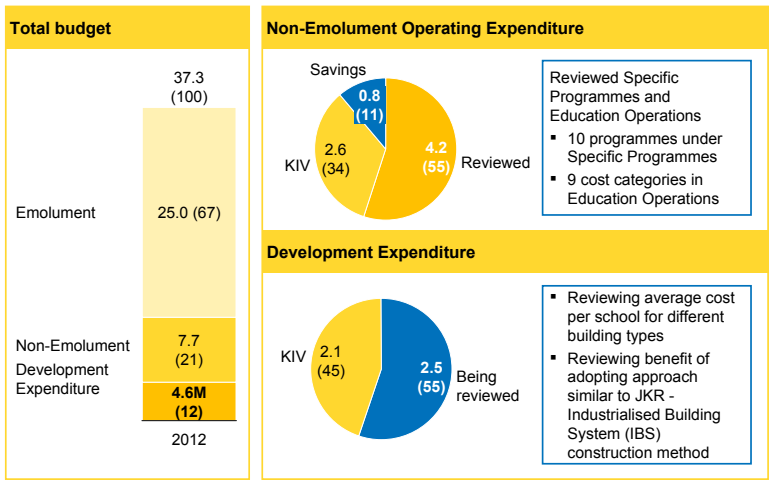
In the short-term, the Ministry will focus on reviewing its programmes and operating expenditures in order to improve effectiveness of spending and reallocate resources to the levers that have the most impact on student outcomes. To that end, the Ministry is in the process of reviewing non-emolument operating expenditure (amounting to RM7.2 billion or 21% of the Ministry's total 2012 budget) and development expenditure (amounting to an additional RM4.6 billion or 12% of the Ministry's total 2012 budget).

To date, a total of RM7.3 billion has been or is currently under review for rationalisation: RM4.8 billion of non-emolument operating expenditure, and a further RM2.5 billion of development (Exhibit 6-9). The review of operating expenditure focuses on specific programmes and education management expenses. The review of development expenditure is still ongoing.

EXHIBIT 6-9

Approach and methodology for cost savings – based on 2012 budget

RM billion (%)



Review of national policies and programmes

The Ministry will review its existing portfolio of policies and programmes to focus financial and human resources on the programmes that have the most impact on student outcomes (as outlined in this Blueprint). In the initial review in Wave 1, this reprioritisation and rationalisation exercise was guided by three core principles:

- **Effectiveness:** Each programme should have a significant, net-positive, and quantifiable impact on a key priority area as established in this Blueprint;
- **Efficiency:** Each programme should be executed in a resource-efficient manner; and
- **Integration:** Each programme should integrate smoothly and coherently with all other programmes to avoid duplication of effort and/or contradictory objectives and impacts.

In line with this review process, the Ministry has identified a number of programmes for rationalisation in Wave 1. For example, under the Teaching and Learning of Science and Mathematics in English Language policy or *Pengajaran dan Pembelajaran Sains dan Matematik dalam Bahasa Inggeris* (PPSMI), the Incentive for Education Subjects or *Bayaran Insentif Subjek Pendidikan* (BISP) provides an allowance to teachers who teach subjects in English. In 2011, over 210,000 teachers received these Mathematics and Science incentives. Given that PPSMI is in the process of being phased out, the Ministry will also reduce BISP. A 2012 review of teachers who actually teach in English indicated that only approximately 40,000 teachers actually meet the criteria for BISP. Going forward, the Ministry will restrict BISP payments only to eligible teachers, reducing the cost to the Ministry by up to RM413 million. This rationalisation process will start by end 2013.

EXHIBIT 6-10

Targeted Cost Categories for review by 2015

Cost Category	Improvement Plan	2011 Actual	Estimated Cost Savings (p.a.)[1]
Travel & Living Allowances Professional Service, Other Purchased Services, and Hospitality	▪ Reduce unnecessary meetings ▪ Explore alternative work arrangements (e.g. virtual meetings) to reduce travel costs	RM 660M	RM 10M
Professional Service, Other Purchased Services, and Hospitality (Security)	▪ Reduce 5% contract value, by increasing number of schools per contract	RM 710M	RM 47M
Purchases for Minor Support and Maintenance	▪ Reduce 5% contract value, by increasing number of schools per contract	RM 1,051M	RM 44M
Utility Expenses	▪ Reduce electricity bill by introducing LED lights	RM 502M	RM 73M
Supplies and other materials Raw materials Transportation of materials	▪ Tighten guidelines to control spend across MOE	RM 136M	RM 16M
Total		**RM 3,059M**	**RM 190M**

1 Estimated cost savings are based on 2012 budget amount by individual operating item savings percentages

Through this rationalisation effort, the Ministry expects to reduce the annual cost of those initiatives that can be deprioritised by approximately RM579 million to RM813 million by 2015. These funds will be reallocated to other Blueprint priorities.

Any new initiatives introduced will be subject to stringent evaluation. This will ensure that the new programmes do not tie up valuable human and financial resources that could have greater impact if used elsewhere. To this end, the burden of proof will be on the proposing division. It will need to demonstrate: (i) the potential positive impact on students, teachers, and principals; (ii) the manpower and financing required to deliver the programme and whether these resources are new or to be reallocated; and (iii) the tradeoffs that this reallocation of resources would require.

Revising procurement processes

As current contracts come up for renewal, there is an opportunity to tighten existing procurement mechanisms and processes to ensure greater value for money. The Ministry has undertaken a detailed review of individual line items to identify opportunities for cost savings. This includes potential measures such as devolving the authority for the procurement of certain goods and services to state authorities. This is to enable better matching of supply and demand. Another potential measure is to contract out certain services to the private sector in cases where the Ministry is less well-placed to provide such services.

This exercise is expected to generate annual savings of RM190 million based on actual expenditure in 2011. This is spread across various line items such as cleaning and utility expenses within the education operations cost category (Exhibit 6-10). The money saved through this initiative can then be reallocated towards the Blueprint's priorities.

The Ministry will also ensure that this detailed review process cascades down to the JPN and PPD levels. The significant variances in expenditure observed at these levels indicate that there are important lessons that JPNs and PPDs can learn from each other. JPNs and PPDs will be required to benchmark their expenditure according to peer performance and justify their variances.

Incorporating outcome-based budgeting into financial management

Outcome-based budgeting (OBB) focuses on the results desired and achieved from government spending. This will result in more credible future budget commitments and more efficient expenditure prioritisation. The Ministry has already commenced incorporating OBB into its financial management systems and will continue to implement the new process during Wave 1 with the goal of completing the implementation in Wave 2.

This initiative entails several components. Firstly, the Ministry will ensure that the annual operating and development budgets are aligned with the priorities outlined in this Blueprint, such that sufficient funding has been put against each of these priorities. The Ministry will also increase the transparency of the budgeting and spending process so that there is clarity of intent and process.

Secondly, in line with the move towards OBB, the Ministry will explicitly link funding requests to outcome-based targets. Progress against these targets will be tracked each quarter, with further funding conditional on the initiative having demonstrated intended outcomes.

Thirdly, as noted in earlier in this chapter on delivery capacity, the Ministry will link and reconcile system data in a single, integrated dashboard. This will provide the Ministry with the relevant, timely information required to enable quick analyses of effectiveness of expenditure down to the level of individual schools. An integrated online financial management and tracking system will be fully rolled out and implemented across the Ministry by 2015.

Fourthly, building the required skills and capacity in the Ministry is an important element for achieving systemic change. The Ministry will upskill all relevant administrative personnel by 2015 in critical disciplines such as management accounting and value management to ensure that they are capable of developing comprehensive, needs-based, and forward-looking budgets.

Wave 2 (2016 to 2020): Effecting system-wide efficiency

During Wave 2, the Ministry will shift the focus of its rationalisation efforts from delivery of "quick wins" to a system-wide exercise, including elimination of duplication in budgets between divisions as the restructuring process described in the previous section occurs. In addition, the Ministry will expand its review of cost categories from education management expenses to all other costs. As in Wave 1, the Ministry will conduct a detailed line item analysis to identify additional cost-saving opportunities.

The Ministry will also build on the OBB process developed in Wave 1 to strengthen its financial budgeting and management processes. This will include reviewing where decision-making rights currently resides for key financing processes to determine whether states, districts, and schools should be empowered to make more decisions. Nonetheless, any empowerment will be accompanied by careful accountability measures.

Wave 3 (2021 to 2025): Maintaining best practices

By 2021, the Ministry expects the overall reorganisation, including the implementation of the revamped financial management systems and processes, to be completed. As a result, resource productivity will be in line with international standards. For instance, levels of public expenditure should be in line with other education systems with a similar level of performance in international assessments. In Wave 3, the Ministry will focus on maintaining the best practices in ensuring financial efficiency that were developed during earlier Waves.

SCHOOL INFRASTRUCTURE

The Ministry will ensure that all schools provide a conducive learning environment for students. It will adopt a common standard for school infrastructure, while providing sufficient flexibility to tailor facilities and equipment to local needs.

Measures undertaken will include:

- Ensuring that all schools have a minimum level of acceptable infrastructure, adapted to individual school needs, in a cost-effective manner;
- Undertaking immediate maintenance on all schools in critical need of repairs; and
- Upgrading facilities and equipment across all schools to support evolving learning requirements of students over time.

In the 2006-10 Education Development Master Plan, the Ministry highlighted a number of infrastructure facilities that it intended to invest in over the next five years. These were : (i) 24-hour electricity supply; (ii) treated water that is safe for drinking; (iii) computer laboratory; (iv) science laboratory; and (v) sufficient classrooms and buildings to enable single-session teaching with no need to divide students into morning and afternoon sessions.

To meet this aspiration, the Ministry spent more than RM20 billion on infrastructure development from 2006 to 2010. This sum was utilised for the development of 400 new schools, the expansion of ICT infrastructure, and the upgrading and maintenance of existing facilities. During this period, the Ministry provided 24-hour electricity supply to an additional 473 schools, access to clean water to an additional 47 schools, and 103 additional computer labs. The most significant gain was in the percentage of schools with a 24-hour supply of electricity, which improved from 92% in 2005 to 97% in 2011. This infrastructure upgrading has continued under the 10th Malaysia Plan.

Despite these improvements, the Ministry acknowledges that significant gaps in school infrastructure remain. A sizeable number of schools still lack basic infrastructure—an estimated 300 schools still lack access to 24-hour electricity while 1,500 schools do not have access to water suitable for drinking. In addition, many schools also lack more advanced facilities—approximately 2,700 schools do not have computer labs while 2,000 schools also lack functioning science labs (Exhibit 6-11).

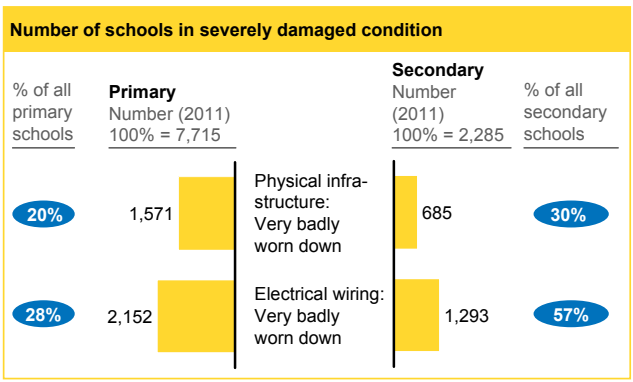
These results are substantiated by research by *Universiti Pendidikan Sultan Idris* (2011). In a survey of 7,107 teachers nationwide assessing teachers' perceptions of infrastructure quality, the researchers found that while there have been improvements, standards are still far from universally satisfactory: 77% of teachers reported that they work in schools that have at least 1 science laboratory, up from 73% in 2005; 74% of teachers report they work in schools with at least 1 functioning computer laboratory, up from 71% in 2005.

Maintenance of existing facilities is also a significant concern. A 2011 Physical Infrastructure Audit report found that over 30% of all schools in Malaysia were in need of immediate repair (Exhibit 6-12). The Ministry allocated RM600 million in 2012 to address these concerns and will make further investments as necessary.

There are several issues involved in improving infrastructure. Firstly, there is continuing debate on the definition of what constitutes essential infrastructure for schools. Beyond certain basics—for example, access to treated water that is safe for drinking and at least 12-hours of electricity—the debate about what should be provided to schools becomes more complicated. With 10,000 schools to provide for, it is important to strike the right balance for basic versus more advanced infrastructure needs.

EXHIBIT 6-12

Maintenance requirements for schools in Malaysia



SOURCE: EMIS database; Physical Infrastructure Audit Report 2011

Currently, the Ministry's understanding of minimum infrastructure requirements is reviewed every five years through the standard brief for new school buildings included in each Malaysia Plan. The standard brief stipulates the provision of utilities, such as 24-hour access to electricity and clean water, and facilities such as science laboratories, staffroom, canteen, library, and school playing field. The Smart School roadmap, introduced in 2005, added another layer to this by committing to provide one computer to every 20 students, along with internet access. This situation has resulted in a degree of uncertainty about whether or not the standard construction brief is the right definition of the required minimum infrastructure and, more significantly, whether or not every school needs to be upgraded to meet those specifications.

In addition, different divisions are involved in the planning process. For instance, the Education Technology Division or *Bahagian Teknologi Pendidikan* (BTP) is responsible for planning and monitoring the delivery of the computer labs and school-based ICT infrastructure, the BPPDP forecasts the overall number of new schools required based on requests from the JPNs and other divisions responsible for schools, the Development Division or *Bahagian Pembangunan* (BP) is responsible for the construction of new schools, while the Procurement and Asset Management Division or B*ahagian Perolehan dan Pengurusan Aset* (BPPA) is in charge of procurement as well as renovation and maintenance of all education institutions. This division of responsibilities has resulted in the development

EXHIBIT 6-11

Identified gaps in school infrastructure

2005: Education Development Master Plan		2006-2010: 9th Malaysia Plan	2011: Blueprint Review	
Percent of schools lacking in infrastructure % (2005) 100% = 9,667 schools		**Total Development Expenditure** **%** (2006-2010) 100% = RM19,771 million	**Percent of schools lacking in infrastructure** % (2011) 100% = 10,000 schools	**Percent improvement** % (2005-2011)
No 24-hour electricity	8%		No 24-hour electricity 3%	+5%
No access to clean water	16%		No access to clean water 15%	+1%
2-session schools	17%	Physical infra 80	2-session schools 16%	+1%
Sharing schools	1%		Sharing schools 1%	Unchanged
Computer lab	29%	IT Infra Utilities and other infra 14 Others[1] 6 1	Computer lab 27%	+2%
Science lab	17%		Science lab[2] 20%	-3%

1 Include Ministry expenditure, consulting fees and land acquisition
2 Due to damaged science labs that are no longer functional

SOURCE: Educational Policy, Planning and Research Division, MOE

of multiple databases, which need to be streamlined to provide an integrated picture of the facilities and equipment at each school, and the condition of these facilities.

This is compounded by insufficient funding to undertake preventive maintenance. Currently, schools lack funds to make minor repairs and carry out ongoing service maintenance. In the longer term, early maintenance could avoid serious deterioration that would be costlier to repair.

The Roadmap: Adopting a common standard for school infrastructure, adapted to local needs

To provide greater clarity on infrastructure needs for the future, the Ministry has developed a consolidated definition for school infrastructure (Exhibit 6-13). This defines the minimum acceptable standard for a conducive learning environment for students across all schools and will be adjusted over time as targets are met and student needs evolve. While many schools in the system meet or even exceed these standards, the intent is to raise the standards of the entire system's facilities and equipment. This will include upgrading the specifications of facilities and equipment to improve quality, durability, and economic life of facilities. The Ministry will also work with relevant government bodies such as local authorities to ensure that all pertinent government agencies involved in the planning and construction of school infrastructure are aligned with this standard.

It is also important to recognise that a common standard does not translate to a one-size-fits-all approach. The infrastructure requirements may differ due to school location or type of school. For instance, a technical, vocational or special education school may have very different requirements from a mainstream school. The Ministry will continue to provide a degree of flexibility in establishing each school's infrastructure requirements, tailored to local needs, to be determined further in Waves 1 and 2.

In Wave 1, the focus is on ensuring that every school has the basic essentials such as sufficient physical infrastructure and access to utilities. In Wave 2, after these minimum absolute standards are met, the Ministry will further ensure that every school will have the facilities and equipment required to deliver on the enhanced curriculum and pedagogies as described in Chapter 4 of this Blueprint. In Wave 3, the Ministry will refine its definition of infrastructure needs prior to investing in further upgrades as necessary.

Wave 1 (2013 to 2015): Ensuring a good standard of basic infrastructure for all schools

The Ministry will ensure that all schools meet the minimum acceptable standards defined for basic infrastructure by 2015. As noted earlier, these standards will be adapted to fit the local conditions for each school. For example, facilities at schools in remote locations will be adjusted to accommodate the lack of regular access to utilities, such as the inclusion of pump wells.

In line with the initiative to rebrand Form 6 (discussed in further detail in Chapter 7), the Ministry will review the infrastructure requirements for Form 6. This is in recognition of the higher and often more specialised requirements of post-secondary students, compared to primary and secondary students.

In order to deliver on this target, the Ministry will implement repairs and upgrades in stages. The Ministry has conducted a detailed infrastructure audit to establish the amount of repairs required to bring all schools in line with the benchmark for basic infrastructure. The repairs and upgrades will proceed in stages, starting with Sabah and Sarawak as schools in these states are in most need of repairs. By the end of 2013, critical repairs and upgrades will be completed across all 1,608 schools with critical needs.

In line with the 10th Malaysia Plan and aspirations to raise resource productivity, the Ministry will enforce value-management analysis and life-cycle cost evaluation for large projects valued at more than RM50 million. This structured and multi-disciplinary approach is a proven technique for maximising value from projects. For example, value management requires a detailed review of specifications to determine functionality and considers life-cycle costs when deciding on the optimal project design.

The Ministry has also identified measures that can reduce the cost of these upgrades by up to 70%. For example, physical buildings currently have a standard size and are constructed from concrete, regardless of school location. By allowing schools to select different sizes of buildings based on their needs and by employing alternative, more durable materials such as fibre composites in rural areas, the Ministry can save up to 88% in construction costs for physical buildings. The Ministry will also seek to incorporate green building materials to improve the resource productivity and cost efficiency of its infrastructure facilities in the long term.

Underpinning these efforts to improve the project management process and deliver cost savings is the integration of existing databases to provide a consolidated, timely perspective on infrastructure requirements. The reliability of data on the number and condition of facilities will also be improved by requiring PPDs to audit reports from individual schools on the condition of their facilities.

The Ministry will also ensure appropriate levels of maintenance of existing school equipment and facilities by providing an annual allocation to schools for maintenance activities. The funds will be disbursed to JPNs, PPDs, and individual schools with enhanced authority and accountability to commission maintenance works.

Wave 2 (2015 to 2020): Equipping schools to support enhanced curriculum and pedagogical delivery

By the end of 2015, all schools will have achieved at least a good standard of basic infrastructure, as defined in Wave 1. The focus will then shift to ensuring that all schools are properly equipped to support the enhanced curriculum and pedagogical delivery detailed in Chapter 4. This will include facilities and related equipment to support student learning such as Science labs and Living Skills workshops and designated spaces for Islamic education activities. The Ministry will also liaise closely with other agencies to ensure wide access to sport facilities in every district. Further, the Ministry will ensure that these new facilities are environmentally sustainable.

One area of particular focus during this stage is the investment in ICT facilities. This will be critical not only to ensure that students are ICT

EXHIBIT 6-13

School infrastructure development initiative

Basic (2013-2015)	**Baseline (2016-2020)**	**Future (2021-2025)**
For all schools to at least achieve the **bare essentials** required for a **safe, hygienic and conducive** environment for teaching and learning	To provide the **minimum level of facilities to enable curriculum** and pedagogical delivery	To create an exciting environment for **21st century learning**

Requirements to be further tailored based on school type (e.g., urban, rural, SKM, schools with hostels)

Basic (2013-2015)

- **Physical structure** (roof, walls, wiring, paint)
- **Classrooms** that meet ratio of 15-20 sq ft / student
- **Toilets** that meet ratio of 1 toilet bowl / 50 students
- **12 hours electricity,** except for schools with hostels which require 24 hour supply
- **Treated water,** that is safe for drinking
- **1 table and chair** per student
- **1 workspace** per teacher
- **1 whiteboard or blackboard** per classroom
- At least **20 devices per ICT device in all schools**
- **Internet connectivity** at minimum speed of 2 Mbps

Baseline (2016-2020)

- **1 sporting facility**
- **24-hour internet** access at speeds of at least 4-10 Mbps
- At least **10 devices per student in all schools**
- **1 library / resource centre**
- **Accessibility features** for the disabled, such as ramps and toilets
- **Designated places** for Islamic education activities

For secondary schools (subject to size of school):

- **Science** (biology, chemistry and physics) + **General Science** labs
- **Living Skills workshops** (*e.g. Home Economics, Agriculture,)*
- **Hostel for rural school students** who travel more than one hour to school daily

Future (2021-2025)

- **Internet connectivity:** At least 10 Mbps for all schools
- **1 device / student** at secondary level
- At least **1 video conferencing facility** to support distance learning
- **1 advanced sports facility per state**
- **Further changes to school design may be required** based on requirements of new curriculum (e.g., specialist teaching room based on student grade and performance)

SOURCE: Guidelines and Rules on Development Planning by the Committee of Standards and Cos; Economic Planning Unit, Prime Minister's Office

literate but also to support future innovations in pedagogy. This will be detailed further in the subsequent section on ICT policy in education.

The Ministry will also study in detail the targeted conversion of overcrowded double-session schools into the single-session format. In such scenarios, the first priority will always be to enforce student enrolment limits and to add additional classrooms to existing school grounds. Only if these measures are not sufficient will the Ministry evaluate the need to build new schools.

During Wave 2, the Ministry will also review the infrastructure requirements for matriculation colleges. The objective is to provide a college environment conducive for learning at a post-secondary level.

Wave 3 (2021 to 2025): Defining infrastructure needs for the future

By the end of 2020, all schools are expected to achieve the minimum baseline standard for infrastructure, facilities, and equipment established in Wave 2. Prior to any further investments in infrastructure, the Ministry will re-evaluate its definition on the infrastructure needs of schools. The Ministry's preliminary perspective on these future needs includes access to more advanced sports and ICT facilities, although this is expected to change significantly over the next 10 years as technology and pedagogy evolve. The Ministry will also continue to convert double-session schools to the single-session format as required. Upon completion of its review, the Ministry will proceed to invest in the necessary upgrades to school facilities and equipment.

Single- and Double-Session Schools: Setting the record straight

Double-session schools were instituted in Malaysia after independence to cater to a large and growing student population in a cost-efficient manner. In contrast with single-session schools, double-session schools divide their students into two groups, with different schooling hours but sharing the same facilities and administration. Typically, the morning session runs from 7.30am to 1pm while the afternoon session lasts from 1.15pm to 6.45pm. Students and teachers may also attend school on Saturdays for co-curricular activities.

In early 2012, there were more than 1,500 double-session schools in Malaysia. These schools represent approximately 15% of all schools in the education system but account for 40% of student enrolments. Double-session schools are more commonly urban, secondary schools. They are also most prevalent in Selangor, Penang, and Kuala Lumpur.

There is a perception among some parents and other stakeholders that single-session schools provide a better quality education across a number of dimensions. This section will review the facts on the relative performance of single-and double-session schools.

1. Student outcomes

Perception: Double-session schools compromise learning outcomes

Reality: Learning outcomes in single- and double-session schools are comparable

A review of student performance over the past three years at both primary and secondary schools indicates that there is no significant difference between single- and double-session schools. In fact, double-session secondary schools perform slightly better than their single-session counterparts (Exhibit 6-14).

2. Co-curricular activities

Perception: Double-session schools limit co-curricular development

Reality: Students in double-session schools spend comparable time on co-curricular activities

Students in both single- and double-session schools spend an average of two hours per week on co-curricular activities. Students in both school formats also spend time on broadly similar activities, such as music, sports, and art (Exhibit 6-15).

3. Infrastructure

Perception: Double-session schools have poor infrastructure

Reality: Physical infrastructure at double-session schools is comparable to single-session schools

The 2011 audit of physical infrastructure in schools indicates no difference between single- and double-session schools. An equal proportion of both single- and double-session schools in urban areas require upgrades and repair.

4. Discipline

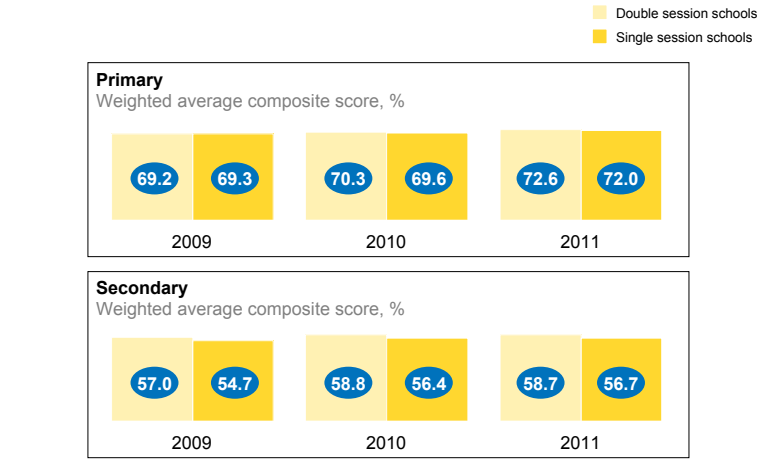
Perception: Double-session schools have poor discipline

Reality: Discipline levels at double-session school are comparable to single-session schools

The absolute numbers of students with discipline issues are similar in single- and double-session schools. About 5% of double-session schools and 3% of single-session schools have more than 150 disciplinary infractions annually. Conversely, 76% of double-session schools and 82% of single-session schools have fewer than 50% cases per year.

EXHIBIT 6-14

Learning outcomes in single- and double-session schools in Malaysia

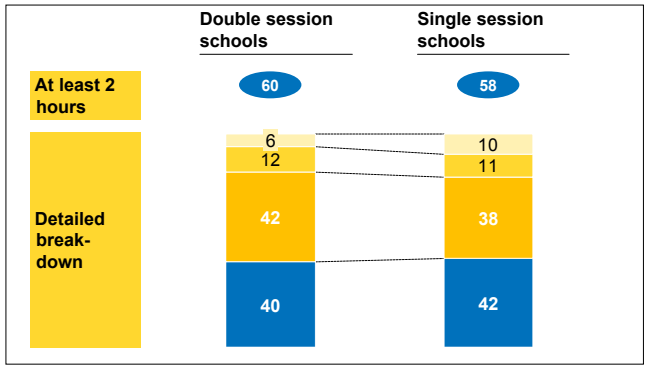


Note: Only SK, SMK, SJK(C), and SJK(T) schooling options considered. Schools with insufficient data excluded.
SOURCE: EMIS database; Examination Syndicate

EXHIBIT 6-15

Average time spent on co-curricular activities per week

Percentage



1 Only students from SK, SMK, SJK(C), and SJK(T) considered
SOURCE: Student survey 2011 (N=1,436 for double session schools, N = 6,153 for single session schools)

5. Overcrowding

Perception: Double-session schools are overcrowded

Reality: Overcrowding is observed in both double- and single-session schools, albeit to a larger extent in double-session schools

About 26% of double-session schools have an average class size greater than 35 compared to 8% of single-session schools with comparable class sizes. However, it is worth noting that the most overcrowded schools in the system are popular urban schools, regardless of their status as single- or double-session schools. Going forward, the Ministry will ensure that overcrowding is addressed by expanding the number of classrooms and other facilities wherever appropriate.

ICT FOR EDUCATION

The Ministry will ensure that students not only learn how to use ICT but are able to leverage it effectively to enhance their learning. The Ministry will deliver this by strengthening the foundation of ICT-enabled schools while introducing proven ICT solutions into the education system.

Measures undertaken will include:

- Providing students with the skills and knowledge to learn effectively and live productively in an increasingly global and digital world;
- Equipping all 10,000 national schools with 4G Internet access and a virtual learning platform that can be used by teachers, students, and parents through the 1BestariNet programme;
- Training all teachers to embed ICT in teaching and learning in order to support student learning;
- Increasing the number of ICT devices until the student- to-device ratio reaches 10:1. The ratio may be lowered further subject to an impact assessment and availability of funds; and
- Piloting ICT innovations for delivery such as distance-learning and self-paced learning before scaling up nationwide.

Malaysia has long recognised the transformative potential of ICT in education. The UNESCO review noted that Malaysia was among the first few countries in the world to have pioneered a strategic ICT plan for its education system. The review also noted an “impressive array” of policies and plans developed since 1990, including the Smart School Roadmap and the Policy on ICT in Education 2010. The goal is to harness the potential of ICT to enhance the depth and improve the overall quality of education. The intent is more ambitious than simply teaching students to be able to employ basic ICT functions such as using word processors, the Internet, and email. ICT in education should also help students foster higher-order thinking skills.

The Ministry also seeks to leverage ICT to improve the efficient delivery of quality education to under-served groups such as rural and under-enrolled schools. Accordingly, one of the most capital-intensive investments the Ministry has made in the past two decades has been in the ICT infrastructure for schools. From 1999 to 2010, the Ministry has invested approximately RM6 billion on ICT in education initiatives. The bulk of these funds went towards additional computer labs to support PPSMI (RM2.6 billion) and the building of a computer lab in every school (RM2.5 billion). A study conducted by the Ministry in 2010 found, however, that ICT usage was relatively limited. Approximately 80% of teachers spend less than one hour a week using ICT. Only a third of students perceive their teachers to be using ICT regularly. Further, the UNESCO review noted that “even when ICT is used in teaching, in most cases it has not gone much beyond the use of PowerPoint as an instructional tool. There is no evidence that ICT is being used to foster students’ creativity, problem solving, and critical thinking and communication skills.”

One reason usage still appears to be limited is that hardware was rolled out without sufficient training and support services to schools, such as technicians to maintain the equipment. Even in cases where training and support were provided, it was often not continuous or sustainable. As such, teachers were ill-prepared in terms of how to actually use the computers in their day-to-day work. This finding is in line with international research that suggests that high-end facilities, like computer laboratories, smart classrooms, and science laboratories only become useful once teachers and students alike know how to use the technology and equipment in meaningful ways within learning processes. Another issue is the lack of a long-term strategy for sustaining and scaling up key policy implementation elements, such as ICT infrastructure and teacher competencies. For example, there is no explicit guaranteed period of computer renewal, such that schools that received equipment in the early 2000s are now in dire need of renewal. In line with the earlier findings on resource productivity, these investments have not been consistently linked to a clear set of expected student outcomes, and have not been rigorously monitored to determine impact.

The Roadmap: Leveraging ICT for learning

The Ministry continues to aim for all schools to officially qualify as "Smart Schools" (that is, to achieve minimum standards of ICT utilisation, capability, availability of infrastructure, and applications) while integrating ICT into the teaching and learning process. Drawing on the current research on the impact and potential of ICT in education, the Ministry will adopt the following principles to guide the development of its ICT strategy:

- **Ensuring the fundamentals are in place.** In line with successful examples of rolling out a strong ICT programme in education, the Ministry will adopt a sequenced approach to ICT. Critical elements for ICT usage such as devices, network and applications, ICT competencies in teachers, and curriculum and assessment must be in place prior to shifting to more intense, innovative usage of ICT;

- **Building on established foundations.** The Ministry will ensure that successive initiatives build on earlier programmes. For example, the Ministry will ensure that all future ICT initiatives enhance and strengthen the effectiveness of 1BestariNet. This is to maximise the Ministry's return on investment in this programme and to ensure that 1BestariNet becomes the catalyst for ICT innovation in education in Malaysia.

- **Investing in ICT solutions for groups with specific needs.** Despite the uncertainties highlighted in international research, current ICT solutions can still be utilised to enable cost-efficient access to high-quality teaching and learning resources to groups with specific needs such as rural schools, under-enrolled schools, and gifted students (refer to Chapter 4); and

- **Relying on outcome-based assessments.** Evidence-based assessment should form the basis for evaluating significant potential investments in ICT. This will require improving the existing set of measurement tools such as the Smart School Qualification Standards (SSQS), particularly as international standards are established.

Employing these principles will require first ensuring a strong foundation in ICT. Once these foundations are in place, the Ministry will consider opportunities for delivering more innovative ICT-based solutions, supported by clear evidence of positive impact.

Wave 1 (2013 to 2015): Enhancing the foundation

In Wave 1, the Ministry will build upon the existing base to ensure that basic ICT infrastructure and competencies are in place throughout the system while avoiding commitments to any specific technological platform. The main priorities include: (i) ensuring students and teachers have sufficient access to ICT devices; (ii) providing the education system with a learning platform and sufficient network bandwidth to use ICT services; and (iii) ensuring that all teachers have basic competency in ICT. Additional priorities during this period include refining existing monitoring systems to provide more accurate assessments of progress in ICT initiatives, infusing ICT into the curriculum and providing quality, cost-effective content.

Providing network infrastructure and a learning platform through 1BestariNet

1BestariNet is a project initiated by the Ministry. Under this project, 10,000 primary and secondary public schools in Malaysia will be equipped with 4G Internet access and a virtual learning environment (VLE) by the end of 2013. The high-speed internet connectivity and access to a world-class Integrated Learning Solution that 1BestariNet will be the catalyst for the inculcation of ICT in the Ministry's day-to-day operations, and could position Malaysia to move to the forefront of ICT innovation in education. The Ministry will ensure that all teachers are trained and competent in the use of the VLE by 2015.

Delivering more ICT devices

The Ministry will focus on delivering more ICT devices that are not necessarily computers (such as tablets or smartphones as digital devices continue to converge) to students and teachers. In order to remain cost-efficient, the Ministry will innovate along several dimensions. Firstly, it will investigate acquiring fit-for-purpose devices. The Ministry has already made good progress in this area, for instance, through its use of thin-client computers (low-end computer terminals with limited functionality while relying on servers to provide computing power in order to reduce costs). It will also experiment with utilising new, less resource-intensive alternatives for ICT facilities compared to current computer labs, such as a lending library for notebooks and computers-on-wheels. This will become increasingly important as ICT becomes more mobile and the entire school becomes the computer lab.

In addition to assets and physical infrastructure, the Ministry will review the current procurement process to address existing concerns regarding the maintenance and the lifecycle cost of ICT devices, as well as the replacement policy of existing inventory of ICT devices. It will also consider new innovations in procurement such as direct-sourcing from manufacturers, rental agreements and private partnerships to drive down costs.

The target is to achieve a minimum ratio of one computer for every ten students. This will provide students with sufficient computers to be able to learn how to use ICT as well as take advantage of innovations to support broader learning.

Ensuring that all teachers and Ministry officials are ICT literate

The Ministry will enhance its existing set of training programmes to ensure that all teachers meet a minimum level of ICT literacy by the end of 2015. The system's standard for ICT literacy is based on an established rubric for ICT competency developed by the International Society for Technology in Education (ISTE). All teacher trainees will be required to meet these competency standards as part of their pre-service training. Current teachers will be required to pass an online diagnostic test by 2014. Those who do not pass the test will be required to complete a series of online training modules and re-sit the test by the end of 2015. This process of testing and training will be supported by a professional development platform run on 1BestariNet's VLE. ICT standards for teachers and related training modules will be continuously updated as ICT evolves over time.

As highlighted in the earlier sections of this chapter, other Ministry personnel will also be continuously trained in ICT to ensure that they are equipped to achieve their tasks efficiently and effectively. This includes proficiency in more specialised financial and other management applications to support resource management.

Shifting towards more user-created content

Given the planned rollout of the 1BestariNet system, the Ministry will transfer existing ICT services such as EduWeb TV to the VLE as a single, integrated platform for hosting these services. The Ministry will also explore creating original content as well as adapting pre-existing content to support student learning. The Ministry will also support more user-created content such as the e-Guru video library

What is 4G?

4G, an acronym for fourth-generation wireless, is a type of technology that can be used with cellular phones, wireless computers, and other mobile devices. This technology gives users faster access to the Internet than most previous third-generation (3G) networks can offer, and it also offers new user options such as the ability to access high-definition (HD) video, high-quality voice, and high-data-rate wireless channels via mobile devices. Common standards for 4G are still in the process of being defined by the International Telecommunications Union (ITU), governments, industry, and other stakeholders, but currently includes a minimum download speed of 2 megabits per second (Mbps).

discussed in Chapter 4, and will establish a process for managing user-generated content.

Integrated data management for schools and Ministry

As highlighted in the earlier sections of this chapter, the Ministry will integrate and reconcile its various databases and management information systems. These databases will be hosted on 1BestariNet to enable access across all Ministry offices and schools for critical tasks such as data entry and processing.

Wave 2 (2015 to 2020): Introducing ICT innovations

As the foundations for ICT are strengthened in the Malaysian education system, the Ministry will study additional opportunities to transform ICT usage in the classroom such as through EduWeb TV. This includes scaling up best practices from areas of excellence and innovation identified in Wave 1. The Ministry will also update its strategy to reflect new findings from international research on how to leverage ICT in developing higher-order thinking skills.

Exploring ICT solutions for specific groups, reviewing best practices for the system

It is important to distinguish between system-wide interventions—to be embedded in every classroom and every school—and niche interventions for specific target audiences. During this period, the Ministry will focus on introducing and piloting niche programmes for groups with specific needs such as under-enrolled and rural schools, and gifted students. This could, for instance, include virtual delivery of lessons and online adaptive learning tools as an enhancement activity to classroom learning. The Ministry will also investigate options for employing ICT solutions to improve parental and community engagement in education.

As an international consensus forms around best practices for use of ICT to develop higher-order thinking skills, the Ministry will also conduct a detailed review to establish the path forward for ICT in education policy. The review will be conducted employing an outcome-based assessment of potential options.

Achieving a critical mass in ICT devices

Achieving a critical mass in number of ICT devices in the education system will be essential as more ICT-related innovations are introduced into the system. As a continuation of the Wave 1 initiative, the Ministry will lower student-to-computer ratios to a maximum 10:1. A review of other countries indicates that most of the highest-performing systems have achieved a ratio of at most 10:1 .

Wave 3 (2021 to 2025): Maintaining innovative, system-wide usage

In Wave 3, ICT should be fully embedded throughout the pedagogy and curriculum of the education system. The Ministry will focus on scaling up and intensifying ICT usage among students and teachers. This will bring the device to student ratio in line with leading countries such as South Korea. The Ministry will also continue to expand efforts around distance and self-paced learning.

Defining ICT literacy for teachers

The International Society for Technology in Education (ISTE) is a global association that advocates excellence in learning and teaching through innovative and effective use of ICT. Representing over 100,000 educators worldwide, ISTE has established a set of internationally-recognised benchmarks to help measure competence for the integration of ICT in education, known as the National Education Technology Standards (NETS). NETS require all classroom teachers to meet the following standards:

- **Facilitate and inspire student learning and creativity:** Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments;
- **Design and develop digital age learning experiences and assessments:** Teachers design, develop and evaluate authentic learning experiences and assessment, incorporating contemporary tools and resources to maximise content learning in context and to develop the knowledge, skills, and attitudes to utilise ICT;
- **Model digital age work and learning:** Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society, including fluency in ICT systems and digital tools to support student success and innovation;
- **Promote and model digital citizenship and responsibility:** Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behaviour in their professional practices; and
- **Engage in professional growth and leadership:** Teachers continuously improve their professional practice and model lifelong learning.

International research and best practices: ICT in education

A key concern of policy-makers when considering investments in ICT equipment and software is whether student use of ICT will improve learning of traditional school subjects. Empirical studies to date show an inconsistent relationship between computer availability or use of ICT and student learning. As noted by UNESCO in its 2011 report Transforming Education: The Power of ICT Policies, "Some studies show a positive relationship between computer use and achievement, some show a negative relationship, and some show none." The connection between ICT and student learning is more complicated than one based on mere availability or use—what matters is how ICT is used and what is tested.

Link between selective ICT use and student learning

Kulik's 2003 analysis of the results of 75 studies, "The Effects of Using Instructional technology in Elementary and Secondary Schools: What Controlled Evaluation Studies Say," found that selective use of ICT can have a positive impact on student learning. For example, students who used computer tutorials in mathematics, natural science, and social science scored higher on tests in these subjects. Primary school students who used tutorial software in reading also scored significantly higher on reading scores.

Transformative impact of ICT on education remains unclear

In addition to traditional school results, the emergence of a knowledge-based economy has accelerated the need for higher-order thinking skills such as creative thinking and problem solving to find innovative solutions to an ever-changing set of problems. Creative and innovative applications of ICT are seen as important potential tools to transform the educational process so as to support the development of these higher-order thinking skills.

However, an evidence base remains limited. UNESCO reports that "there are few studies that go beyond traditional measures of student learning to include outcomes such as creativity, complex problem solving, collaboration, and the ability to learn, and even fewer that do this in the context of developing countries."

Similarly, a range of pedagogical approaches have been recommended as the most effective ways to engage learners in developing this skill set. These approaches include student-centred learning, active learning, project-based learning, and inquiry-based learning. While the integration of ICT into the learning process holds much potential to support these objectives, the World Bank notes that "there is still much unknown about the 'best' or most effective approach for utilisation of ICT to meet these objectives."

Much of the difficulty lies in the lack of clear metrics for measuring the impact of ICT on higher-order thinking skills. For example, it is difficult to measure improvements in student creativity and then definitively identify ICT as the cause of the improvement. Organisations such as the EU are in the process of developing a number of metrics, such as the ICT4E system, although these have yet to gain widespread use.

Nevertheless, the promise and potential of ICT in revolutionising education remains undeniable. The growth in the number, sophistication, and use of ICT devices in society provides a strong basis for making schools more productive and efficient—transforming teaching and learning into an engaging and active process.

Implementation should be phased and holistic

Amidst these uncertainties in objectives and best practice, it should not be surprising that many countries fail to fully meet their educational objectives. The World Bank reports that "one of the enduring difficulties of technology use in education is that most programmes did not take a holistic approach to ICT, failing to link the educational goal of expanded ICT use to necessary associated reforms of the curriculum, student assessment system, pedagogical approaches in the classroom, and teacher training."

For example, in 2007, Peru distributed more than 800,000 low-cost laptops under the One Laptop Per Child (OLPC) initiative at a cost of USD200 million in an effort to leverage digital technology in the fight against poverty. However, five years later, assessments indicated that teachers were ill-prepared to use the computers to enhance teaching. Many teachers were not ICT literate themselves, software bugs needed to be rectified, and some schools did not have access to electricity.

In contrast, the most successful implementations of ICT in education such as Singapore and Jordan have adopted a more phased, gradual approach. Critical to this has been ensuring that all elements are incorporated into the transformation process: hardware, software, content, teacher training, pedagogy, and performance management systems.

As the education system embarks on its ambitious journey of transformation, the Ministry must also transform itself to provide continued guidance, direction, and support as needed. The Ministry transformation will strengthen two key areas: resource productivity and delivery capacity. These reforms will enable the Ministry to better focus on and deliver what really counts: student learning and outcomes. Firstly, the Ministry will re-allocate its resources to programmes and policies that impact critical levers such as teacher training, thus improving the ROI of Ministry expenditure. It will also change its spending approach on school infrastructure and ICT. Secondly, the Ministry will empower its "middle layer"—the JPNs and PPDs—to help bridge the gap between policy and practice. Providing more authority and accountability at the JPN and PPD level will bring decision-making closer to where learning occurs, allowing schools to better identify and address the unique needs and challenges of their students.

CHAPTER 7

SYSTEM STRUCTURE

7. System structure

The Malaysian education system continuously strives to ensure every child receives the right set of educational opportunities at the right time—from cradle to career. In so doing, a number of structural shifts in the system structure will be required. This chapter investigates structural considerations for the Malaysian education system and how to match practices from high-performing education systems in order to deliver better outcomes. It will discuss expanding access to preschool so all have an equal head start to learning, along with other shifts to the phases of education. The system will also develop the flexibility to provide students with the educational pathways best-suited to their individual talents, interests, and learning styles. Finally, it will shift from being school-based, to a learning system that incorporates parents and the broader community in order to ensure that every student enjoys the most conducive and effective learning environment possible.

The Ministry aims to help all children discover their own gifts, to make the most of these talents, and to put these children on the path towards achieving their full potential. This will require ensuring every child receives an equal headstart regardless of their background, has access to the right set of education opportunities, and learns in the most conducive environment. These approaches in education will help children develop the skills that they will need for the 21st century. This will help train young Malaysians who will ask questions and look for answers, and who are willing to think in new ways, design new solutions, and create new opportunities.

PHASES AND DURATION OF EDUCATION

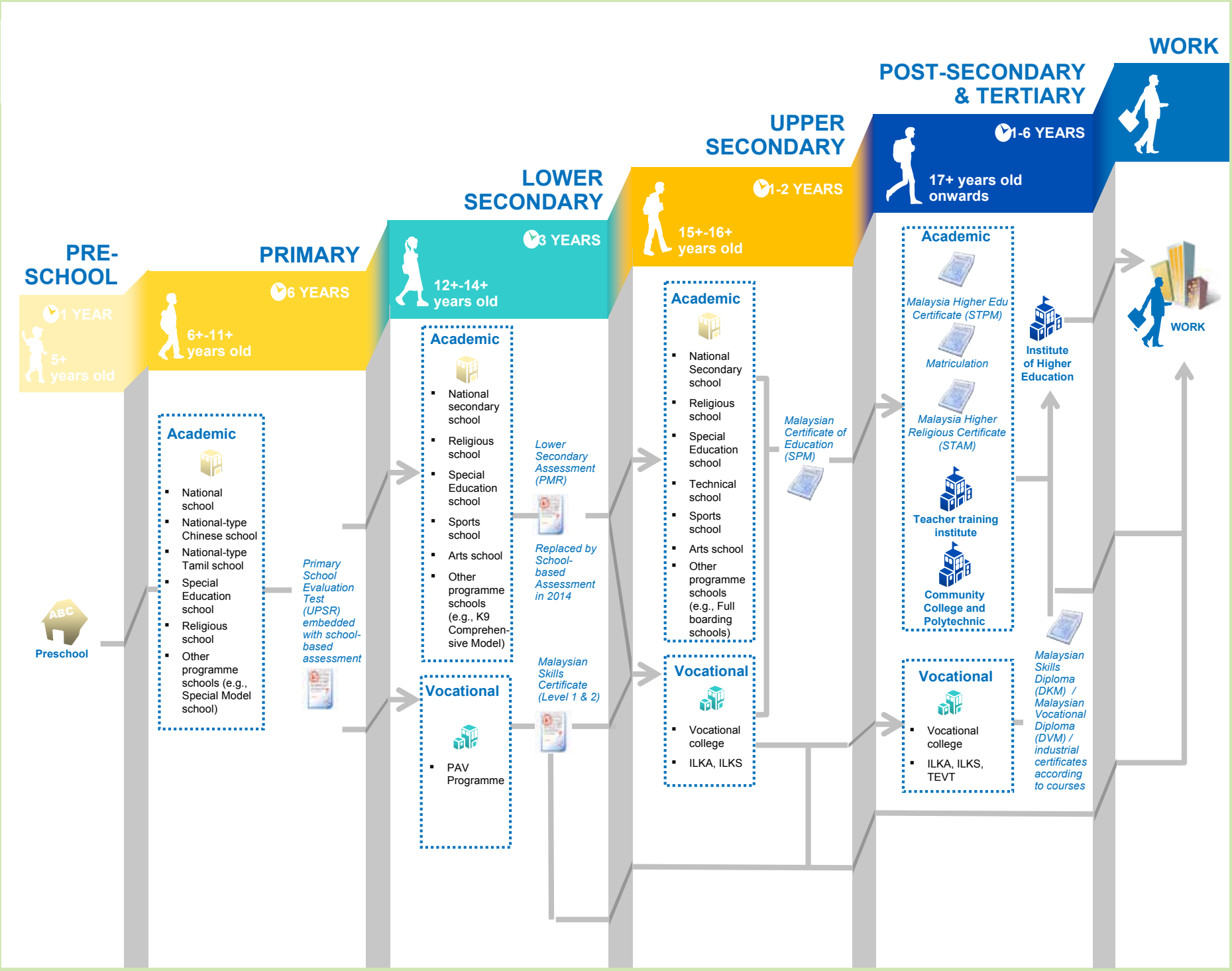
The Ministry will ensure that every child has an equal head start to education, regardless of his or her ethnicity, socio-economic status, or geographical location. The Ministry will achieve this goal by increasing enrolments to ensure universal access in the preschool, primary, lower secondary, and upper secondary phases of education.

Measures undertaken will include:

- Ensuring phases and duration of education are in line with practices in high-performing education systems;
- Expanding access and enrolment in preschools; and
- Adopting more targeted, needs-based financial aid and other forms of assistance to address issue of unenrolled children and students at-risk of dropping out.

EXHIBIT 7-1

The Malaysian Education Journey



Malaysia has achieved notable success in education. As highlighted in Chapter 3, near-universal enrolment in the primary and lower secondary phases and the rapid expansion in preschool and upper secondary enrolment is laudable. However, as the system moves to prepare students for the demands of the 21st century, the education system must bring structural elements in line with international best practices.

Phases of education

There are five phases of education primarily overseen by the Ministry: preschool, primary, lower secondary, upper secondary, and post-secondary (Exhibit 7-1). Tertiary education mostly falls under MOHE's purview, with exceptions such as the PISMP and KPLI, which are provided by the Ministry and other government agencies.

Malaysian students in the national system have 12 to 13 years of formal schooling prior to entering tertiary education (excluding preschool education). The extra year of schooling depends on the type of post-secondary or pre-university programme chosen. Students who take the two-year STPM (equivalent to A-levels qualifications) or its religious alternative, the STAM, require 13 years to complete their studies. Students who take the Matriculation programme require 12 years. Students with special needs also have the option of an additional two years to complete their schooling.

This 13-year timeframe to STPM completion is comparable to other developed systems, with many education systems achieving A-Levels standards in 13 years, such as England and Scotland. As the experiences of Hong Kong and Singapore (Exhibit 7-2) illustrate, it is also possible to complete an A-Levels equivalent programme in 12 years. To achieve this, Hong Kong removed their O-Levels equivalent examination to create learning time for students. In Singapore, around 30% of students in the normal academic stream still take five years, instead of four years, to reach A-Levels equivalent qualifications. Malaysia provides an equivalent total number of instructional hours across the primary, secondary, and post-secondary phases of education when compared to other education systems (Exhibit 7-2). This implies that the current system provides sufficient time for Malaysian students to learn and grow holistically, comparable to high-performing education systems.

Formal schooling in Malaysia begins with entry into primary school at the age of 6+ years. This starting age of 6+ for primary education is in line with many high-performing education systems, such as in Singapore and Ontario (Canada). In fact, Finland (one of the best performing systems in international assessments) begins primary school at the age of 7+.

At present, only primary education is compulsory. Over the years, Malaysia has relied on other initiatives to increase enrolment. This includes informational campaigns for parents and financial assistance for families. As noted in Chapter 3, these initiatives have been highly successful in increasing access to education. Enrolment in each phase has increased steadily over time with near-universal enrolment in public and private schools at the primary and lower secondary levels (96% and 91% respectively in 2011). Enrolment in upper secondary education has also increased dramatically over the years—increasing from 45% in the 1980s to about 82% in 2011. However, more needs to be done to enroll the 5-10% hardest-to-reach population.

Preschool education

Early Childhood Care and Education (ECCE) programmes are divided into preschools for children aged 4+ to 5+ years old and daycare centres for younger children. ECCE plays a vital role in a child's psychological and intellectual development. The Ministry is targeting universal enrolment in preschool for 5+ year old children, in order to provide all children with an equal head start through access to preschool. Research evidence from the OECD (2011) links preschool education to increased lifetime earnings and other beneficial life outcomes. As students from low-income families are less likely to have attended preschool, they will enter primary school without the advantages of the preschool education that their more affluent peers enjoyed. In order to promote greater equity, the Ministry is already investing heavily in encouraging preschool enrolment as part of the Education NKRA.

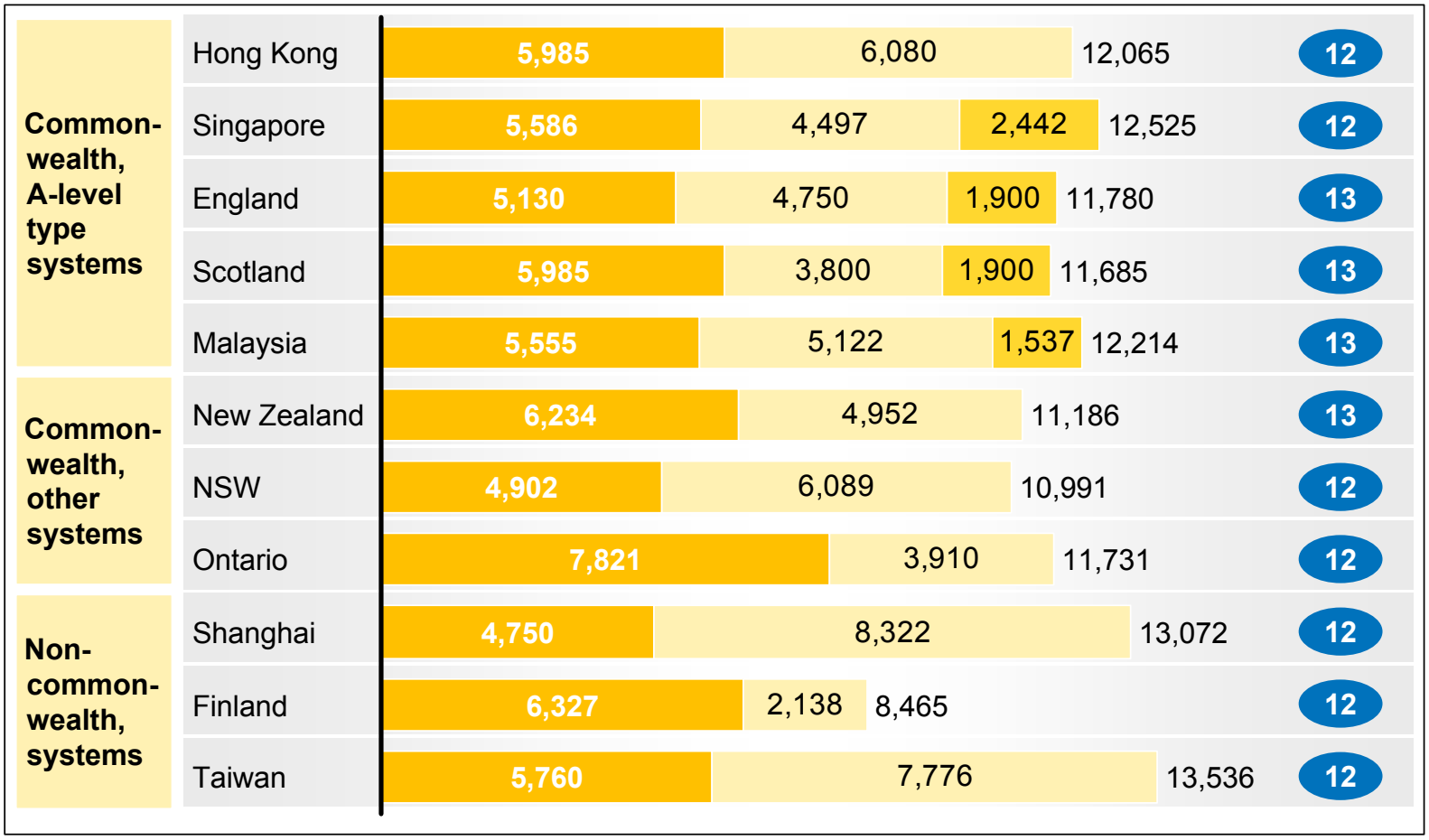
As noted in Chapter 3, there has been rapid expansion of preschool education over the decades. As of the end of 2011, around 77% of children aged 4+ to 5+ are enrolled in some form of preschool education. This amounts to approximately 733,000 children enrolled in almost 40,000 classes. The target is to drive enrolments to 92% in registered preschools by 2015. This translates to an additional 3,500 classes required to accommodate almost 71,000 new children by 2015. By 2020, the Government expects universal preschool enrolment with approximately 900,000 students enrolled in preschools across the country.

The Roadmap: Matching high-performing education systems

The Ministry remains committed to ensuring the structure of the Malaysian education system is in line with the practices of high-

EXHIBIT 7-2

Comparison of total hours of instruction between education systems



SOURCE: Education Bureau (Hong Kong); Ministry of Education (Singapore); Department for Education (UK); Ministry of Education (Malaysia); Department of Education & Training (NSW); Education Bureau (Shanghai); Ministry of Education & Culture (Finland); Ministry of Education (Ontario); Ministry of Education (Taiwan); OECD

performing education systems. The Ministry will focus on making structural adjustments across each phase of education, wherever necessary. In particular, the preschool phase of education will be scaled up in successive waves, with the objective of ensuring universal preschool enrolment and an equal head start in education for all children.

In contrast, the other phases of education are already aligned with other similar school systems in terms of numbers of years of schooling as well as schooling hours. Consequently, the focus on these other areas will be on further improving the already high levels of enrolment. This objective will be achieved through a more targeted approach to help children who do not enrol in primary school, as well as students most at risk of dropping out of school (at either the primary or secondary level). In line with the system aspirations as laid out in Chapter 2, universal enrolment across the preschool, primary, and lower and upper secondary phases of education is expected to be achieved by 2020.

Wave 1 (2013 to 2015): Expanding preschools rapidly, increasing enrolment in other phases of education

Wave 1 will focus on rapidly scaling up the preschool phase of education. Building on recent gains in preschool enrolments, the target is to achieve near-universal access at the preschool level. The Ministry will also focus on driving further improvements in enrolment in the other phases of education.

Increasing enrolment and improving quality in preschools

The Ministry will focus on simultaneously increasing enrolments and improving quality in preschools during Wave 1. While preschool will not be made compulsory, the Ministry will encourage enrolment and attendance by lowering barriers to access. This includes raising parental awareness of the benefits of preschool education and providing financial assistance to low-income families. Income thresholds for fee assistance will also be revised to support increased attendance. Evidence from other high-performing systems such as Singapore and Finland which enjoy nearly universal preschool enrolment (Exhibit 7-3) suggest that these measures to promote enrolment can be highly effective.

In line with existing NKRA preschool initiatives aimed at increasing enrolment, the Ministry will also collaborate with the private sector to ensure that there are sufficient places available to meet growth in demand. The private sector is expected to support delivery of enrolment targets, with 70% of new preschools expected to be privately run. By 2020, half of all preschool seats will be in the private sector. To support this growth in private preschools, the Ministry will increase fee assistance, launching grants, and preferential loans for start-ups and expansions.

The Ministry also recognises the challenge of maintaining and improving quality in preschools during this period of growth. In public preschools, the Ministry will revise student per capita grants to enable preschools to offer a broader spectrum of co-curricular activities for student enrichment. Guidelines will also be issued to help public preschools to plan appropriate co-curricular activities for students. The Ministry will also revise meal grants to ensure that children receive appropriately nutritious meals to support cognitive development during this critical period of childhood. These initiatives will be in place by mid-2013.

To ensure that private preschools meet national quality standards, the Government has established an ECCE Council. Acting as a body to increase the level of professionalism in the private ECCE sector, the Council registers preschools and other ECCE providers and sets guidelines for pre- and in-service training programmes for teachers. All schools are also required to adhere to the National Preschool Curriculum.

The Ministry will strongly encourage registration of private preschools with the Council. The 92% enrolment target will apply to registered preschools only. Working with the Council, the Ministry will also implement a quality standard and inspection mechanism for ECCE centres, harmonising qualification requirements across the sector. By 2015, 100% of government preschools and 50% of private preschools will be inspected.

The Ministry will cooperate with the MOHE, the Malaysian Qualifications Agency (MQA), and other government bodies to ensure that teachers have access to the appropriate educational and training opportunities. The Ministry will also provide subsidies to existing teachers who lack a Diploma in Early Childhood Education to upgrade their qualifications to meet standards. 30% of all preschool teachers are expected to have minimum diploma qualifications by 2015.

Maintaining the starting point for formal education

The commencement of primary school at the age of 6+ years old will continue to mark the start of formal education in Malaysia. As noted earlier in this chapter, this starting age is in line with many high-performing education systems. More importantly, maintaining this policy provides children with the time to develop intellectually, spiritually, emotionally, and physically prior to entering primary school.

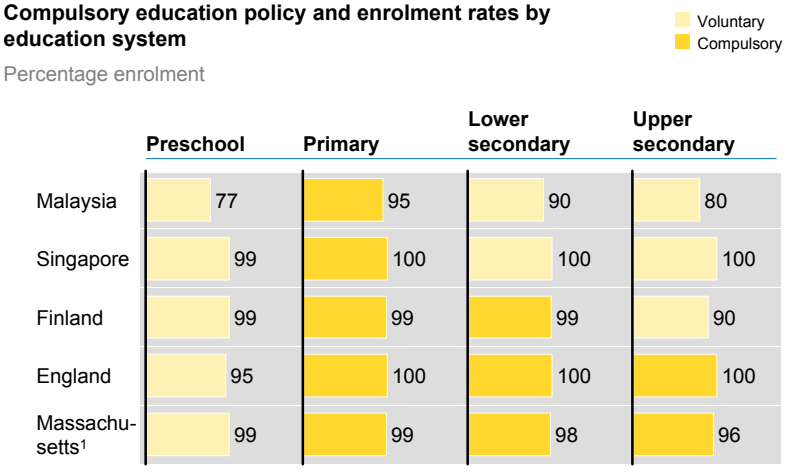
Increasing primary enrolments

While primary enrolment is near-universal, the remaining 5% who do not enroll at all must be encouraged to do so. Additionally, students who are at risk of dropping out during the primary phase must receive greater support to stay in school. The Ministry will invest in specific measures for these two groups of students, particularly those with specific needs such as indigenous and other minority groups and special needs children. By 2015, primary enrolments in public schools are expected to reach 98% of the relevant population.

EXHIBIT 7-3

Compulsory education policy and enrolment rates by education system

Percentage enrolment



1 Massachusetts has compulsory education only up to Grade 10, not 12

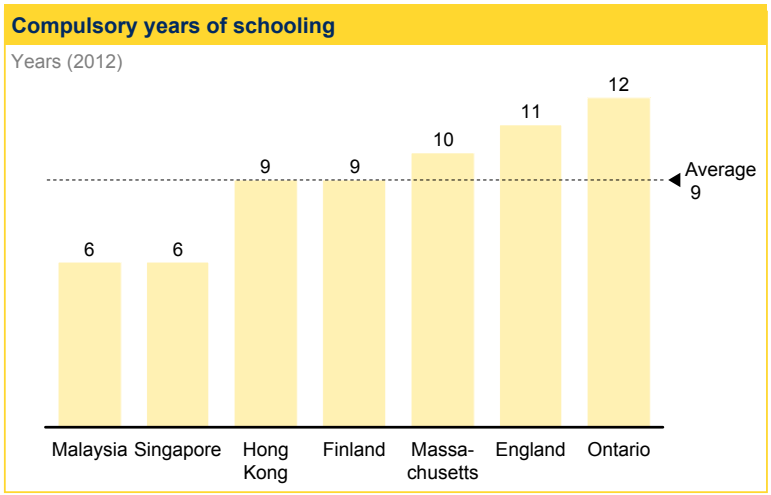
SOURCE: Ministry of Education (Malaysia); Ministry of Education (Singapore); Ministry of Education & Culture (Finland); Department for Education (UK); Massachusetts Department for Elementary and Secondary Education

Making secondary education compulsory for all

The Ministry will make both lower secondary and upper secondary education compulsory by 2015. This will bring Malaysia in line with international standards on years of compulsory education (Exhibit 7-4). It also signals the Ministry's strong intent to improve enrolment at the lower and upper secondary level.

EXHIBIT 7-4

Cross-country comparison of compulsory years of education



SOURCE: Ministry of Education (Malaysia); Ministry of Education (Singapore); Education Bureau (Hong Kong); Ministry of Education & Culture (Finland); Massachussetts Department for Elementary and Secondary Education; Department for Education (UK); Ministry of Education (Ontario)

As with primary education, the Ministry will invest in specific measures to encourage greater enrolment by 2015. This includes targeting students who drop out between primary and secondary school, as well as students who actually enroll in lower secondary school but are at risk of dropping out. For example, 70% of places in SBPs will be reserved for rural poor students to enable access to better-quality education. By 2015, lower secondary enrolment in public schools is expected to reach 95% of the relevant population while upper secondary enrolments will hit 90%.

Maintaining current length of formal education

The Ministry will maintain the current 12 to 13 year timeframe for education. This will provide Malaysian students with the time to grow and develop holistically, and exercise choice over what type of post-secondary programme to pursue.

Wave 2 (2016 to 2020): Consolidating benefits

Wave 2 will focus on building on the gains from the earlier phase. In order to deliver further gains in enrolments and access, the Ministry will continuously adjust its grants and other forms of assistance to provide appropriate levels of support in an effective and efficient manner. This may require, for instance, adjustments to qualifying thresholds for financial assistance.

For ECCE, the focus will be on continuously improving standards for preschool. This will include completing inspections for all preschools and ensuring that 100% of all preschool teachers will have minimum diploma qualifications. The Ministry will also explore options to raise standards in other ECCE programmes such as childcare.

In line with Chapter 4, the Ministry will also pilot three programmes for high achievers (typically the top 15% of the student population) and for gifted students (1% of the student population). This will, for example, involve the placement of students in the top 15% in accelerated classes to allow them to complete lower and upper secondary school in four years instead of the normal five years. With these innovations, students will have more options to tailor the duration of education to their individual needs.

Wave 3 (2021 to 2025): Ensuring universal access

By 2021, the Malaysian education system is expected to achieve 100% enrolment in public or private schools across the preschool, primary, lower secondary, and upper secondary phases of education.

For ECCE, the Ministry will continuously improve the quality of education. This may include measures such as improving career pathways for preschool teachers and introducing ICT-related innovations in the classroom to support student development.

As discussed in greater detail in Chapter 4, the Ministry will pilot a number of programmes for high-performing and gifted students in Wave 2. In Wave 3, the Ministry will refine these pilots for high-achieving and gifted students and roll out these initiatives nationwide.

EDUCATION PATHWAYS

The Ministry will ensure that the education system includes distinct pathways to cater for different student interests and abilities. These pathways will be viable and attractive, providing development in the required skills and knowledge to provide a clear route to chosen professions. The Ministry will primarily focus on strengthening existing pathways to make them more attractive options to students.

Measures undertaken will include:

- Increasing student awareness of the education pathways and career options available;
- Enhancing the Vocational Transformation Plan to include greater collaboration with the private sector;
- Raising the quality and availability of places in religious schools; and
- Ensuring the continued attractiveness of post-secondary options.

The Ministry recognises students' diverse interests and abilities, and intends to help them develop these talents. This requires access to alternative, attractive, and viable pathways for individual student progression. The secondary education system already allows students to choose a pathway at various points in secondary school. Among the pathways offered are academic, technical, vocational, religious, sports, or arts school.

Education pathways and career options

Students and parents have expressed concern over their ability to access up-to-date information about the different education pathways available, and the resulting career opportunities available to those pathways. In many cases, they also lack clarity about the types of skills, competencies, and training required to succeed in the various professions. Combined, this makes is harder for them to make informed choices about the students' education pathway.

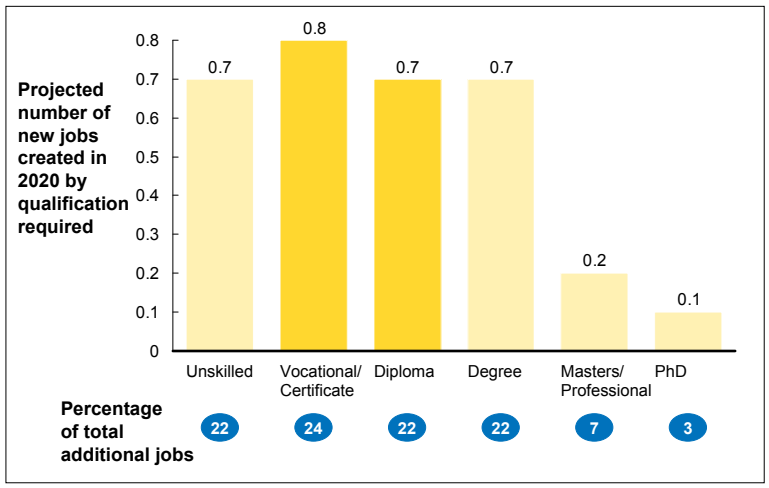
Vocational education pathway

Vocational education prepares students for careers requiring expertise in a specific set of techniques. These careers range from technical or vocational skills like carpentry to positions in engineering and other occupations. In contrast to the technical stream which prepares students for further education, the vocational stream is more career-oriented. At present, the number of students enrolled in vocational secondary schools has been slowly declining due to supply constraints, from 62,200 in 2008 to 51,500 in 2011, a fall from 2.7% to 2.2% of all secondary enrolments.

However, industry demand for vocational graduates is high and will continue to grow. In 2008, the Ministry of Human Resources reported a labour shortage of over 700,000 skilled workers in the manufacturing, agriculture, and construction industries. Future demand will rise even higher. Out of the 3.3 million jobs created under the NKEA by 2020, at least 46% will require vocational certificates or diplomas, compared to 22% requiring university degrees (Exhibit 7-5). Closing this demand gap will require the creation of 50,000 additional places in vocational education per year.

EXHIBIT 7-5

Job creation under Economic Transformation Programme, based on qualifications required



SOURCE: Economic Transformation Programme, 2010

In addition to the challenge of meeting this demand, there is an associated challenge of ensuring levels of quality. A lack of qualified instructors and an industry-recognised curriculum, weak collaboration with industry, and limited on-the-job (OTJ) training leads to graduates who are not equipped to meet industry needs. Interviews with parents and students also highlighted a lack of awareness of the vocational pathway, and subsequent career opportunities.

In order to address these concerns, the Ministry developed the Vocational Transformation Plan to strengthen the training of skilled graduates. As part of this plan, the Ministry has expanded vocational education to begin in lower secondary through the Basic Vocational Education or *Pendidikan Asas Vokasional* (PAV) programme and strengthened the existing pathway in upper secondary through the Vocational College or *Kolej Vokasional* (KV) programme. By 2015, the KV programme is expected to capture 10% of all upper secondary enrolment. Initial feedback from students, parents, and industry is positive as the plan is being rolled out.

Technical education pathway

Technical education is similar to vocational education in that it prepares students for specialised careers, ranging from accountants to dieticians. However, it is recognised as part of the academic pathway, often requiring a strong academic foundation with many students going on to gain a tertiary qualification. In addition to studying many of the same academic subjects as students in mainstream schools, technical students can choose from a set of technical electives ranging from civil engineering to agricultural sciences to the principles of accounting. Recently, the Ministry has also begun to work with private-sector

partners to improve the industry recognition for this education. For instance, accounting students will receive partial accreditation with the Association of Chartered Certified Accountants (ACCA) for the professional ACCA qualification. There are currently more than 20,000 students enrolled in technical schools, representing less than 1% of secondary school students.

Religious education pathway

A wide spectrum of options is available for Islamic religious education in Malaysia (Exhibit 7-6). There are currently more than 90,000 students enrolled in public religious schools, which accounts for 2% of total primary and secondary enrolments. These schools may fall under the jurisdiction of either the federal or state governments. All public religious schools teach the national religious curriculum. Many of these schools include formerly private schools that have voluntarily converted to government-aided religious schools or *Sekolah Agama Bantuan Kerajaan* (SABK). The process of conversion of schools will continue on an ongoing basis.

EXHIBIT 7-6

Religious education options in Malaysia

✓ True ✓ In transition towards

	Options	Registration: Federal government	Registration: State government	Government financing	National curriculum[2]
Public[1] schools	National religious schools (SMKA)	✓		✓	✓
	Government-aided religions schools (SABK)[3]	✓		✓	✓
	State religious school (SAN)[4]		✓	✓	✓
Private schools	Sekolah Agama Rakyat (SAR) – *religious curriculum only*		✓	✓	
	SAR – *religious and academic curriculum*		✓	✓	✓
	Sekolah Agama Swasta (SAS)	✓			✓

1 Excludes options for religious instruction in national schools (SK, SRK and SMK)
2 Refers to national religious curriculum
3 Primary and secondary government-aided schools are former state religious schools and *sekolah agama rakyat* that agreed to receive government assistance in return for converting to the government curriculum. Key difference from national religious schools is that religious subjects in curriculum are taught in Arabic.
4 Includes both primary and secondary schools
SOURCE: Islamic Education Division, MOE

Revisiting the 60:40 Science:Arts policy

The 60:40 Science:Arts policy refers to the Ministry's targets for the ratio of students with significant science content to students with a greater focus on the arts. It aims to have 60% of all upper secondary students focusing on the sciences, and 40% enrolled in the arts. To qualify as a science student, students in the academic mainstream must take at least two pure science subject at SPM, such as Chemistry, Physics, and Biology.

The policy was first introduced in 1967 by the Higher Education Planning Committee in order to fulfill projected demand for science graduates. The policy has been restated multiple times since then—first in the 1999 National Education Policy, in the 2000 National Science and Technology Policy II, and in the 2001 Education Development Plan. Most recently, in 2012, the Ministry of Science, Technology and Innovation (MOSTI) reiterated in its 2020 Human Capital Roadmap that meeting the target is now more important than ever. MOSTI has set ambitious and urgent 2020 human capital targets that include increasing the number of individuals with science-related training from 120,000 to 1.2 million. Out of the 1.2 million, 500,000 should have Science and Engineering degrees (from 85,000 today).

The extent to which 60:40 targets have been reached has varied over the years. Science stream enrolment reached a high of 37% in 1998 before dropping to a low of 29% in 2012. This may be due to the perceived difficulty of science subjects.

In recognition of the growing economic importance of vocational education, the Ministry will adjust its 60:40 policy to encourage greater enrolment in the vocational pathway. The new target is for 60% of upper secondary enrolment in the regular academic pathway (either arts or science) with the balance 40% in the vocational pathway. The 60:40 ratio will also be applied to the academic pathway. That is, 60% of students in the academic pathway should be focused on science (equivalent to 36% of total upper secondary enrolment) and 40% on arts (equivalent to 24% of total upper secondary enrolment).

Vocational Transformation Plan

The Ministry has developed a Vocational Transformation Plan (Exhibit 7-7) to strengthen the training of skilled graduates. It comprises two components, as follows:

Basic Vocational Education (PAV)

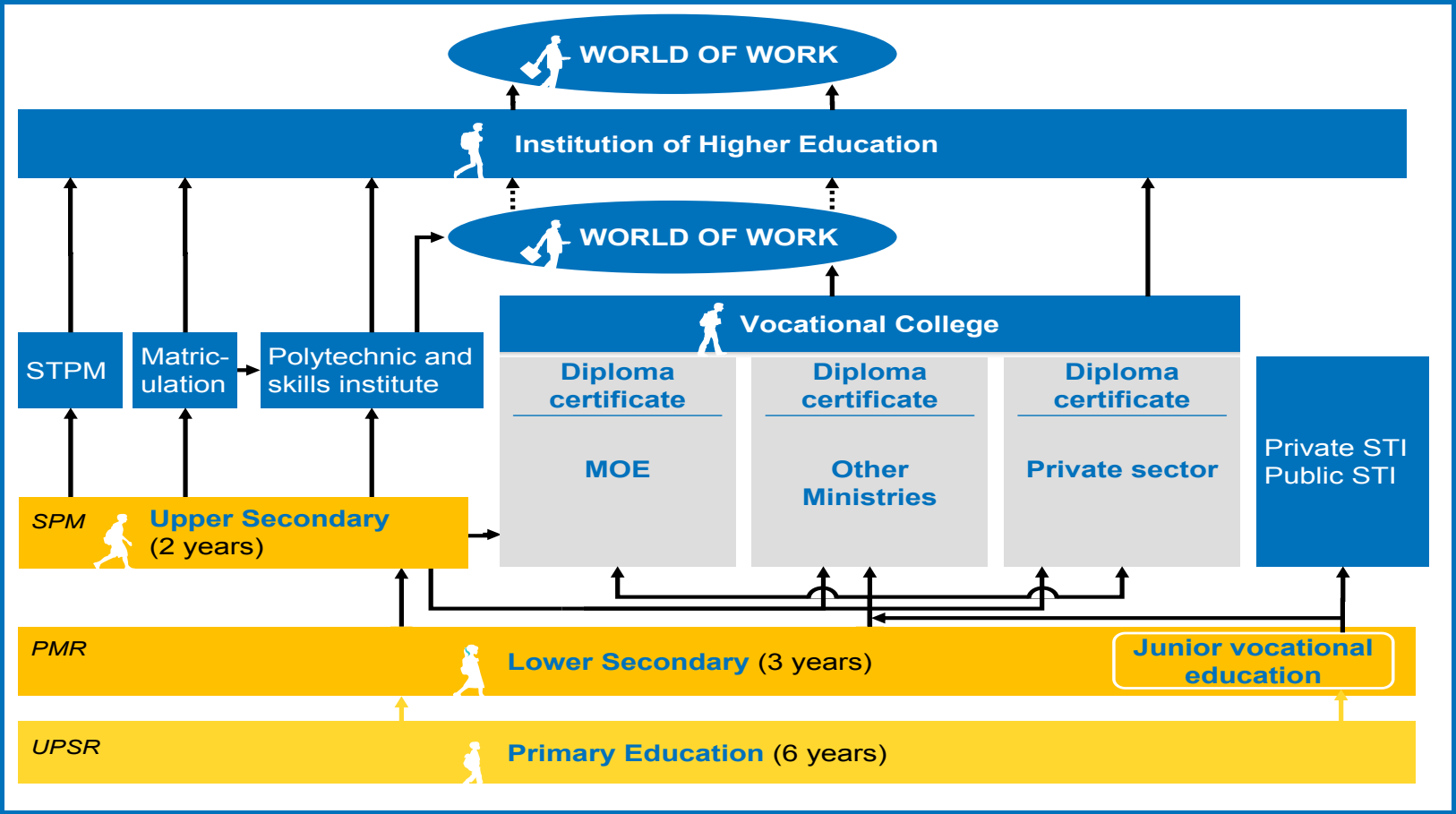
In 2012, the Ministry of Education piloted an alternative vocational track for lower secondary education (ages 13-15) in 15 schools. This programme will allow students to achieve a basic vocational certification: level 2 of the Malaysian Skills Certificate or *Sijil Kemahiran Malaysia* (SKM) at the earlier age of 15, compared to 17 previously. The earlier age intake is in line with other global systems such as Austria and Germany, both considered strong vocational educational systems. The Ministry is introducing a new combined curriculum, with 70% vocational skills training, and 30% academic education. Full roll-out is expected in 2013.

Vocational College (KV)

The Ministry is also enhancing the existing upper secondary vocational education programme by transforming Vocational Secondary Schools, or *Sekolah Menengah Vokasional* (SMV) into KVs. These colleges will offer a revamped curriculum and diploma-level accreditation, the Vocational Diploma of Malaysia, or *Diploma Vokasional Malaysia* (DVM). This will be recognised for credit under the national standards as established by MOHE. The new diploma curriculum comprises 70% practical skills training and 30% general academic education (similar to PAV). The curriculum also includes a 7-month long practicum placement. Various industry partners were consulted to ensure alignment with industry standards and practices.

EXHIBIT 7-7

Vocational transformation plan



In addition, there are approximately 350 private religious schools (1% of total primary and secondary enrolment). These schools may or may not teach the national religious curriculum. Most of these schools are small, rural, and under-resourced (*sekolah agama rakyat persendirian* or *sekolah pondok*). However, there are a growing number of urban private religious schools (*sekolah agama swasta*) that closely resemble international schools.

More and more parents are interested in sending their children to SMKA, as demonstrated by the fact that it is one of the fastest-growing schooling options in Malaysian education. However, 50% of applications are rejected due to limited places.

Sports and Arts education pathways

Sports and arts specialist schools at the secondary level are critical to nurturing and developing the nation's young talents. These schools support the development of world-renowned athletes and artists by ensuring the availability of facilities, specialist coaching, and other essential services. There are currently three sports and two arts schools in operation.

Students receive a broad-based education, including in academics. In addition to developing their sporting or artistic talents, students are required to follow the same curriculum and sit for the same examinations as their peers in public schools. The intent is for them to develop their full potential across all dimensions.

Special needs education

As detailed in Chapter 4 on student learning, the Ministry recognises the importance of providing education suited for children with special learning needs due to disabilities. Current programmes are, however, hampered by a shortage of qualified teachers, the lack of a tailored curriculum and assessments, and insufficient facilities.

Education for gifted students

As discussed in Chapter 4 on student learning, Malaysia already has a number of education programmes for gifted students in place, such as *PERMATApintar*. However, public resources for gifted education remains limited and an opportunity exists to scale up opportunities.

Post-secondary options

The Ministry is committed to ensuring that all students in post-secondary education will receive qualifications in line with international standards. Currently, students completing SPM have several post-secondary choices: STPM, STAM, matriculation, foundation programmes or private sector alternatives. There are many private sector qualifications available. The most popular include the IB diploma, A-Levels, South Australian Matriculation, the American Degree Programme, and Canadian Pre-University. Among public sector options, the STPM is recognised by many universities overseas while the matriculation programme is currently only accepted for admission into public universities in Malaysia.

Private sector options

There are a number of private sector options available to parents. In fact, the private sector outstrips the public sector in terms of growth, although the public sector is almost 40 times larger (Exhibit 7-8).

Recent developments such as relaxing restrictions for international school enrolment of local students are expected to further accelerate growth in local students enrolled in the private sector.

The Roadmap: Creating multiple education pathways

The Ministry will ensure that the education system features a number of different pathways to cater to a broad spectrum of student interests and abilities. These pathways will be viable and attractive, providing students with meaningful learning opportunities tailored to developing the specific skills and knowledge required for that specific pathway. In addition, each education pathway will be well-integrated with the labour market, providing students with a clear route to their chosen professions. These pathways will also be inclusive and accessible to all students, including those with special needs.

Wave 1 (2013 to 2015): Strengthening vocational education

Developing the vocational pathway is a key priority. The Ministry recognises the magnitude of the effort ahead to overhaul the current vocational pathway. The Ministry is investing additional resources in the Vocational Transformation Plan to ensure that it can deliver on aspirations. The Ministry will also begin to develop and pilot interventions in other pathways to support improvements in areas such as religious education and for groups with specific needs.

Improving awareness and guidance on education pathways and careers in schools

Counselling and guidance teachers can help students chart their path through the education system and subsequent career choices. However, this role is often deprioritised amidst the other roles teachers may play, such as enforcing discipline and teaching other subjects. Teachers are consequently not always equipped to play this role.

Moving forward, the Ministry will increase the prioritisation for career counselling amidst counselling and guidance teachers' other roles. The Ministry will focus on strengthening the counselling programmes designed to provide students with guidance on academic pathways and careers. By the end of 2013, the Ministry will include guidance and counselling services as part of the secondary school timetable. The Ministry will also train all career counselling and guidance teachers to ensure they have the knowledge and tools to guide students effectively, including students with special education needs.

By 2015, 35% of all lower secondary students will have worked on developing individualised education pathway and career profiles. These profiles will record each student's interests, academic history, and other achievements—all designed to help the student in making critical choices regarding his or her education during the crucial lower secondary phase.

The Ministry will also produce a single comprehensive handbook on academic and career pathways. This will be used by students, parents, and school counsellors to guide and supplement decision-making from Year 6 onwards. Handbooks will be produced and distributed by the end of 2013.

Private education options in Malaysia

In 2011, approximately 3% or 145,000 of students aged 7 to 17 were enrolled in private schools. The four major categories of schools are:

Private schools. This category refers to the approximately 130 primary and secondary schools that teach the national curriculum for at least the six core subjects identified in the 1996 Education Act. These schools also tend to offer more enrichment activities like drama, music, art, and foreign languages. 18% of Malaysian students attending private schools are enrolled in this category of schools, making it the second largest type in the market.

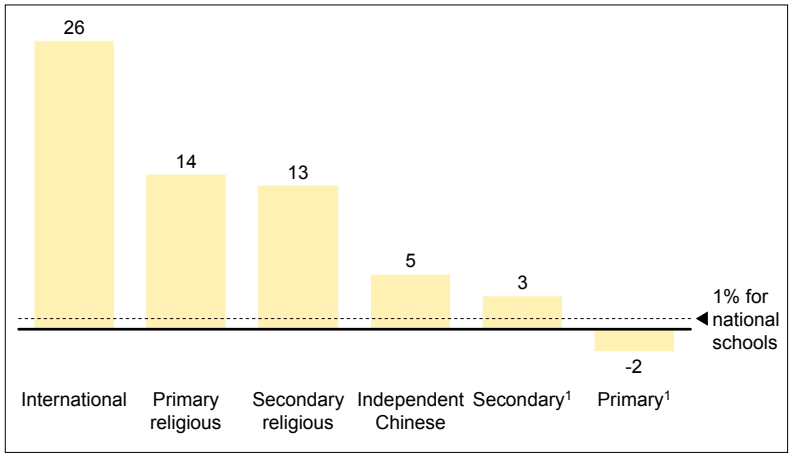
International schools. These are primary and secondary schools that use international curriculum such as the British, American, Australian, Canadian, or International Baccalaureate programmes. Unlike the other categories of private schools discussed here, international schools largely source their teachers from abroad. In terms of enrolment, data as of 30 June 2011 shows that 18% of Malaysian students in private education options are enrolled in international schools nationwide. International schools are also one of the subsectors identified under the National Key Economic Areas (NKEA) to drive the economic growth of the nation.

Religious schools. 14% of private school students are enrolled in this category of school, with over 350 schools nationwide in 2011. These schools may or may not teach the national curriculum with an intensive focus on Islamic education. In contrast to other private schools, religious schools are also more affordable as most of them are conventionally run as non-profits and are usually founded by individuals, companies, or Islamic organisations.

Independent Chinese schools. These schools currently enrol 46% of the 145,000 students in private schools today. There are 60 schools nationwide, each managed by the school leadership and a Board of Trustees, with funds raised from student fees and philanthropic contributions. These schools use Chinese language as the main medium of instruction, and teach a curriculum developed by Dong Jiao Zong benchmarked against systems such as those used in Taiwan and England. The schools prepare students for a standardised examination known as the Unified Examination Certificate (at Year 6 of secondary school), although many schools also prepare their students for the SPM in parallel.

EXHIBIT 7-8

Growth rate of enrolment in private schools by type
% (2007 – 2011)



1 Private secondary and primary schools following the national curriculum
SOURCE: Malaysia Educational Statistics, 2011

Finally, the Ministry will also launch a promotional campaign to create awareness of the different education pathways, and their flexibility. The campaign will use radio, television, newspaper articles, online portals, roadshows, and other channels. The campaign will run from 2013 through to the end of 2015.

Supporting the Vocational Transformation Plan

With the expected growth in enrolment, the Vocational Transformation Plan will require more than 220,000 practicum placements by 2020. The Ministry will enhance collaboration with industry partners to provide OTJ training for students, encouraging potential partners to participate with incentives for potential partners to participate, such as tax breaks and priority access to graduates for recruiting. These partnerships will be formalised in a new Memorandum of Understanding (MoU) to be signed between the Ministry of Education and industry partners. 40% of public KVs are to have MoUs with top feeder industries by 2015 (11 MoUs).

Industry partner outreach efforts will also focus on top feeder industries for vocational students (Exhibit 7-9). Meanwhile, processing time for selection of industry partners will be reduced from an average of 36 weeks to 15 weeks.

In line with the NKRA, the Ministry will continue to collaborate with the private sector to provide cost-efficient solutions to vocational education. Partnering with private vocational colleges will quickly increase the number of places and range of courses available in the vocational system to meet the growth in demand in a cost-efficient manner.

To guarantee quality, private KVs will be required to meet stringent criteria. These include prior experience in providing target courses that are not already available in the national system, such as aircraft maintenance and mechatronics. They will also be required to guarantee provision of a practical training component. The Ministry will select and appoint two private providers, with offtake agreements to send a set number of students to study at the private institution to be in place by the end of 2012. This will increase to 10 offtake agreements with private partners by 2014.

Enhancing the religious education pathway

The Ministry is committed to providing high-quality religious education—providing students with the knowledge and skills to succeed in the labour market while upholding Islamic values. The Ministry will continue to develop and promote the Higher Islamic Education or *Pelajaran Pendidikan Islam Tinggi*. Students are not taught exclusively religious subjects and can choose to specialise in one of three available streams: arts and religion, science and religion, and technical/vocational and religion. All streams provide the choice of core religious subjects such as the Al-Quran and Al-Sunnah, Syariah Islamiyah Education, Tasawwur Islam and Higher Arabic language.

In addition, the Ministry will continue to improve the international recognition of its religious education qualifications. Currently, students in SABK may sit for the Arabic-medium STAM. STAM is considered equivalent to STPM as a post-secondary qualification.

Moving forward, the Ministry will extend the availability of STAM to other religious schools such as SMKA. The Ministry will also market STAM as the standard for advanced Islamic religious education in schools throughout Southeast Asia.

The Ministry will also maintain support to SABKs and investigate opportunities to make funding to SABKs equivalent to other government religious schools. In the meantime, the Ministry will proceed with the ongoing process of raising standards at private religious schools by offering assistance in the form of funding, curriculum, training, and personnel.

Providing for students with special needs and gifted children

As highlighted in Chapter 4 in greater detail, the Ministry will focus on improving its tailored educational opportunities for students with special needs due to physical and learning disabilities, as well as gifted

EXHIBIT 7-9

Potential target industries for collaboration with vocational schools

North Corridor Economic Region (NCER) – Kedah, Perak, Perlis, Penang

Information Technology
- Computer System Technology
- Data Base and Programming Needs
- Support Service Network
- Telecommunication Technology

Agriculture
- Nursery Management
- Agricultural Biotechnology,
- Agriculture Product Processing
- Aquaculture

Tourism
- Medical Tourism
- Agro Tourism

East Corridor Economic Region (ECER) – Kelantan, Terengganu, Pahang

Renewable Oil, Gas and Power
- Solar Energy Technology
- Energy and Power Technology

Agriculture
- Nursery Management
- Agricultural Biotechnology,
- Agricultural Products Processing (Halal)
- Livestock Products Processing (Halal)

Transport and Logistics
- Aircraft Maintenance
- Avionic Technology

Sabah Development Corridor (SDC)

Renewable Oil, Gas and Power
- Solar Energy Technology
- Energy and Power Technology

Marketing and Sales
- Marketing
- Retailing Management

Manufacturing
- Electric and Equipment Technology

Tourism
- Medical Tourism
- Agro Tourism

Greater KL/Klang Valley

Transport and Logistics
- Global Logistics and Supply Chain Technology
- Locomotive Technology

Health Science
- Medical Laboratory Technology
- Environmental Health

Finance
- Banking
- Insurance

Tourism
- Medical Tourism
- Sports Tourism (Golf)

Iskandar Malaysia - Johor

Logistic and Transportation
- Marine Services Technology
- Global Logistics and Supply Chain technology

Information Technology
- Computer System Technology
- Data Base and Programming Needs
- Network Support Service
- Game/Simulation/Animation Audio/Video Effects

Agriculture
- Agricultural Biotechnology
- Agricultural Products Processing

Tourism
- Sports Tourism (Golf)

Manufacturing
(existing infrastructure, equipment & facilities)

Sarawak Corridor of Renewable Energy (SCORE)

Renewable Oil, Gas and Power
- Solar Energy Technology
- Energy technology and Power

Transport and Logistics
- Global Logistics and Supply Chain Technology
- Marine Services Technology

Tourism
- Medical Tourism
- Agro Tourism

Agriculture and Fishery
- Nursery Management
- Agricultural Biotechnology
- Aquaculture
- Industry Avian

students. In Wave 1, this will focus on identifying the competency levels of students with special needs in order to place them in the appropriate schooling options, including vocational skills courses. The Ministry will also improve quality of provision for students with special needs by upgrading infrastructure in both mainstream and special education schools, enhancing both pre- and in-service training for special education, and tailoring curriculum and assessments by student abilities.

In line with Chapter 4, the Ministry will benchmark its current programmes for gifted education against top-performing national gifted education programmes to identify areas for improvement and replicate best practices. The Ministry will also further develop its gifted education programmes through partnerships with the private sector and leading research institutions, specialising in education for gifted children.

Rebranding Form 6

By the end of 2013, the Ministry will rebrand Form 6 and the STPM/ STAM to boost the popularity of the qualification among students. This will bring Form 6 in line with other pre-university options currently offered by private sector entities. Greater decision-making rights will be granted to schools to allow them to introduce initiatives to better prepare their students for university. This could include, for instance, relaxing the requirements for Form 6 students to wear school uniforms, allowing Form 6 students to form student councils that have input rights on some aspects of student life (such as student welfare and range of co-curricular activities) and introduction of modules that require students to undertake independent research and/or work in groups on specific projects.

Wave 2 (2016 to 2020): Scaling up initiatives

In Wave 2, the Ministry will build on the momentum achieved during the earlier phase to further expand on existing pathways such as vocational and religious education. The focus will also be on improving the inclusiveness of the pathways to cater to students with specific needs, such as gifted or special needs students.

Strengthening education and career guidance

The Ministry will continue with its efforts to ensure all students make informed decisions about their education and subsequent careers. By 2018, all lower secondary students will have individualised profiles prepared. Counselling and guidance teachers will also be trained to advise students seeking specialist pathways such as sports and arts schools, improving the attractiveness of these options.

The Ministry will also recruit more school counsellors to ensure students receive adequate attention. By the end of 2020, the ratio of school counsellors to secondary school students will improve from 1:430 to 1:350.

Intensifying private sector participation in vocational education

The Ministry will scale up and intensify its collaboration with industry partners to provide assistance in curriculum development, teacher training, and practicum opportunities. By 2020, all public KVs should have at least one MoU with an industry partner. In addition, the Ministry will continue to increase the number of offtake agreements with private KVs to both increase the number of places available to students and broaden the spectrum of courses on offer in a cost-efficient manner.

Transforming the technical education pathway

The Ministry will improve the attractiveness and relevance of the technical education pathway by streamlining its technical elective options to three critical areas: (i) engineering and applied sciences; (ii) design and technology; and (iii) business and services. Expanding on its work with the ACCA, the Ministry will also forge partnerships with professional associations for increased recognition and accreditation for its qualifications across all three areas. This will require bringing the curriculum of its technical electives (and potentially, the supporting school infrastructure) in line with the requirements of these professional bodies.

Expanding the religious education pathway

In Wave 2, the Ministry will explore opportunities to increase the number of religious schooling places available to students. This could include a combination of public and private options such as increasing the number of SMKAs and encouraging greater conversion of private religious schools to SABKs.

Amidst the expected growth in the enrolments in religious schools, the Ministry also recognises the need to maintain quality. For the private schools that choose not to use the national religious curriculum or convert to SABK status, the Government will strengthen and expand the role of the Islamic Education Coordination and Advisory Board or *Lembaga Penasihat dan Penyelarasan Pendidikan Agama Islam* (LEPAI), which reports to the Council of Rulers. LEPAI will coordinate with the Ministry and state governments to help organise and provide greater resources for such schools. It will also act as a single, unified advocate for these schools. In parallel, the Ministry will establish an accreditation scheme to provide parents with a guarantee of quality for private religious education. The accreditation system will be in place by early 2016. All remaining private religious schools should be fully accredited by 2020.

Evaluating Sports and Arts schools

The Ministry will evaluate the demand for specialist sports and arts schools during Wave 2 and determine the need for expansion. This growth may involve either the expansion of existing schools or the establishment of new schools. The Ministry's review will also cover the quality of infrastructure, facilities, curriculum, and other services (such as specialist coaching) to ensure that these schools are well equipped to produce outstanding athletes and artistes in the future.

Enhancing provisions for gifted children and students with special needs

In Wave 2, the Ministry will launch two pilots for its high-achieving and gifted students. These pilots will draw on best practices from top-performing systems with gifted programmes and may be delivered in partnership with the private sector and other experts. The second wave of support for students with special needs will involve scaling up initiatives launched in Wave 1, and moving towards more inclusive education. Please refer to Chapter 4 for more details on specific initiatives.

Increasing standards and recognition for matriculation

In Wave 2, the Ministry will increase the standards of the post-secondary matriculation programme to improve its level of international recognition. The objective is to ensure that this qualification is recognised in both public and private institutions, in and outside of Malaysia. The matriculation option should therefore be benchmarked to an internationally-recognised accreditation such as the AS-Levels or Scottish Highers.

Establishing quality standards in the private sector

As stated earlier, the Ministry will establish a quality standard and corresponding inspection method for preschools. While quality standards are already in place at the primary and secondary levels, the Ministry will explore establishing a similar inspection mechanism. At the post-secondary phase, the Ministry will work with MOHE to ensure that private providers are providing students with an education that meets minimum standards required for entry into tertiary and further education.

Wave 3 (2021 to 2025): Ensuring education pathways for all

During this period, the Ministry will focus on refining individual pathways. This may include further expansions in the pathway (such as sports and arts schools) and could be facilitated by a greater role for the private sector. For instance, as the vocational education sector develops, the Ministry sees a growing role for private vocational colleges. Private colleges are expected to drive down costs through economies of scale. They are also inherently more flexible and able to meet evolving industry needs. By 2025, private vocational colleges are expected to lead vocational education for low-cost industries, like hospitality. The Ministry will support the expansion of the private sector through grants and soft loans. Public vocational colleges will continue to play an active role, particularly for high-technology industries that may have high barriers to entry for private players, such as aerospace engineering. The Ministry will also continue to play a role in setting and enforcing standards in the sector.

ENHANCEMENT OF UNITY IN SCHOOLS

The Ministry will ensure that the education system provides all students with the opportunity to interact with individuals from a range of socio-economic, religious, and ethnic backgrounds as well as geographical locations - and to learn to understand, accept, and embrace differences. It is through these interactions that a shared set of experiences and aspirations for Malaysia's future can be built. These shared experiences and aspirations in turn form the basis for fostering a common national identity and unity. The Ministry will focus on delivering interventions to create these opportunities across all schooling options to promote better integration, with the ultimate objective of ensuring that National schools become the school of choice and such interactions occur naturally.

Measures undertaken will include:

- Raising Bahasa Malaysia proficiency in National-type schools to improve the transition to SMKs;
- Scaling up the RIMUP programme to encourage intergroup friendships through co-curricular activities;
- Introducing a compulsory community service component in all schools; and
- Revising Islamic Education and Moral Education elements to include an understanding of the core values and underlying philosophies of the main religions in Malaysia and with greater emphasis on knowledge application.

As highlighted in Chapter 3, with multiple schooling options at the primary and secondary level, both public and private, the Malaysian education system provides an unparalleled degree of choice for parents and students (Exhibit 3-21). This variety is a result of the nation's historical legacy and rich diversity. The Ministry is committed to providing quality education to all students across all types of schools.

Today, of the 2.9 million students enrolled in primary school, 98% are in the public system. These 98% are split into 74% in the SKs where the medium of instruction is Bahasa Malaysia, 21% in the SJK(C)s where the medium of instruction is Chinese language, 3% in SJK(T)s where the medium of instruction is Tamil, and less than 1% in SABKs and special education schools. The remaining 2% are enrolled in private schools, where the options include private schools that teach the national curriculum, international schools, religious schools, and special education schools.

There are a combined 2.3 million students enrolled in lower and upper secondary school across both public and private schools. Approximately 96% of these students are enrolled in public schools with 93% enrolled in SMKs. Within the overall SMK category, however, there are multiple school programmes that students can choose from. Specifically, students can choose from regular SMKs (88% of total secondary school enrolment), SBPs (2% of total secondary school enrolment), technical/vocational schools (2% of total secondary school enrolment), and SMKAs (1% of total secondary school enrolment). In addition to the SMK format, there are a number of other public options available to students which include secondary-level SABKs and special education schools (collectively 3% of total secondary school enrolment).

Of the private secondary schools, independent Chinese schools are the largest with 3% of total secondary enrolments. The remaining private-sector options of international schools, religious schools, private schools that teach the national curriculum, and special education schools collectively make up about 1% of total secondary enrolment.

Current system structure to be maintained

The current structure of the Malaysian education system will remain. In particular, National-type primary schools where the medium of instruction is in Chinese language and Tamil will be maintained. Parents will have the option to decide whether to send their children to either National or National-type primary schools. After primary school, all students from different public school types will converge and enter National secondary schools. This decision is in line with the majority of views raised during the National Dialogue.

Ethnic homogeneity in the education system

As discussed in Chapter 3, while the overall education system reflects national diversity, specific school options tend to have ethnically homogeneous environments. For example, at the primary school level, 86% of enrolment at SKs are Malay students, 86% of enrolments at SJK(C)s are ethnically Chinese students, and 96% of enrolments at SJK(T)s are ethnically Indian students. While significant exceptions exist (for instance, an urban SK may have more ethnically diverse student enrolment), this is a pattern repeated throughout nearly all schooling options (Exhibit 3-29). This improves at the secondary level when students from the different primary schools converge in SMKs. However, points of homogeneity in public schools persist at the secondary level, such as in SMKA.

Civics elements in education

Civics education was first introduced in 1953 as a specific school subject. Its objective was to inject into the curriculum relevant knowledge and values that are common and unique to the Malaysian national identity. It was intended that students develop an understanding and appreciation of Malaysia's history, its people, its cultures, and its values—and that students are able to understand and embrace the commonalities and the differences that make Malaysia unique. It was also the vehicle through which to instill core values and beliefs as outlined in the *Rukunegara* such as a belief in God, loyalty to King and country, upholding the constitution and the rule of law, and good behaviour and morality. In the current curricula, civics is no longer taught as a distinct subject but rather through several different subjects such as Islamic Education, Moral Education, History, and Local Studies.

Research on the effectiveness of civics education in Malaysia, such as Tor's 2009 study titled "Measuring youth civic development in Malaysia: Conceptualisation, instrument development using the Rasch measurement model, and substantive outcomes," indicates that the Malaysian education system imparts knowledge on civics effectively (for instance, most students understand and agree with national principles such as the *Rukunegara*). Survey results also indicate that most students agree with the values and attitudes enshrined in the *Rukunegara*. However, the education system could improve its ability to encourage students to translate these beliefs into actions and apply them in their everyday lives. For instance, while most school-leavers reported that participating in community service was a positive activity for individuals, few actually volunteered themselves.

Vision Schools

Vision Schools were introduced in 2003 to promote greater interaction and integration between students in different schooling options. Under this concept, three schools—typically one SK, one SJK(C) and one SJK(T)—share the same school compound and facilities while maintaining different school administrations. Vision schools are established where there is land available to build these shared compounds and where there is sufficient proximity of both National and National-type schools. However, this limits the scalability of this concept throughout the entire education system and consequently there are only five vision school complexes still in operation.

RIMUP: Integration through co-curricular activity

The Ministry also encourages greater integration through shared co-curricular activities between different schools under RIMUP. As highlighted in Chapter 4, the RIMUP programme focuses on encouraging inter-group interactions between students in a co-curricular setting. It pairs different schools together such as a National school with a National-type school, and encourages students from these different schools to participate in selected co-curricular activities together. The programme is consistent with international evidence which indicates that task-oriented, group activities such as sports and community service are one of the most effective ways to encourage inter-group friendships among students. However, recent years have seen a sharp decline in the budget allocation for the RIMUP programme, curtailing its potential effectiveness at fostering unity among students (Exhibit 7-10).

The Roadmap: Improving interaction and integration across all schooling options

Addressing these points of homogeneity is critical to fostering unity. It is important to teach the right set of values, attitudes, and behaviours when students are young and still developing their world views and behaviours. Later-stage interventions are unlikely to be as effective. The ultimate objective is for the National schools to be the school of choice such that interactions between students of different socio-economic, religious and ethnic backgrounds naturally occur in school.

These initiatives will be rolled out across all schooling options, including the most ethnically homogeneous ones. When implementing these initiatives, the Government will be respectful of the individual missions and beliefs of each of these school types. These initiatives will also support the holistic education of students.

EXHIBIT 7-10

The RIMUP initiative

Schools grouped into clusters for combined activities[1]

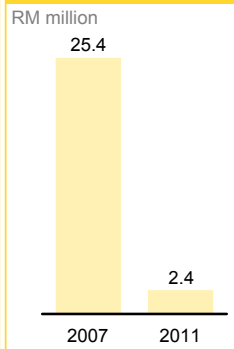
EXAMPLE

Cluster	Schools
A	SK, SJK(C), SJK(T)
B	SK, SJK(C)
C	SK, SJK(T)
D	SJK(C), SJK(T)
E	SMK, SMKA, SMJK

Activities are grouped under five categories

1. Activities for academic excellence
2. Sports and games
3. Co-curricular activities
4. Community service
5. Activities to enhance patriotism

Budget allocation for RIMUP



1 Decided at the state level

SOURCE: Co-curriculum and Arts Division

Wave 1 (2013 to 2015): Establishing foundations

Wave 1 will focus on developing a better understanding of the current levels of unity. This will assist the Ministry in identifying points within the system requiring assistance, in order to deploy an appropriate intervention. There will also be a focus on addressing immediate concerns regarding the integration of SJK(C)s and SJK(T)s, with a focus on supporting a seamless transition between Chinese language and Tamil mediums of instruction in primary school, on the one hand, and a Bahasa Malaysia medium of instruction in secondary school, on the other.

Measuring national unity in the education system

In 2014, the Ministry will launch an annual longitudinal survey on unity among a representative cross-sample of the nation's Year 6 and Form 5 students. This survey will test civic knowledge (such as basic general knowledge on civic affairs in Malaysia), attitudes, and behaviours.

The survey will serve several purposes. It will provide a basis for understanding the current level of unity among students as they transition from successive phases of education and into the world of work. This will help the Ministry to identify specific points within the education system requiring intervention, analyse the specific concerns such as a lack of exposure to diversity, and design an appropriate response. Over time, it will also track changes in national unity among students, providing a basis for measuring progress against the aspiration.

Improving the transition from National-type schools to National secondary schools

Ministry recognises the challenge for students switching to Bahasa Malaysia-medium SMKs after attending SJK(C)s and SJK(T)s in Chinese language and Tamil mediums of instruction respectively. Every child should be equipped to succeed in SMKs. This requires raising the Bahasa Malaysia proficiency of SJK(C) and SJK(T) students.

As highlighted in Chapter 4, curriculum and assessment standards for Bahasa Malaysia in National-type schools will be raised to be consistent with that of SKs. Currently, the standard of assessment is slightly higher in National schools. Using the same standard ensures that all students passing the UPSR exam are equipped to succeed in an environment where Bahasa Malaysia is the language of instruction. The Ministry will also improve the instructional quality for Bahasa Malaysia classes in National-type schools. Where necessary, additional Bahasa Malaysia teachers will be upskilled to avoid any teacher shortages.

The Ministry will introduce more effective, in-school initiatives to help students meet these standards. These programmes will enable students to avoid Remove classes altogether. In Years 1 to 3, weaker students will develop required competencies in basic literacy skills through the LINUS programme. Upon completion of LINUS, students in Years 4 to 6 with weaker proficiency in Bahasa Malaysia will be identified.

They will be provided with additional, after-school classes to improve their Bahasa Malaysia proficiency. More proficient students will not be required to attend these classes. These initiatives will be in place by 2014 with Year 4 students.

Wave 2 (2016 to 2020): Scaling interventions to foster unity

Wave 2 will scale-up a number of existing programmes designed to foster unity. They include a ramp-up in the existing RIMUP programme and a number of curricular and pedagogical innovations. These programmes are grounded on best practices from national and international research on fostering social cohesion and civic behaviour among students.

Scaling up the RIMUP programme

The Ministry will extend the RIMUP programme so that every school is able to participate in at least two inter-school activities every year.

Schools will be grouped to allow for interaction across different school types, public and private.

The Ministry will also review the current set of activities run under the RIMUP programme. Currently, the programme includes a wide scope of activities, including academic enhancement, sports and games, community service, and co-curriculum activities. Research indicates, however, that not all of these activities are necessarily effective at fostering unity. The Ministry will therefore narrow the scope of activities under RIMUP to focus on those activities that are actually proven to be effective at fostering intergroup friendships and stronger ties to the community, such as sports, arts, and community service.

Strengthening Islamic Education, Moral Education, and civics elements

In line with practices in high-performing education systems such as Canada and Singapore, the Ministry will introduce a community service component to the curriculum of all primary (Years 4 to 6) and secondary schools in Wave 2. Further, completion of the community service component will be a pre-requisite for graduation at the secondary level. The current option being considered is a weekly activity combining students of all ethnicities that runs for four months per year. Performing goal-oriented, team-based activities in diverse groups will foster greater unity among students. Through community service, students will also develop stronger attachments to their local communities. Parents and the broader community will be more explicitly involved in homework assignments, classroom lectures, and community service projects. Community involvement will further reinforce in-classroom learning.

The pedagogy for Islamic Education and Moral Education will also be revised to incorporate more role playing, simulations, class discussion, and small group work. Such participatory learning methods are more effective at inculcating good values and reinforcing behaviours than lectures and workbook exercises. Islamic Education curriculum for Muslim-students will include a greater focus on understanding the core values and underlying philosophies of Islam and other main religions in Malaysia. Similarly, for non-Muslim students, Moral Education will include an understanding of the core values of all main religions in Malaysia. The Ministry will also look into having Islamic and Moral Education students share certain classes together when common universal values are taught.

Strengthening provision of additional language education

As discussed in Chapter 4 on student learning, the Ministry will also improve student access to learning an additional language, subject to availability of resources. By 2020, the most popular additional language options such as Chinese language, Tamil, and Arabic will be offered at more schools. In addition, the teaching of additional languages will be integrated into instruction time at both primary and secondary school levels. Larger schools will ideally offer several additional language options while smaller schools will explore leveraging the use of technology to increase the number of additional language options on offer.

Ending the *Peralihan* year

The remove class programme is expected to end in 2017, when the original Year 4 cohort from 2014 completes primary school. The critical condition for ending the remove class is for National-type schools to match the pass rates of National schools for the Bahasa Malaysia UPSR exam.

Wave 3 (2021 to 2025): Reviewing schooling options and system structure

Wave 3 will see SKs and SMKs emerge as schools of choice for all parents, irrespective of ethnicity or socioeconomic background. The Ministry will continue to monitor levels of interaction and integration across different student groups. Depending on the quality of these outcomes, the Ministry may consider reviewing the range of schooling options to determine if further changes are required to enhance the development of unity.

LEARNING SYSTEM: PARENTS, COMMUNITY, AND PRIVATE SECTOR

The Ministry will ensure that parents, the community, and the private sector are fully engaged as partners in education. The focus is to harness the comparative advantages of the different parties to deliver quality education in an integrated, effective, and efficient manner.

Measures undertaken will include:

- Raising awareness among parents and communities of their role in their children's education;
- Providing guidance to schools to drive the engagement process;
- Linking financial assistance for poor students to improved parental engagement;
- Empowering PIBGs to play a greater role in supporting parental and community engagement; and
- Scaling up Trust Schools and other areas for private sector involvement.

As noted in Chapter 3, only 27% of a child's waking time between the ages of 7-17 is spent in school. With the majority of their waking time spent at home and as part of the greater community, children also learn beyond school walls. While teachers and schools undoubtedly play a critical role in child development, there is a growing body of evidence that parental and community involvement in a child's

EXHIBIT 7-11

What is a Learning System?

Learning systems recognise that learning happens beyond the school walls and can occur at home and in the community. School must create a conducive environment for a positive school-parent-community working relationship.

School – parents collaboration:

- to have a shared responsibility between parents and teachers to ensure quality learning for students
- to increase parents' awareness in assisting student learning
- to develop parents' role as partners with schools in improving their children's outcome

School – community collaboration:

- to tap volunteer organisations in the community that can provide an array of services and benefits to the local school
- to get students involved with community organisations and their projects while learning valuable lessons in the process

education can make a significant difference in learning outcomes. To ensure that a student's entire environment is conducive to learning, the Ministry is shifting its focus from schools to building broader learning systems (Exhibit 7-11).

Current levels of parental and community engagement in education

International evidence from PISA 2009+ indicates that, while parental interest in their child's education is an important first step, the biggest factor driving student performance is how parents spend their time with their child at home. Based on the data, the OECD recently concluded: "The good news is that it does not require a Ph.D. or unlimited hours for parents to make a difference. In fact, many parent-child activities that are associated with better reading performance among students involve relatively little time and no specialised knowledge. What these activities do demand, though, is genuine interest and active engagement."

The OECD shows, for example, that students whose parents reported that they read a book with their child "every day or almost every day" or "once or twice a week" during the first year of primary school had higher scores in PISA 2009+ than students whose parents reported that they read a book with their child "never or almost never" or only "once or twice a month" (Exhibit 7-12). Importantly, this holds true regardless of whether the family is low, middle, or high income.

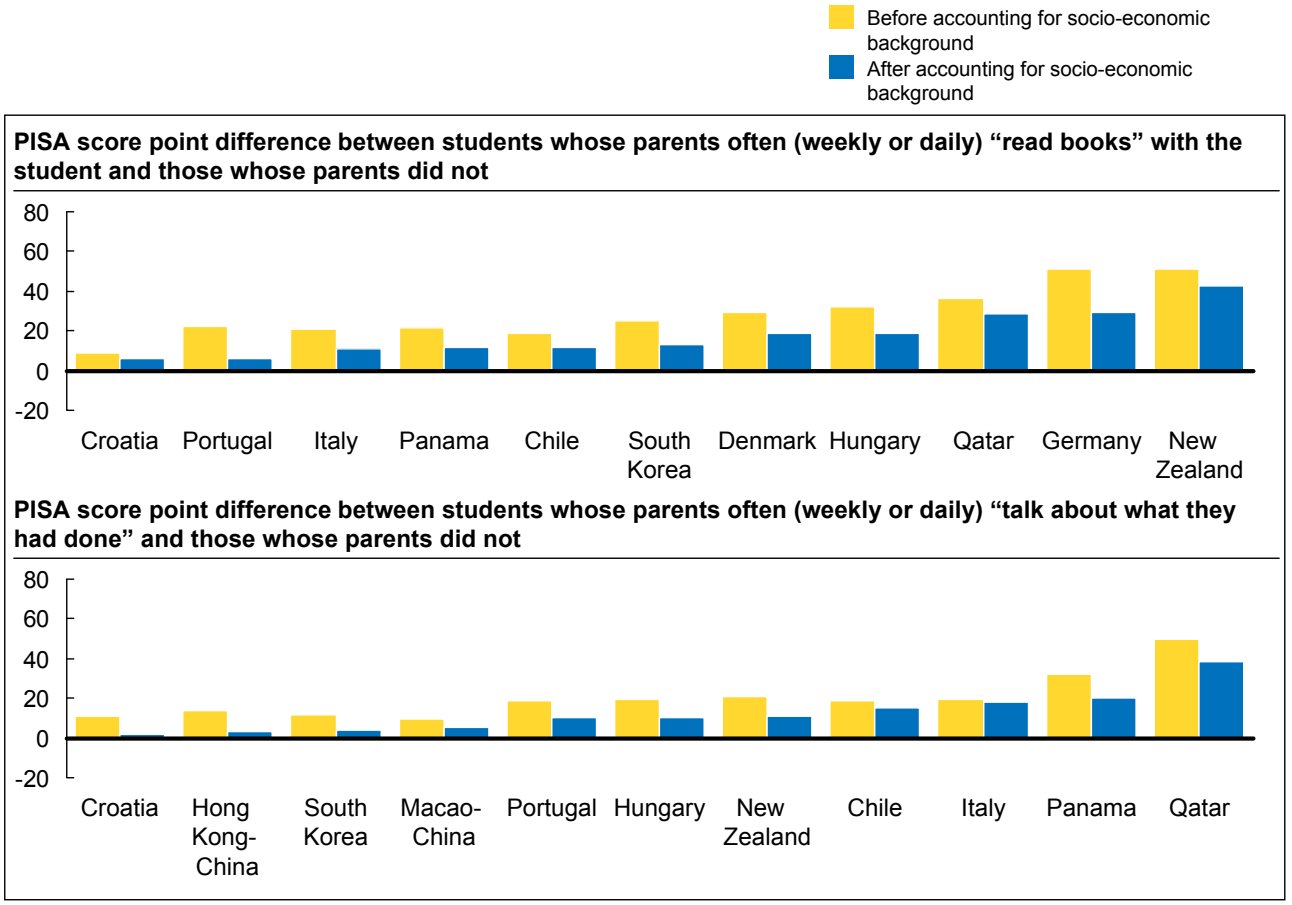
There is already a high level of baseline involvement among Malaysian parents. 2011 survey of 1,800 Malaysians nationwide conducted by the Minister of Education's Office found that 60% of parents report spending some time every day helping their children with their homework. 50% say that they spend some time every day talking with their children about school. These are all factors that are associated with better student reading performance in school. The key now is to ensure these practices happen in every household, making families crucial partners in improving children's learning outcomes.

"Many parent-child activities that are associated with better reading performance among students involve relatively little time and no specialised knowledge."

PISA OECD (2011)

EXHIBIT 7-12

Parental support at the beginning of primary school



SOURCE: OECD, PISA 2009+ Database

Research also shows that individual schools and school systems that have expanded their focus from parents to the local community have seen a boost in student outcomes. Engaging the community—businesses, non-profit entities, and community organisations—can bring in resources (in the form of funding and access to capabilities) beyond what the public sector may be able to afford. For example, a study by the Centre for Social Organisation of Schools in America found that schools that engage with community groups, including businesses, civic organisations, and colleges or universities, enjoyed benefits that included lower student absenteeism, higher rates of homework completion, and higher grades.

Community engagement, especially fund-raising by PIBGs, is not a new practice for Malaysian schools. The Ministry, however, stresses the need for schools to build partnerships centred around the sharing of expertise. In some cases, some schools and communities have developed approaches to improve the delivery of educational services to students.

The private sector can also play an important role in delivering on education system aspirations. While the private sector cannot replace the public system, it can act as a useful supplement to enhance public initiatives and drive greater efficiency in service delivery, including in niche areas. As acknowledged in the NKRA, well-executed public-private partnerships (PPP) can facilitate service delivery and lead to additional financing for the education sector, as well as expand equitable access and improve learning outcomes. This could be a particularly effective model for groups currently poorly served by traditional delivery methods. For example, the Ministry is piloting a new model for introducing private sector-led innovations in public schools' curriculum, teaching and learning, and overall school management. These are the Trust Schools, with *Yayasan AMIR* as the private partner.

The Roadmap: Moving towards a learning system

Moving from a school system to a broader learning system will require raising the bar for parental, community, and private sector engagement across all 10,000 schools in the country. This in turn means that schools will need to be more proactive and creative in communicating with and engaging the broader community in order to build a stronger partnership.

Many schools also face greater difficulty in working with parents from under-privileged communities. This is generally due to parents' inability to take time off from work to attend workshops or meetings, as well as the presence of language or cultural barriers that hamper communication between teacher and parent. Breaking through these barriers will demand even greater creativity from schools, and support from the Ministry. Given that a child's socio-economic background remains the biggest driver of student outcomes, however, the system cannot afford to do otherwise.

Wave 1 (2013 to 2015): Supporting engagement with parents and private sector

The education system needs a two-fold change in outlook: firstly, all stakeholders need to transition to a new mindset that focuses on a system of learning, rather than just schooling; secondly, parents and communities need to learn to view themselves as having an important role in contributing to the success of their children's education. In Wave 1, the Ministry will focus on helping schools reach out and develop strong ties with parents and the community.

Promoting awareness via a national education campaign

To assist in achieving a clearer understanding of national levels of engagement, the Ministry will conduct a national survey on levels of parental and community involvement in education. This will establish a clear baseline on engagement levels and allow the development of targets for improving involvement. The survey will be launched nationwide in early 2013.

To support this aspiration, the Government will launch a national education campaign in late 2012 targeted at helping parents, the broader community, and the private sector to achieve this change in mindsets. Centred on a key message of shared responsibility for our children's education (Exhibit 7-13), the objective is to drive greater parental participation in their children's education, invoke a greater sense of responsibility in the community for all children's development, and enable enhanced private sector involvement in education.

The campaign will use multiple channels of dissemination (at the national, state, district, and school levels) and multiple forms of media (traditional, online, and grassroots formats) to ensure comprehensive, mutually-reinforcing outreach to the target audiences to drive behavioural changes.

EXHIBIT 7-13

Example poster for increasing parent awareness

Show your home, neighborhood, and community to your child.

Point out animals, plants, and people.

Together, discover all the wonders of the outdoors.

Help your child experience different sights, sounds, textures, smells, and taste.

Marvel together at trucks and equipment at a fire station or construction site.

Remind your child of the fun things you have done together.

Launching an engagement toolkit for schools

The Ministry will develop a comprehensive toolkit to be implemented in 2013 that will provide more concrete, specific guidance on how schools can develop a stronger working relationship with parents, the community, and the private sector. The toolkit will enable each school to develop: (i) a school prospectus; and (ii) a parent and community engagement plan.

Moving forward, the Ministry will make it mandatory for every school to develop its own prospectus to provide parents with information on school aspirations, rules and other details of the school, giving parents a sense of shared responsibility. Support will be provided to schools requiring assistance in developing their own prospectus. The prospectus will be provided to parents of Year 1 and Form 1 students, during registration day, while an online version will be uploaded on the school's website.

The goal of the parent and community engagement plan is to encourage the PIBGs and the broader community to expand their focus from fund-raising to developing parents and community-driven learning programmes. To assist schools in developing their individualised parent & community engagement plan, the Ministry will provide schools with a survey instrument to assess their current level of engagement along a set of clear measures and determine priority areas for action.

Revamping financial aid to reinforce parental engagement

The Ministry intends to revamp the present financial aid programme targeted at low-income families to reduce the cost of sending their children to school. Over the next 3 years, it will focus on the KWAPM, by strengthening the link between financial assistance and desired outcomes. Specifically, KWAPM could be further optimised as a tool to incentivise low-income parents to increase participation in their children's education by making the funding conditional upon both parents and students meeting behavioural targets.

In order to more effectively link distribution of KWAPM to student attendance and parental involvement, the Ministry will refine the KWAPM disbursement process. KWAPM will now be disbursed semi-annually, with compulsory minimal student attendance required for the second distribution. PPDs will be responsible for monitoring compliance to the new process as well as measuring outcomes.

Facilitating private sector scholarships

The Ministry acknowledges the initiative and generosity of the private sector in Malaysia in providing private scholarships. These scholarships enable high-performing, deserving students to access quality education and meet their full potential. In Wave 1, these programmes can be leveraged to broaden the range of quality educational choices to students from under-privileged backgrounds. This will be particularly impactful in the short term, while the overall quality of the education system is still in the process of being raised.

Enhancing the Adopt-a-School programme

The Ministry launched the PINTAR ("Promoting Intelligence, Nurturing Talent and Advocating Responsibility") programme in 2006 to encourage companies to partner with underserved schools

The Trust School Programme

The Trust School programme was conceived as a long-term commitment to improve accessibility to quality education in public schools with the non-profit foundation *Yayasan AMIR* as the Ministry's partner.

At its launch in December 2010, ten schools, five in Johor and five in Sarawak, were selected to form the first cohort of Trust Schools. They were chosen to provide a representative sample of Malaysian schools, comprising both primary and secondary, National and National-type, and urban as well as rural schools.

Trust Schools operate through the provision of regular Ministry funding and resources. In addition, they enjoy additional decision-making rights in school management to enable innovation and improvements in quality of education. The programme is guided by four strategic goals: (i) developing high quality leadership; (ii) improving the quality of learning and teaching; (iii) maximising student achievement; and (iv) strengthening the engagement of parents, community, and other stakeholders.

In order to deliver on these goals, a school-wide transformation is required. A major focus for the Trust Schools is the enrichment of teachers who make it all possible. During the initial stages, emphasis is therefore on structured professional development to enhance key competencies. School Leadership Teams (SLT) also attend training to hone their skills as leaders of learning and administrators of school organisations. This process is supported by dedicated Teaching and Learning Advisors assigned to each school to act as coaches to the teachers and SLTs.

The programme has now entered its second year of a five-year engagement with the schools. Early results are promising as positive changes have started to take root. From February 2012 to June 2012, lesson observation showed a 25% overall improvement in teachers. Specific areas of improvement identified by *Yayasan AMIR* and *BPSH* include:

- 33% increase in usage of strategic questioning to promote student thinking;
- 40% increase in usage of defined collaborative and cooperative learning structures; and
- 18% increase in usage of positive behaviour management strategies.

Linking financial aid to outcomes: a case study from Brazil

Brazil's Bolsa Familia is a form of financial aid—a conditional cash transfer programme—that covers about 50 million Brazilians, a quarter of the country's population. Under the scheme, the government pays a monthly stipend of about USD13 to poor families for each child aged 15 or younger who is attending school, up to three children. These payments are almost always paid directly to the women, as they are more likely to spend the money on their families. The payment is, however, conditional on the child meeting a certain threshold of attendance each month.

According to the World Bank, some 110 million people in Latin America now benefit from such schemes. There is evidence that such programmes have raised school enrolment and attendance, and reduced drop-out rates, as well as increasing take-up of pre- and post-natal care and vaccinations.

to introduce new technologies, after-school activities, literacy projects, education clinics, and motivational talks to their students. The programme has enjoyed good results to-date, with 292 schools adopted by 35 corporate partners (primarily Government-linked companies). Going forward, the Ministry will encourage more corporate partners to join the programme and more schools to receive sponsorship.

Scaling up the Trust School network

The Ministry will continue to fine-tune the current operating and management agreement (OMA) with *Yayasan AMIR* to support the success of the pilot programme. These adjustments will expand the autonomies granted to the Trust Schools and enhance school effectiveness, including the provision of greater flexibility to use endowments to fund school improvement initiatives, the opportunity to introduce world-class curricula based on the IB and International General Certificate of Secondary Education (IGCSE), and the power to appoint representatives from local stakeholders to the school's Board of Governors.

The Ministry will assess the results of the current pilot of trust schools at the end of 2013. If the results from the pilot programme are promising, the Ministry will seek to expand this programme with the from the current 10 pilot schools to a target of 20 schools by 2015.

Once the decision is made to expand the trust school network in 2013, the Ministry recognises that the intended diversity of sponsors and school types will require differing OMAs in order to succeed. For example, running a special needs school may require more specialist teachers than can be sourced domestically and would therefore require greater autonomy to hire foreign specialists. As part of the expansion process, therefore, the Ministry will develop an open framework and standardised OMAs for trust schools that grant sufficient autonomy and flexibility to a diverse set of sponsors and school types to be covered.

To support the application of potential sponsors, the Ministry will also publish a clear set of eligibility criteria and will also reduce potential barriers to entry (such as minimum financial commitments) while ensuring that there is no compromise on the quality of education provided. The application process itself will be streamlined to minimise bureaucracy (with an estimated end-to-end time frame of one year) while also including a dialogue and engagement process at selected schools to ensure alignment among key stakeholders prior to the conversion to the trust school programme.

It is also important to institutionalise best practices with respect to innovations in teaching and learning from the Trust Schools initiative in the Ministry to ensure that the entire education system benefits from the programme in the short- to medium-term. To support this process, the Ministry will improve the linkage between the trust schools and JPNs/PPDs to ensure better accountability and a sense of ownership for the trust schools at the state and district levels.

Wave 2 (2016 to 2020): Deepening engagement

Wave 2 will focus on building on the foundations established in the previous phase. PIBGs will play an expanded role in supporting schools and will help to drive school-level engagements with the broader community. Private sector involvement will also develop further, with refinements to both the Adopt-a-School programme and the Trust School network.

Expanding the role of PIBGs

The role of PIBGs will also be expanded to provide a support network, the Parents Support Group (PSG), among parents to learn and share best practices in working with and supporting their children in the learning and growing process. PIBG members may also help enhance the effectiveness of school activities and programmes in areas such as governance, funding (donations), manpower (chaperones, coaches), and sharing expertise. PIBGs will also be empowered to provide input to school leadership on the contextualisation of the national curriculum and the quality of teaching and learning in the school.

Engaging the broader community

Schools will also reach out to their broader communities to collaborate on improving student learning. This collaboration will include activities that are student-centred (potentially including initiatives such as mentorship programmes, student trips, job shadowing), school-centred (including sponsorship of school equipment and materials, classroom assistance), and community-centred (such as community service, student performances). These initiatives will be important across all schools, but will be particularly critical in under-privileged communities.

To assist schools in developing individualised community engagement plans, the Ministry will equip schools with a reference set of local and international best practices to strengthen engagement, such as adult literacy classes. The Ministry will closely monitor the development and delivery of these plans. Schools will drive this engagement process in the early stages of the initiative. However, PIBGs will increasingly plan and manage engagements with the broader community.

Refinements to Trust Schools

By 2020, the Ministry expects a total of 90 Trust Schools to be in operation throughout the country. This expansion will accommodate a more diverse set of school sponsors in addition to *Yayasan AMIR* —including private businesses, community organisations, and alumni bodies—as well as a more diverse set of schools. The Ministry sees particular promise in expanding the coverage of the trust school network to include under-performing schools (Band 6 or 7, or otherwise showing a declining performance in student outcomes), schools catering to groups with specific needs such as indigenous and other minority groups, students with special needs, and rural and under-enrolled schools. The Ministry will make continuous adjustments to the OMA to support this greater diversity in sponsors and schooling options in the Trust School programme.

Example of private-sector innovation in Malaysian education: Teach for Malaysia

Based on the highly successful Teach for All programmes such as Teach for America in the United States of America, Teach First in the United Kingdom, and Teach for India in India, the Teach for Malaysia (TFM) programme is aimed at attracting high-performing young graduates into the teaching profession. Established in late 2010 with the support of numerous corporate sponsors, the TFM programme works with the Ministry to place TFM fellows in high-need schools in two-year placements. TFM fellows are provided coaching and support during their placements, while simultaneously working towards a professional qualification in teaching. The pioneer group, comprising of 50 fellows, were placed in 17 schools in Kuala Lumpur, Selangor, and Negeri Sembilan.

Wave 3 (2021 to 2025): Encouraging greater private-sector innovations

In Wave 3, the learning system will be firmly established, with parents, communities, and the private sector all acting as strong partners in education. In this period, the Ministry will focus on introducing additional innovations to build on past progress.

Establishing Trust Schools as a test bed for innovation

The Ministry expects 500 Trust Schools to be in operation by 2025 (representing approximately 5% of all public schools). The Trust School system will build on previous initiatives to act as a continuing test bed for innovations in teaching and learning practices that can then be institutionalised and applied throughout the entire education system for the benefit of all students.

Supporting private sector offtake of specialised education programmes

The Ministry also recognises that not all school types may be equally popular with potential sponsors and will look into developing alternative methods of contracting specialised education services. This could be particularly relevant for improving education provision to more disadvantaged communities such as indigenous and other minority groups, students with special needs, and rural schools. It could also be extended to other forms of specialist schools such as gifted sports, and arts schools.

For example, Hong Kong established the Hong Kong Academy for Gifted Education (HKAGE) to serve the gifted top 2% in the territory. HKAGE provides out-of-school enrichment programmes for students, as well as advice to teachers and parents. It was established as a non-profit company in order to provide the independence and flexibility needed to serve this niche group. Nevertheless, HKAGE receives most of its funding from the Hong Kong government, as well as from private sources.

Exploring continuing innovations in parental, community, and private sector involvement

The Ministry will continue to explore other areas in which private sector partners could drive substantive benefits to student outcomes. Potential areas include engaging media partners for education campaigns and public service announcement initiatives, and collaborating with large retailers for literacy campaigns.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Malaysia must adjust the structure of its education system to allow all students to have access to the right set of educational opportunities at the right time—from cradle to career. A four-pronged strategy is required to achieve this. Firstly, basic structural elements such as the number of years of formal schooling and compulsory education will be aligned with high-performing education systems such as Singapore and Hong Kong. The education system will also continue to develop attractive and viable pathways that cater to the diversity of interests and talents of Malaysian students. Particularly critical to the nation's development will be the strengthening of vocational education. The Ministry is also systematically moving the education system from a school-based model of learning to a broader learning system. This will require stronger levels of ownership and engagement from parents and local communities towards their children's education. Finally, the private sector will play a critical role in driving many of these changes—in preschools, vocational education, and other segments.

CHAPTER 8

DELIVERING THE ROADMAP

8. Delivering the Roadmap

The Malaysian education system needs to undergo a transformation if it is to rise to meet the ambitious vision and aspirations of a Malaysian who is ready and willing to tackle the challenges of the 21st century. This transformation is a task of great complexity in both breadth and depth, and will only succeed through the combined efforts and concerted support of all stakeholders. It is therefore critical to carefully sequence the steps the Ministry will need to take to avoid initiative overload and ensure sustained improvement. This transformation will be implemented over a span of 13 years, with an initial focus on addressing the gaps in the current system, and laying the foundation for a radically new education system. Subsequent waves of transformation will accelerate improvement, geared towards self-sustaining innovation, so as to create a new generation of Malaysian students ready to excel globally in a competitive environment.

The Ministry is embarking on a fundamental transformation of the education system. The journey it is about to undertake will be defined by four characteristics:

- **Ambitious:** The changes need to move the Malaysian education system to one that is ranked amongst the top third cohort of systems in the world. This system will produce students who have the knowledge, thinking skills, linguistic proficiency, leadership abilities, ethics and spirituality, and national identity to lead Malaysia's ascension as a regional economic and political powerhouse. This challenge is all the more difficult as other school systems globally continue to improve and raise the quality bar;

- **Comprehensive:** The changes must encompass all types of public schools and even learning that takes place outside a school setting, such as in homes or communities, so as to create a truly inclusive education system that caters to the needs of all Malaysian students. These changes will touch the lives of millions of students and parents, and thousands of teachers, principals, and Ministry personnel across the country. The Ministry hopes that this inclusiveness will provide the basis for a common focus that can be embraced by all stakeholders;

- **Rapid:** The expectations of parents and employers are high as the country urgently needs large numbers of well-educated young people to drive its growth aspirations and maintain its competitiveness. This urgency is underlined by the fact that approximately one third of each student cohort leaves school without meeting minimum standards in the SPM core subjects and before completing Form Five. This desire for immediate results will need to be balanced with the fact that transformative improvements will take time; and

- **Sustainable:** Although a number of early gains can be realised within the first year of reform, improvement to the system as a whole will require shifting structurally, which will take time to yield results. The critical point is to ensure that these improvements build successively on each other as the delivery capacity and capabilities of the system improves, so that they have a sustained and lasting impact on students.

While the possibilities for transformation are exciting, it must be acknowledged that this ambitious path will nonetheless be a challenging one. Only a few education system transformation efforts have succeeded—most fall short of their ambitions (Exhibit 8-1). Out of the 55 school systems that participate regularly in international assessments, only 12 have delivered significant, widespread and sustained improvements in the past decade, despite massive increases in spending on education internationally. One study of several OECD countries, for instance, found that school system performance had either flat-lined or deteriorated during the period of 1970 to 1994, despite real increases in expenditure (Exhibit 8-2).

Internationally, education system reforms typically fail for common reasons—insufficient will, time and commitment from all political and Ministry leaders; inability to stay the course under intense challenges from those opposed to the changes; paralysis in the face of polarising debates led by teachers and other stakeholders; resistance to change amongst teachers; or capacity gaps within the Ministry. Malaysia should therefore be aware of these challenges.

Although these obstacles are daunting, it is vital that Malaysia rises to the challenge. Promisingly, research on the world's most improved school systems indicates that it is possible to overcome these challenges to deliver fundamental improvements regardless of the starting point of the system, in as little as six years.

SEQUENCING THE TRANSFORMATION

The envisaged reform is broad and complex. Consequently, many initiatives have been developed as part of the reform. While each individual initiative is important and meaningful, it is critical to streamline and sequence them so that the system is not overtaxed and execution fatigue is avoided. Common to all successful transformations in the private and public sectors is the prioritisation of some areas of improvement, sometimes at the expense of others.

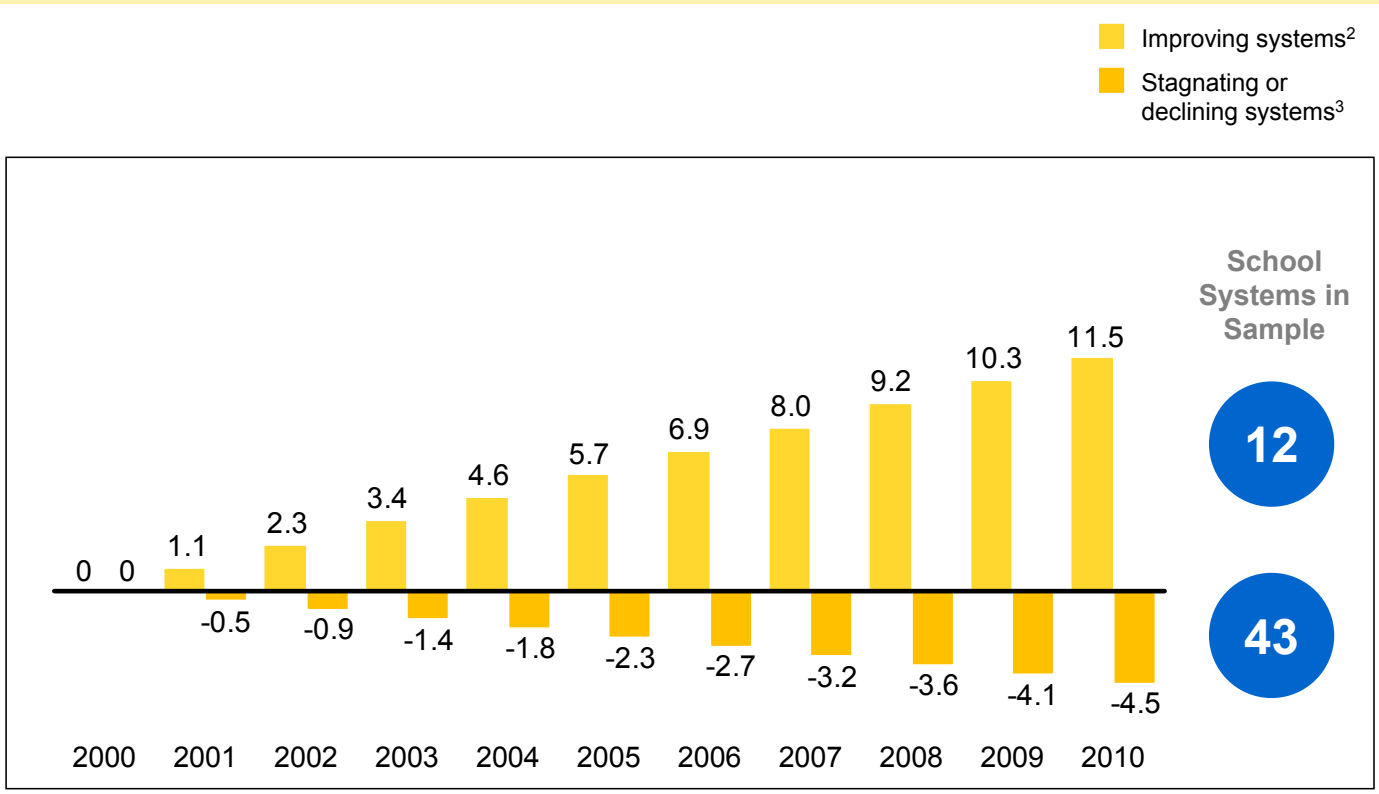
Five system outcomes were outlined in Chapter 2, namely access, quality, equity, unity and efficiency. Significant progress has already been achieved on access with close to universal primary school enrolment. Inequity is also lower than in high-performing systems such as Hong Kong and South Korea. Gaps, however, continue to exist on quality. Malaysian student outcomes have declined in international assessments over the last ten years and the system in now in the bottom third cohort of systems across the world. Further, the improvements that are required on access, equity, unity and efficiency will largely be driven by quality improvements. For example, increasing secondary enrolment requires an improvement in the quality of vocational options. Similarly making National schools the school of choice to enhance unity first requires improving the quality of education in these schools.

There will be three waves of reform (Exhibit 8-3). The Ministry will focus Wave 1 of the reform (2013-2015) on turning around the performance of the system. The objective is to improve education quality to the point where Malaysia is at par with the global average by 2015 as this will then set the education system up for future success. The Ministry has defined three focus areas during this wave:

1. **Improving classroom instruction** to ensure that students develop higher-order thinking skills;

EXHIBIT 8-1

Trends of scores on the universal scale since 2001[1]



1 Trend is the regression of average scores on the universal scale;
2 The 12 improving systems are England, Hong Kong, South Korea, Latvia, Lithuania, Ontario/Canada, Poland, Saxony, Singapore, Slovenia, Boston, Long Beach.
3 The 43 stagnating or declining systems comprise: Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chinese Taipei, Colombia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Indonesia, Iran, Ireland, Israel, Italy, Japan, Liechtenstein, Luxembourg, Malaysia, Mexico, Morocco, Netherlands, New Zealand, Norway, Portugal, Romania, Russia, Scotland, Slovak Republic, Spain, Sweden, Switzerland, Thailand, Tunisia, Turkey, USA

SOURCE: TIMSS, PISA, NAEP, national and provincial assessments

2. **Enhancing Ministry and school leadership** to ensure that every principal is focused on driving school improvement, and the best leaders are in the top 150-200 pivotal positions in the Ministry; and

3. **Upskilling English language teachers,** to ensure that they meet the minimum proficiency levels to teach the subject.

This does not mean that the reform initiatives will only address these three areas—there will be initiatives that address other issues such as curriculum enhancements and infrastructure upgrades. However, these three areas were selected as they are either fundamental drivers to improving quality (teachers and principals) or required for the country's overarching economic aspiration (English language).

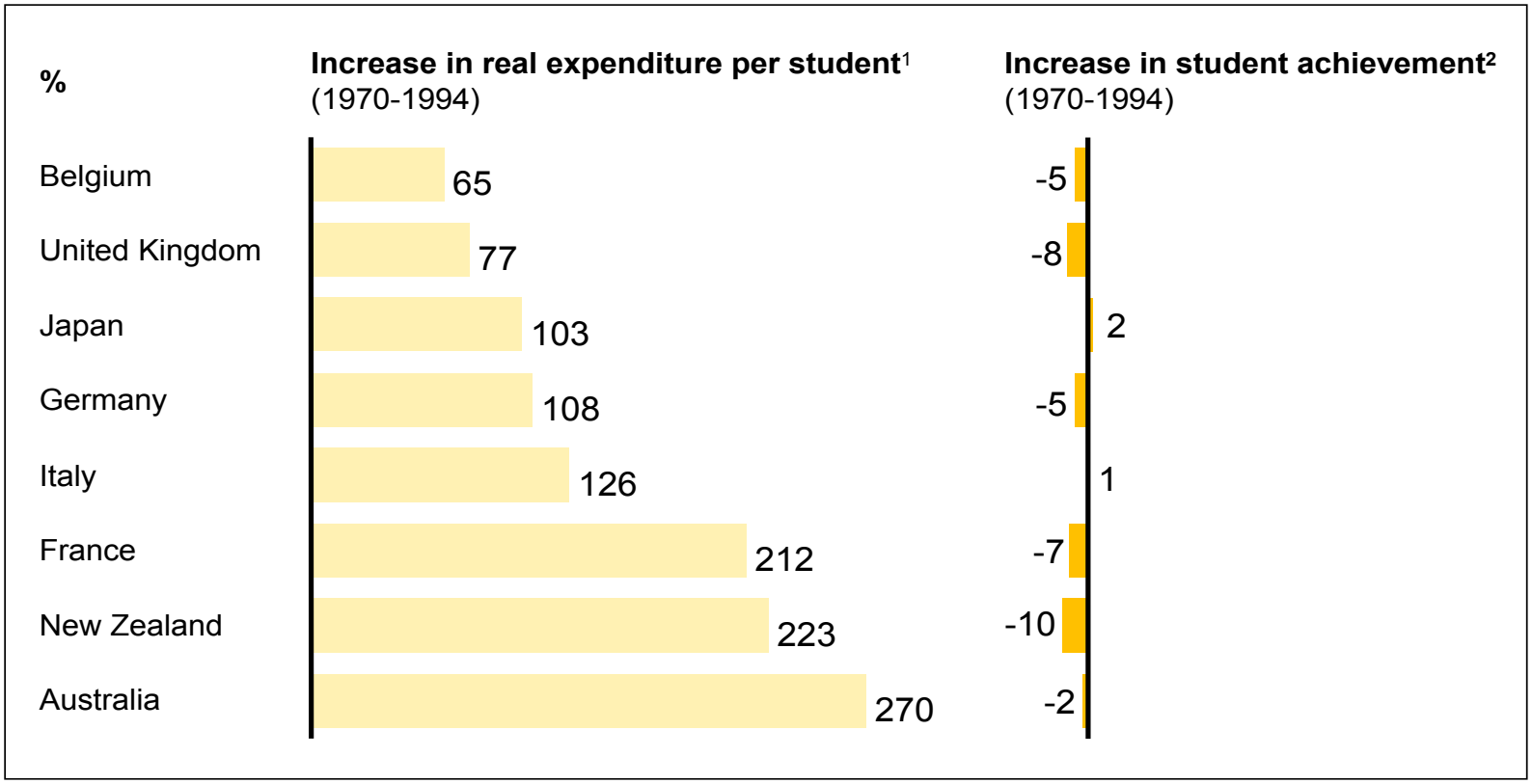
During Wave 2 (2016-2020), the Ministry will roll out structural changes aimed at accelerating the pace of change. The planning for all these initiatives, however, will begin in Wave 1. These include moving all 410,000 teachers and 10,000 principals onto a new career package, restructuring the federal, state and district offices and aligning them to new roles to better empower them to support schools, and introducing a new secondary and revised primary curriculum that addresses concerns regarding the knowledge, skills and values needed to thrive in today's global economy.

By the start of Wave 3(2021-2025), all schools, teachers, and principals should be performing well above the minimum standard. As such, the Ministry will focus on increasing operational flexibility to cultivate a peer-led culture of professional excellence. The Ministry will also move most, if not all schools, onto a school-based management model, and scale up successful models of instructional innovation. The goal is to create a self-sustaining system that is capable of innovating and taking achievements to greater heights.

Appendix VII contains a more complete list of initiatives that will be undertaken in each of the three waves.

EXHIBIT 8-2

Changes in expenditure and student achievement over 24 years



1 Real expenditure, adjusted using a price index of government goods and service
2 Mathematics and Science

SOURCE: UNESCO, EFA Global Monitoring Report 2005, Pritchett (2004), Woessmann (2002)

EXHIBIT 8-3

The education transformation will take place over 13 years

Wave 1 (2013-2015)
Turn around system by supporting teachers and focusing on core skills

- Tailored on-the-ground **teacher coaching** to raise teaching standards, particularly in core subjects of Bahasa Malaysia (BM), English language, Mathematics, and Science
- **Higher entry standards** for new teachers
- Dedicated **principal coaches** for Band 5,6 & 7 schools and **enhanced selection criteria** for principals to improve quality of school leadership
- **Examination questions revamped** with greater proportion focused on higher-order thinking skills
- **Uniform standards for BM rolled out at primary level, with remedial support for** students struggling in BM and English language
- **National 1BestariNet rolled out** to integrate ICT into day-to-day learning
- **District support focused on under-performing schools**, including those for students with specific needs, to accelerate school improvement
- **Enrolment drives**, greater **parental involvement,** and better **vocational programmes** to increase pre- and secondary school enrolment
- **Enhanced practicum** in vocational programmes through **greater private sector collaboration**
- **Ministry transformation beginning with best leaders placed in pivotal** JPN and PPD **positions** to improve delivery

Wave 2 (2016-2020)
Accelerate system improvement

- **Enhanced teacher coaching and support to** improve delivery of knowledge, skills, and values across all academic and non-academic aspects of curriculum
- **Competency and performance based progressions, enhanced career pathways,** and **improved pre-service training** to revitalise teaching profession
- **New secondary and revised primary curriculum** rolled out to raise content and learning standards to international benchmarks
- ***Peralihan*** **class ended, options for increased English language exposure piloted, and additional language provision strengthened** to improve overall language proficiency
- **ICT innovations** accelerated especially for distance and self-paced learning
- **Enhanced programmes for groups with specific needs** such as Indigenous and other minority groups, gifted, and special needs
- **Expanded vocational options through off-take agreements** with private vocational providers
- **Strengthened core divisions, streamlined federal, state, and district roles** and **restructured Ministry** to improve delivery capacity and capabilities

Wave 3 (2021-2025)
Move towards excellence with increased operational flexibility

- **Greater school-based management and autonomy** around curriculum implementation and budget allocation for most, if not all schools
- **Peer-led culture of professional excellence** where teachers and principals mentor one another, share best practices and hold peers accountable for meeting professional standards
- **Innovations and options** to continuously raise BM and English language proficiency are **scaled up** and **more choices of additional languages** provided
- **Nationally rolled out ICT innovations and programmes for groups with specific needs** to raise learning standards
- **Ministry strengthened and transformation institutionalised** with enhanced career progression for Ministry officials
- **School structure review** to determine if further optimisation of pathways and schooling options are necessary

Key outcomes

- 100% students literate in Bahasa Malaysia and numerate after 3 years of schooling; target for English literacy to be determined after baseline is established
- 92% preschool, 98% primary, 90% lower secondary, 85% upper secondary enrolment
- 25 % reduction in the urban-rural gap

- Malaysia's performance at par with international average at the next TIMSS and PISA cycle
- 100% preschool to lower secondary enrolment. 90% upper secondary enrolment
- 50% reduction in the urban-rural gap, 25% reduction in the socio-economic and gender gap

- Malaysia's performance on TIMSS and PISA in top third of systems
- Maintain or improve enrolment
- Maintain or improve urban-rural gap, 50% reduction in the socio-economic and gender gaps

Wave 1 (2013 to 2015): Turn around system by supporting teachers and focusing on core skills

The Ministry's focus during this phase will be on delivering a turnaround programme for the education system and arresting further decline in education outcomes. Early phases of the programme will cater to existing capability and capacity constraints and focus on more prescriptive initiatives. As described above, the focus will be on improving classroom instruction, enhancing Ministry and school leadership, and raising language proficiency levels. To this end, the Ministry will undertake initiatives in specific areas:

- **Tailored on-the-ground teacher coaching to improve classroom teaching:** Tailored coaching will start for teachers that are in most need of help, starting with teachers in Bands 5, 6 and 7 schools. Notably, this involves rolling out full-time SISC+ for the subjects of Bahasa Malaysia, English language, Mathematics and Science. These teacher coaches are responsible for rolling out the new curriculum and assessment format and training teachers on pedagogical skills. Additionally, a single competency-based teacher evaluation instrument will be introduced that will allow principals to evaluate teachers on an objective basis and identify strengths and development needs. The Ministry will also establish an *e-Guru* video library where teachers can access best-practice examples of good teaching.

- **Higher entry standards** for teacher trainee intakes across IPGs and IPTAs on both academic and non-academic dimensions. The Ministry will also put in place more stringent standards for graduation from teacher training programmes into teaching roles.

- **Dedicated principal coaches, and enhanced selection criteria for principals to improve quality of school leadership:** Strengthening the principal role will first require improving the processes to fill principal positions and enhancing the selection criteria to focus on meeting a minimum leadership competency requirement. The Ministry will also introduce improved succession planning for principals, with active identification and fast-tracking for teachers with the greatest leadership potential. To ensure that all principals have adequate support, principals of schools in Bands 5, 6, and 7 will receive guidance from SiPartners+, to help them improve their schools.

- **Examination questions revamped with greater proportion focused on higher order thinking skills:** By 2016, higher order thinking questions will make up 80% of UPSR questions, 80% of the Form 3 central assessment, 75% of the questions for SPM core subjects, and 50% of the questions for SPM elective subjects. This will refocus teachers' attention on developing higher order thinking skills. A comparable shift will be undertaken for school-based assessment questions.

- **Uniform standards for Bahasa Malaysia rolled out at primary level, with remedial support for students struggling in Bahasa Malaysia and English language:** The Ministry will standardise the Bahasa Malaysia curriculum and assessment across National and National-type primary schools from 2014 starting with the Year 4 cohort. In parallel, the Ministry will provide intensive remedial classes for National-type school students in Years 4 to 6 who are struggling to keep up with these raised standards. Low English proficiency is a problem across all school types. The successful LINUS programme will expand beyond basic Bahasa Malaysia literacy to include basic English language literacy to identify "at risk" students at an early stage in Years 1 to 3. The Ministry will also require all English teachers to undergo the CPT with those who fall short of minimum proficiency levels being required to undergo training.

- **National 1BestariNet roll out to integrate ICT into day-to-day learning:** 1BestariNet is a project initiated by the Ministry. Under this project, 10,000 primary and secondary public schools in Malaysia will be equipped with internet access and a VLE by the end of 2013, providing internet connectivity and access to a world-class Integrated Learning Solution. The Ministry will also ensure that all teachers are competent in the use of the VLE by 2015, and that sufficient fit-for-purpose devices are distributed to schools to enable them to make the most of this facility.

- **District support focused on under-performing schools, including those for students with specific needs, to accelerate school improvement:** The JPN and PPD roles will be redefined to provide them with greater decision rights and more direct interaction with schools. This increased operational flexibility will enable JPNs and PPDs to tailor policies and programmes to the specific contexts of their schools. Again, the initial priority will be on under-performing schools, including those for students with specific needs such as indigenous and minority groups. The Ministry will centralise some of the more administrative functions currently held by PPDs to give PPD officers more time to spend on the ground working with schools. A standard set of KPIs will be rolled out across all JPNs, PPDs and schools to ensure a common focus on the Blueprint's priorities.

- **Enrolment drives, greater parental involvement and better vocational programmes to increase preschool and secondary school enrolment:** The number of compulsory schooling years will be extended from 6 to 11 years, namely to the end of Form Five. There will also be concerted efforts towards universal preschool enrolment and raising quality standards across public and private preschools. Targeted preschool through to secondary school enrolment campaigns will be launched and the participation of parents will be encouraged and supported through the roll-out of a toolkit that provides parents with methods on how to support their child's learning. The roll-out of two new vocational education reforms – PAV in lower secondary and KV in upper secondary – will expand the number of places in vocational programmes and options available in the system.

- **Enhanced practicum in vocational programmes through greater private sector collaboration:** The Ministry is working with the industry to implement industry recognised curriculum in its vocational colleges. A key component of this curriculum is practicum placements to provide students with relevant work experience.

- **Ministry transformation beginning with best leaders placed in pivotal JPN and PPD positions:** The Ministry is redefining the roles of the JPN and PPD. Instead of being predominantly administrative managers, the JPN and PPD will be empowered to provide direct (and tailored) support to schools. With this redefinition of roles, the Ministry will deploy capable employees to the critical positions of JPN and PPD leaders.

Wave 2 (2016 to 2020): Accelerate system improvement

The focus during this phase will be to accelerate the pace of improvement by consolidating gains made during the first wave, and addressing each of the fundamental levers that underpin the execution ability of the Ministry. To this end, improvements will be made in the following areas during this period:

- **Enhance teacher coaching and support:** The Ministry will further strengthen the CPD programmes offered, allow for further individualisation of CPD plans, and improve the delivery of both academic and non-academic components of the curriculum.

- **Competency and performance-based progression, enhanced career pathways and improved pre-service training rolled-out:** The Ministry will launch a revised pre-service teacher education curriculum in IPGs that better reflects the new competencies expected of teachers. It will also discuss with MOHE incorporating similar curriculum at IPTAs. It will roll out faster progression based fully on merit and competency rather than tenure and an integrated professional development system linked to performance management. Enhanced pathways will be developed to allow teachers to progress based on interests and skills. Teachers who consistently underperform, despite concerted support, will be redeployed to other school-based functions such as data or discipline management.

- **New secondary and revised primary curriculum rolled out:** The Ministry will roll out the new KSSM, and an updated KSSR, in 2017. This curriculum will still stress student-centred and differentiated teaching, but have a greater emphasis on problem-based and project-based work, a streamlined set of subjects or themes, and formative assessments. The new curriculum will also support an accelerated learning pathway for high-performing students to complete the SPM in four rather than five years and the UPSR in five rather than six years. Additionally, clear learning standards will be laid out so that students and parents understand the progress expected within each year of schooling.

- ***Peralihan* class ended, options for increased English language exposure piloted and additional language provision strengthened:** The *peralihan* class, which provided remedial support for students struggling in Bahasa Malaysia will be stopped, with the expectation that students will receive remedial support at an earlier stage. Next, the Ministry will explore introducing options to promote increased English language exposure such as expanding the compulsory English Literature component in secondary schools. Once the Ministry has strengthened the standards of Bahasa Malaysia and English language in the current school system, it will look into ways to encourage the learning of additional languages. For example, it will train and deploy more Chinese, Tamil and Arabic language teachers to primary and secondary schools.

- **ICT innovations:** With the basics in place the Ministry will start to explore how innovations, particularly relating to distance and self-paced learning could be used to expand access to high quality teaching regardless of a student's location or skill level.

- **Enhanced programmes for groups with specific needs:** Groups such as Indigenous and other Minority Groups (IOM), gifted and talented students, and special needs students frequently have needs that are not sufficiently catered to in the mainstream system. During Wave 2, the Ministry will roll out an accelerated learning pathway option for high-performing students, and a gifted and talented programme for the top 1% of every student cohort. The Ministry will also strengthen existing programmes for special needs

and IOM students by investing additional physical and teaching resources to allow for an expansion of places and greater tailoring of support to the contexts of these specific student groups.

- **Strengthened core divisions, PPD and JPN roles, and restructured Ministry to improve Ministry delivery:** Building upon Wave 1 and the redefined PPD and JPN roles, core divisions of the Ministry, namely BPPDP, BPK, BPG, JNJK and LP will be strengthened. The overall organisation will also be restructured to eliminate silos and shift more personnel to the JPN and PPD offices which provide frontline support to schools.

Wave 3 (2021 to 2025): Move towards excellence with increased operational flexibility

The focus of the third wave is on accelerating the performance improvement trajectory of Malaysia's education system, moving it into the top third world-wide, and starting to embark on the journey to excellence. To this end, this phase will focus on increasing school-based management and cultivating a peer-led culture of professional excellence, capable of innovating and taking achievements to greater heights by ensuring the following:

- Greater school-based management and autonomy on issues related to curriculum implementation and budget allocation for any school that meets a minimum performance criteria. Teachers and all school leaders should fully utilise the flexibility accorded to them. For teachers, this includes flexibility over professional issues related to curriculum timetabling and lesson organisation, pedagogical approaches and school-based assessment. For school leaders, this includes flexibility on instructional leadership matters such as school improvement, curriculum and co-curriculum planning, and administrative leadership matters such as allocation of school funds;
- The creation of a peer-led culture of professional excellence wherein teachers mentor and inspire one another, share best practices and hold their peers accountable for meeting professional standards. The Ministry may also consider setting up a certification scheme that is linked to the mastery of teacher competencies set out in Wave 1;
- Innovations that successfully raise Bahasa Malaysia and English language proficiency are scaled up and provision of additional languages expanded;
- Nationally roll out ICT innovations and programmes for groups with specific needs to continuously raise learning standards;
- New career pathways and progression based on competencies and performance rolled out for all Ministry officials to strengthen and institutionalise Ministry transformation; and
- School structure reviewed to determine if further optimisation of pathways and schooling options are necessary.

DELIVERING DIFFERENTLY

A well-conceived plan is only the starting point of an effective transformation. Having articulated what the aims of the education system are and when they need to be achieved, the final, critical piece that remains is defining how the Ministry will do this.

The Ministry used three sources of information and experience to identify delivery elements that will enable it to successfully tackle the challenges that lie ahead: (i) research into the world's most improved school systems; (ii) examples of successful transformations from Malaysian states; and (iii) in-depth analyses of the specific challenges Malaysia faces in attempting to improve the education system. The critical elements to initiate and ignite successful education reform are as follows:

Strengthening leadership commitment and capabilities in the Ministry

Systems that improve rapidly place strong transformational leaders in the most pivotal roles at every level in the education system, be it national, state, district, or school. These leaders champion the changes and keep the momentum going. Some of them are drawn from outside the school system or the Ministry of Education, many come from within it. These systems also identify, cultivate, and develop the leadership capabilities of the next generation of system leaders to ensure continuity and consistency in the transformation efforts.

Several roles throughout the Ministry will be strengthened immediately to enable them to successfully support the transformation effort. These roles include the 16 JPN Directors and 138 PPD heads, as well as another 20 to 40 Federal level roles. Collectively, these 150 – 200 roles are directly in touch with 27,000 Ministry staff and 420,000 principals and teachers. The Ministry has started reviewing competency profiles and developing succession plans to ensure that these roles are staffed with highly-skilled individuals capable of transforming the departments and schools under them. As with teachers and principals, the intent is to promote officers to these critical roles based on their performance and competency, and not by tenure. The Ministry will also ensure that these leaders receive the professional development they need to excel in their role. Further, top Government and Ministry leadership, including Prime Minister and Minister of Education are committed to regularly reviewing progress, providing guidance, and resolving issues related to the Blueprint.

Establishing a small, high-powered delivery unit to drive Blueprint delivery

International experience shows that successfully managing the transformation with the necessary rigour and discipline requires establishing a small and high-powered programme office to support the leadership of the Ministry. This office monitors progress, problem solves, delivers, and manages the communication with regard to the transformation. The Ministry will build on existing delivery capabilities to install an Education Delivery Unit (EDU) tasked with driving Blueprint delivery across the Ministry and schools.

The new EDU will drive execution of Blueprint initiatives and interact with the public to keep them informed of Blueprint progress and gather ongoing feedback. The EDU will integrate the current functions of the Delivery Management Office (DMO), and the Project Management Office (PMO). Driving the execution of education initiatives extends beyond tracking progress. The EDU also will provide on-the-ground problem solving and act as the first point to escalate issues for the Ministry on a day-to-day basis. It is important to note is that the EDU will play a supporting role; the accountability for delivering remains with the key people in the Ministry.

The composition of the EDU is critical to its success. The EDU will have a leader who has a track record for delivering big, fast results and a broad range of influencing skills. The rest of the EDU will comprise fifteen to twenty highly skilled employees, from both the public and private sectors. These individuals will consist of some of the top talent in Malaysia and possess a strong track-record in problem solving, delivery, and engagement.

Intensifying internal and external performance management

Successful school reforms go beyond programme design to dramatically improve the effectiveness and efficiency of the Ministry of Education itself. Integral to this is to establish a performance

management system that sets high expectations of individuals, rewards strong performance, addresses poor performance and provides support needed for individuals to achieve their targets.

Establishing consistent Key Performance Indicators (KPIs)

Using the five system aspirations and initiative KPIs as a basis, KPIs will be set for individuals throughout the system. Initially, KPIs will be set for the Ministry senior leadership—the Minister of Education, Secretary-General of Education or *Ketua Setiausaha* (KSU) and Director-General of Education or *Ketua Pengarah Pelajaran Malaysia* (KPPM). The Minister's performance will be measured by the performance of the Blueprint as a whole. The KSU and KPPM's performances will be measured on the basis of the progress of the initiatives that fall under their purview. Once this is done, KPIs will be set for the remaining 150 to 200 roles identified as critical to the Blueprint, including pivotal Ministry roles, JPN Directors, and PPD heads. Finally, KPIs will be cascaded down to the remaining individuals in the organisation.

Monitoring KPIs rigorously, conducting regular and robust feedback conversations based on differentiated performance, and providing meaningful rewards and consequences

For KPIs to be meaningful, individuals must be both supported and challenged to reach their targets. This means that detailed, regular developmental feedback must be used in combination with objective and meaningful rewards and consequence management. Once every six months, KPPM and KSU will have a half-an-hour in-person session with individuals in pivotal Ministry roles to conduct detailed performance assessments and provide feedback. This practice should cascade down the organisation so that all leaders have rigorous performance discussions with their subordinates. Following these discussions, individuals will be provided with the professional development support needed to improve their performance. If performance remains poor over a prolonged period of time despite this professional development support, employees may be redeployed to alternative roles that they are better suited to. Over time, this should form a virtuous cycle—rewards and consequence management will incentivise individuals to work towards their KPIs and the developmental feedback will identify the support individuals will need to achieve their KPIs.

Publishing targets, and regularly reporting performance

The Ministry will publicly commit to education targets and Education Minister KPIs for 2015, 2020, and 2025. Performance results will be published annually so the public can track progress on the Blueprint.

Engaging Ministry officials and other stakeholders

Successful systems recognise that the success or failure of a reform movement hinges on getting the buy-in of their biggest constituents: parents, students, teachers, principals, and Ministry officials and leaders. To that end, a successful transformation relies on keeping the system and public engaged through extensive public consultation, engagement, and dialogue.

Engaging Ministry officials

Ministry officials were consulted extensively in the development of the Blueprint. Closed-door roundtable sessions were held with Ministry officials and townhalls were conducted in each state to solicit teacher and principal perspectives. This is only the start of continuous, regular dialogues across all levels of the Ministry with regard to the Blueprint. As the Blueprint initiatives are rolled out, the Ministry will continue to solicit feedback from all Ministry officials and will regularly communicate progress to ensure the entire education system is engaged in the transformation process.

Constantly communicating with other stakeholders

The Ministry will consistently communicate to the public the rationale for change, the vision, priorities, setbacks met along the way, progress, and results in terms of the Blueprint. Much of this will take place over multiple types of media such as the press and the internet. However, the Ministry will also set up two-way channels of communication that will allow Blueprint execution to continuously adapt to public feedback.

Firstly, the Ministry will continue holding closed-door roundtables with stakeholder groups such as teacher unions and other interest groups to ensure that all sections of society have a voice and a stake in this educational transformation. Secondly, the Ministry will, wherever possible, involve the public in the execution of the Blueprint. This includes soliciting greater parental involvement through the parent toolkit, involving business representatives and alumni in trust schools, and engaging communities in decisions on under-enrolled schools.

GETTING STARTED

The first year, particularly the first hundred days, can define the success of a transformation. The Malaysian education system is entering an intensive period of change. Some of the most significant results of these changes, such as improvements in performances on international assessment, will only be visible a few years down the road. However, over the next twelve months, the public can expect to see significant changes in the way the system is run that will form the foundations of these future results. Here is what to expect over the coming months:

The run-up to the Final Blueprint

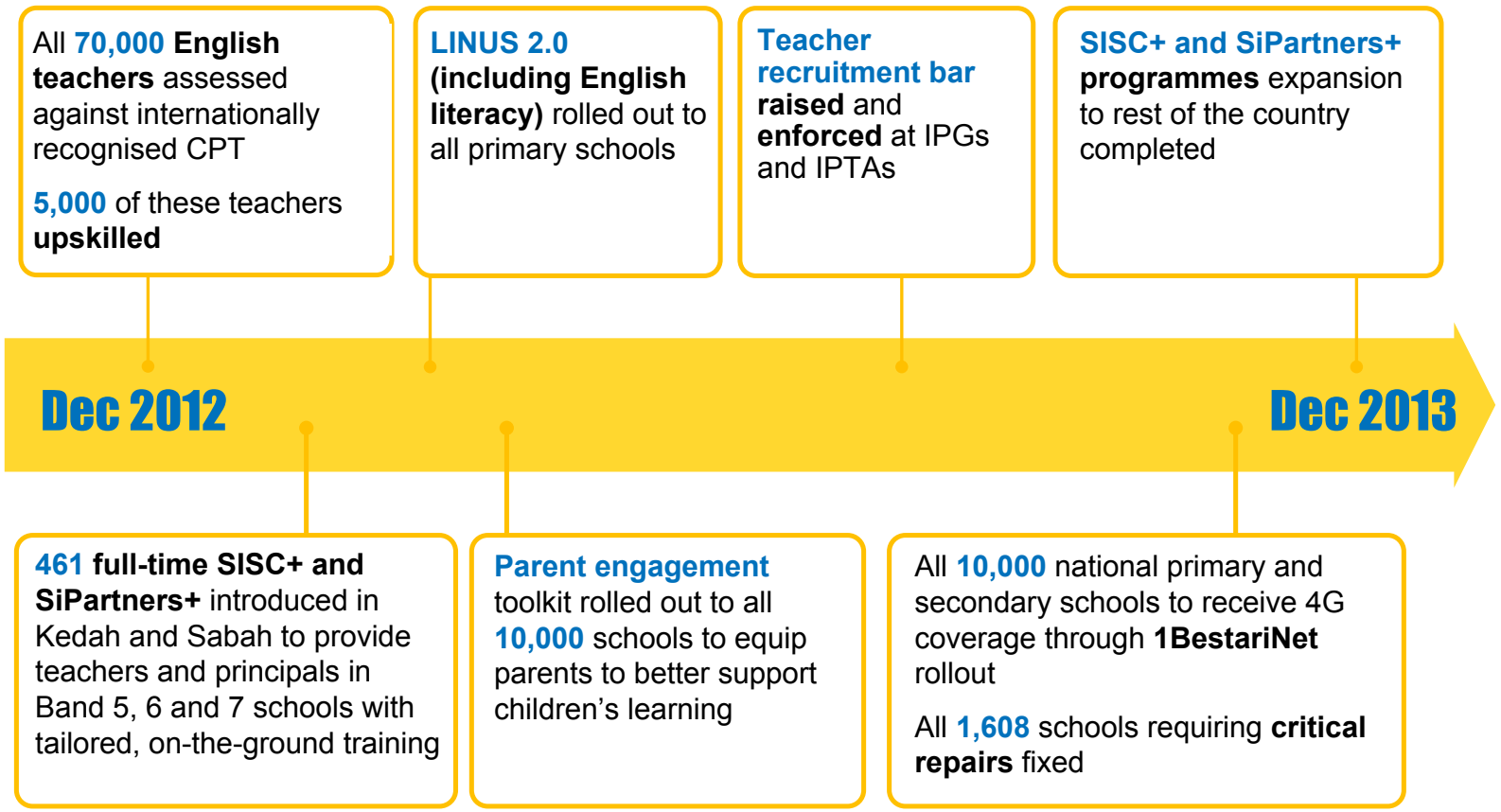
- **Extensive public consultation:** Once this Blueprint is released, the Ministry will embark on a second round of intensive public consultations to gather feedback from different stakeholder groups to incorporate into Final Blueprint. The Ministry will conduct another round of town hall discussions and repeat all closed-door sessions with various stakeholder groups. The Malaysian Review Panel and International Review Panel will also formally review the Blueprint and submit a final round of feedback.
- **Release of the Final Blueprint:** By mid-December 2012, the Ministry will have consolidated all feedback, incorporated it, and submitted the Final Blueprint to the Cabinet.

Early changes and results

The Ministry recognises the urgency and the importance of the task at hand. In parallel to writing the Final Blueprint, the Ministry will start taking immediate action in a few critical areas. Many of these actions will form the foundations of dramatic changes further down the road. However, the Ministry also recognises the need to deliver outcomes quickly and consistently in order to build and maintain the momentum of the transformation. Over the next 12 months, the Ministry commits to delivering the changes and outcomes in Exhibit 8-4:

EXHIBIT 8-4

Early results within the coming 12 months



The changes laid out in the entirety of this Blueprint are ambitious, and geared towards delivering a comprehensive, sustainable and rapid transformation of the education system. These changes are sequenced over three waves to build successively on one another as the system's capacity and capabilities improve. The first wave of the transformation will focus on strengthening the foundations of the system through a focus on raising teacher quality and improving school leadership quality. The second wave will introduce more structural changes to accelerate the pace of change, from new teacher and principal career packages to a new secondary and revised primary school curriculum. The final wave of reform aims to create a peer-led culture of professional excellence. This means greater operational flexibility at the school level—giving districts and schools the ability to make decisions that work for their individual communities and students.

Looking to the future, the only way to ensure that the Malaysian education system continues to be relevant in a constantly changing world is to integrate a spirit of innovation and creativity into the system itself. This paradigm shift must occur at every level—federal, state, district, school, and teacher. It is only through this collective effort and transformation on the part of every single stakeholder can the Malaysian education system become truly able to tackle the ever-changing challenges of the 21st century.

GLOSSARY

1BestariNet	A project to equip all public schools in Malaysia with high-speed 4G internet access and a VLE.
3Rs	**R**eading, W**R**iting, and A**R**ithmetic.
4G	Fourth-generation wireless, is a type of technology that can be used with cellular phones, wireless computers, and other mobile devices. This technology gives users faster access to the internet than most previous third-generation (3G) networks can offer, and it also offers new user options such as the ability to access high-definition (HD) video, high-quality voice, and high-data-rate wireless channels via mobile devices.
AKEPT	*Akademi Kepimpinan Pengajian Tinggi* or Higher Education Leadership Academy.
Band	School categorisation by performance on a scale of 1 to 7 according to composite score.
BISP	*Bayaran Insentif Subjek Pendidikan* or Incentive Payment for Educational Subjects.
BPG	*Bahagian Pendidikan Guru* or Teacher Education Division.
BPK	*Bahagian Pembangunan Kurikulum* or Curriculum Development Division.
BPKhas	*Bahagian Pendidikan Khas* or Special Education Division.
BPPA	*Bahagian Perolehan dan Pengurusan Aset* or Procurement and Asset Management Division.
BPPDP	*Bahagian Perancangan dan Penyelidikan Dasar Pendidikan* or Educational Policy, Planning and Research Division.
BPSBPSK	*Bahagian Pengurusan Sekolah Berasrama Penuh dan Sekolah Kecemerlangan* or Fully Residential School and Excellent School Management Division.
BPSH	*Bahagian Pengurusan Sekolah Harian* or Public School Management Division.
BPSM	*Bahagian Pengurusan Sumber Manusia* or Human Resources Management Division.
BTP	*Bahagian Teknologi Pendidikan* or Educational Technology Division.
BPTV	*Bahagian Pendidikan Teknikal dan Vokasional* or Technical and Vocational Education Division.
Cambridge 1119	English language “1119” paper for GCE O-Level.
CEFR	Common European Framework for References.
Composite score	A measure of school performance developed for the NKRA. It is calculated by taking the weighted average of a school’s percent GPS (70%) and SKPM (30%).
CPD	Continuous Professional Development.
CPT	Cambridge Placement Test.

CS	Cluster School. A school of excellence in a specialised field.
DE	Development Expenditure spent on property and plant, building, infrastructure and other assets.
DG[#]	Public Sector Employment Category for Education.
District Transformation Programme	Programme to enable all states and districts to substantially improve performance of schools.
DVM	*Diploma Vokasional Malaysia* or Vocational Diploma of Malaysia. A post-secondary qualification for vocational education.
ECCE	Early Childhood Care and Education.
EDU	Education Delivery Unit, a new unit to be established at the ministry to oversee implementation of the blueprint.
ELTC	English Language Training Centre.
EMIS	Education Management Information System.
FELDA	Federal Land Development Agency.
GDP	Gross Domestic Product.
GPS	*Gred Purata Sekolah* or School Grade Point Average. A weighted average of all the national assessments taken by the students in the school. It is a measure of the academic performance of schools.
GTP	Government Transformation Programme. An initiative by the Government of Malaysia aimed at addressing key areas of concern to the *rakyat* while supporting Malaysia's transformation into a developed and high-income nation as per Vision 2020.
HPS	High Performing School.
IAB	*Institut Aminuddin Baki* or Aminuddin Baki Institute. The training institute for principals.
IB	International Baccalaureate.
ICT	Information and communication technology.
IEA	International Association for the Evaluation of Educational Achievement.
IGCSE	International General Certificate of Secondary Education.
IOM	Indigenous and other minority groups. Refer to *Perlembagaan Persekutuan 1965*.
IPG	*Institut Pendidikan Guru* or Teacher Education Institute.
IPTA	*Institut Pengajian Tinggi Awam* or Public Institute of Higher Education.

IPTS	*Institut Pengajian Tinggi Swasta* or Private Institute of Higher Education.
ISO	International Organisation for Standardisation.
ISTE	International Society for Technology in Education.
ITU	International Telecommunications Union.
JNJK	*Jemaah Nazir Dan Jaminan Kualiti* or Schools Inspectorate And Quality Assurance.
JPN	*Jabatan Pelajaran Negeri* or State Education Department.
K9 Special Comprehensive Model School	Schools that provide residential education from Primary Year 1 to Secondary Form 3 for IOM. The main objective is to reduce the drop-out rate between Year 6 and Form 1.
KAP	*Kurikulum Asli dan Penan* or Curriculum for the *Orang Asli* and Penan Communities.
KBSM	*Kurikulum Bersepadu Sekolah Menengah* or Secondary School Integrated Curriculum. Will be phased out in favour of KSSM.
KBSR	*Kurikulum Bersepadu Sekolah Rendah* or Primary School Integrated Curriculum. In the process of being phased out in favour of KSSR.
KEDAP	*Kelas Dewasa Orang Asli dan Pribumi* or Adult Classes for the *Orang Asli and Prebumi* communities.
KKPP	*Kursus Kepimpinan dan Pengurusan Pendidikan* or Educational Leadership and Management Course.
KOMPAS	*Kompetensi Pemimpin Sekolah* or School Leadership Competency.
KPI	Key Performance Indicators.
KPLI	*Kursus Perguruan Lepasan Ijazah* or Post-graduate course in education.
KPPM	*Ketua Pengarah Pelajaran Malaysia* or Director-General of Education.
KSSM	*Kurikulum Standard Sekolah Menengah* or Secondary School Standard Curriculum. A standard-based curriculum for secondary schools to be ready for roll-out to Form 1 students in 2017.
KSSR	*Kurikulum Standard Sekolah Rendah* or Primary School Standard Curriculum. A standard-based curriculum for primary schools that commenced roll-out in 2011.
KSU	*Ketua Setiausaha* or Secretary-General
KV	*Kolej Vokasional* or Vocational College.

KWAPM	*Kumpulan Wang Amanah Pelajar Miskin* or the Underprivileged Students' Trust Fund. A programme established by the Ministry of Education to provide cash handouts to students from poor households.
Laluan Pintas	Fast-track programme for high-performing students to compress Year 1 and 2 into a single year.
LINUS	Literacy and Numeracy Screening Programme. A remedial programme designed to ensure students acquire basic literacy and numeracy skills at the end of three years of primary education.
LEPAI	*Lembaga Penasihat dan Penyelarasan Pendidikan Agama Islam* or Islamic Education Coordination and Advisory Board.
LNPT	*Laporan Nilaian Prestasi Tahunan* or the annual performance report.
LP	*Lembaga Peperiksaan* or Examination Syndicate.
MBMMBI	*Memartabatkan Bahasa Malaysia dan Memperkukuhkan Bahasa Inggeris* or Policy to Uphold Bahasa Malaysia and to Strengthen the English Language.
MBS	Modified Budgeting System.
MOHE	Ministry of Higher Education.
MOSTI	Ministry of Science, Technology, and Innovation.
MOU	Memorandum of Understanding.
MPM	*Majlis Peperiksaan Malaysia* or Malaysian Examination Council, responsible for administering the STPM examination.
MQA	Malaysian Qualifications Agency.
MRSM	MARA Junior Science Colleges.
MYP	Middle Year Programme under the IB programme.
NKEA	National Key Economic Area. Economic sectors that will drive economic growth under the Economic Transformation Programme. Education is one of the NKEAs.
NKRA	National Key Result Area. Priority area in which the Government of Malaysia will focus on to improve the efficiency and quality of government services. Education is one of the NKRAs.
NPQEL	National Professional Qualification for Educational Leaders.
NPQH	National Professional Qualification for Headship.

National Dialogue	Engagement and consultation process on the Malaysian education system, conducted between April and July of 2012 with various stakeholder groups and almost 12,000 members of the public.
Norms-referencing	Assessment of each student's achievement relative to that of all other students taking the same examination in that particular year. This is similar to using a bell curve to determine a student's standing.
OBB	Outcome Based Budgeting.
OE	Operating Expenditure that includes emolument, supplies and services, asset maintenance, awards.
OECD	Organisation for Economic Co-operation and Development.
OPS English	Oral Proficiency in English language for Secondary School programme.
OTJ	On-the-job.
OMA	Operating and Management Agreement.
P & P	*Pengajaran dan Pembelajaran* or Teaching and Learning.
PAV	*Pendidikan Asas Vokasional* or Basic Vocational Education.
PBS	*Pentaksiran Berasaskan Sekolah* or School-based Assessment.
PEMANDU	Performance Management and Delivery Unit, part of the Prime Minister's Office. Its objective is to oversee the implementation, assess the progress, facilitate as well as support the delivery and drive the progress of the GTP and the Economic Transformation Programme.
Percent GPS	Calculated from the school's GPS to allow for comparability between national assessments. It is based on a standard formula and is also a measure of the academic performance of schools.
PERMATApintar	National gifted education programme.
PISMP	*Program Ijazah Sarjana Muda Pendidikan* or the Bachelor of Education programme.
PIBG	*Persatuan Ibu Bapa dan Guru* or Parent-Teacher Association.
PIPP	*Pelan Induk Pembangunan Pendidikan* or Education Development Master Plan.
PISA	Programme For International Student Assessment, a widely recognised international assessment coordinated by the OECD. Conducted every three years, PISA aims to evaluate proficiency in Reading, Mathematics, and Science in students aged 15 years old.
PMR	*Penilaian Menengah Rendah* or Lower Secondary Assessment. National assessment taken at Form 3 level.

PPD	*Pejabat Pendidikan Daerah* or District Education Office.
PPP	Public-private partnership.
PPSMI	*Pengajaran dan Pembelajaran Sains dan Matematik dalam Bahasa Inggeri*s or the Teaching and Learning of Science and Mathematics in English Language.
Remove class	Transition programme, lasting for one year, to build Bahasa Malaysia competency in students transitioning from SJK(C) or SJK(T) to SMK.
ROI	Return on investment.
RIMUP	*Rancangan Integrasi Murid untuk Perpaduan* or Student Integration Plan for Unity. A programme to foster interaction across different school types through shared co-curricular activities.
RMT	*Rancangan Makanan Tambahan* or Supplementary Food Programme.
Rukunegara	The National Principles or national philosophy instituted by royal proclamation in 1970.
SABK	*Sekolah Agama Bantuan Kerajaan* or government-aided religious school.
SAPS	*Sistem Analisis Peperiksaan Sekolah* or School Examination Analysis System.
SBP	*Sekolah Berasrama Penuh* or full boarding school.
SEAMEO-SEN	Southeast Asian Ministers of Education Organisation Regional Centre for Special Education.
Set system	Grouping of students with similar levels of English language proficiency. Sets will be smaller than normal classes (approximately 20 to 30 students) and will allow teachers to tailor pedagogical styles according to skill level and learning requirements for teaching English language.
SEIP	Special Education Integrated Programme. Mainstream schools with specific classes dedicated to students with special needs.
SISC +	Full-time School Improvement Specialist Coach.
SiPartner+	School Improvement Partner. Term for principal coach.
SIP	School Improvement Programme.
SIS	Student Information System.
SJK(C)	*Sekolah Jenis Kebangsaan (Cina)* or National-type Chinese school for primary education.
SJK(T)	*Sekolah Jenis Kebangsaan (Tamil)* or National-type Tamil school for primary education.

SK	*Sekolah Kebangsaan* or National school for primary level.
SK (Asli)	*Sekolah Kebangsaan (Asli)* or National school catering predominantly to the Orang Asli community. Not a formal school type.
SKM (1)	*Sekolah Kurang Murid* or under-enrolled school.
SKM (2)	*Sijil Kemahiran Malaysia* or Malaysian Skills Certificate.
SKPM	*Standard Kualiti Pendidikan Malaysia* or Malaysian Education Quality Standard. A self-assessment conducted by schools based on a standard established by JNJK.
SMK	*Sekolah Menengah Kebangsaan* or National secondary school.
SMKA	*Sekolah Menengah Kebangsaan Agama* or National religious secondary school.
SMV	*Sekolah Menengah Vokasional* or vocational secondary school.
SPM	*Sijil Pelajaran Malaysia* or Malaysian Certificate of Education. National assessment conducted at Form 5 level.
SPP	*Suruhanjaya Perkhidmatan Pendidikan* or Education Service Commission.
SPPBS	*Sistem Pengurusan Pentaksiran Berasaskan Sekolah* or School-based Assessment Management System.
SSQS	Smart School Qualification Standards.
STAM	*Sijil Tinggi Agama Malaysia* or Malaysian Religious Higher Certificate, a post-secondary qualification considered equivalent to STPM.
Standard Referencing	Assesses student achievement against fixed standards, irrespective of the year of participation or peer performance. Student performance is evaluated against these standards for each grade level to allow for accurate comparison of results across different years.
STPM	*Sijil Tinggi Persekolahan Malaysia* or Malaysian Higher School Certificate. National assessment conducted at Form 6 level.
TALIS	Teaching and Learning International Survey.
TIMSS	Trends in Mathematics and Science Study, an international assessment of student performance in Math and Science. It is conducted every four years for students in Grades 4 and 8 (equivalent to Year 4 and Form 2).

Trust school	Public schools that are managed jointly by private partners and school leaders. Trust schools receive greater decision-making autonomy with greater accountability to enable innovation and improved student outcomes.
UNDP	United Nations Development Programme.
UNESCO	United Nations Educational, Scientific and Cultural Organisation.
Universal Scale	A scale that normalises results from international assessments such as TIMSS, PISA, NAEP and other assessments in order to compare different countries.
UPSR	*Ujian Penilaian Sekolah Rendah* or Primary School Evaluation Test. National assessment conducted at Year 6 level.
VLE	Virtual Learning Environment.

APPENDICES

Appendix I: A Brief History of Education in Malaysia

An excerpt from "Education in Malaysia: A Journey to Excellence," 2008, Ministry of Education, Malaysia.

Since independence, education in Malaysia has undergone tremendous changes and development. From a diverse and fragmented system of education based upon communal needs, it has evolved into an education system that strives to build a united nation according to the Malaysian mould. Malaysia aims to produce a competitive society that is strong, united and resilient in facing challenges and adversity.

PRE-INDEPENDENCE: EDUCATION DURING THE BRITISH OCCUPANCY (1824 TO 1957)

Prior to attaining independence from the British in 1957, there was an absence of uniformity in the provision of education. Each ethnic group established its own school. Malay, English, Chinese and Tamil schools used their respective medium of instruction, curricula, books and teachers. Children of different ethnic background could only study together in the English schools. Teachers for the Chinese and Tamil schools were brought in from China and India respectively while local Malays were recruited to teach in Malay schools. At that time, education was focused on maintaining loyalty towards the country of origin. As a result, segregation existed among the ethnic groups.

POST INDEPENDENCE: EDUCATION DURING POST-INDEPENDENCE (1957 TO 1970)

Prior to independence, there was awareness amongst the leaders and the locals for the need to replace the education systems left behind by the colonists with one common education system for all. This awareness resulted in the Razak Report 1956. The Education Committee Report 1956 established an education system that incorporated national characteristics and guaranteed a place in schools for all children regardless of their ethnicity or religion. The education policies outlined in the Razak Report were the foundation for the formulation of a national education system that placed high emphasis on national unity. (See Exhibit I-1 for a list of major education reports).

In 1960, a Review Committee looked into the implementation of recommendations made by the Razak Report. The findings of this committee, commonly known as the Rahman Talib Report, confirmed the educational policy in the Razak Report and its general acceptance by the public. The recommendations of these two reports became the integral components of the Education Act 1961. In January 1976, the Act was extended to Sabah and Sarawak, which had been incorporated into the formation of Malaysia in 1963.

EXHIBIT I-1

List of Important Education Committee Reports

1. Barnes Report 1951
2. Fenn-Wu Report 1951
3. Razak Report 1956
4. Rahman Talib Report 1960
5. Higher Education Committee Report 1967
6. Dropout Report 1973
7. Cabinet Committee Report 1979
8. Cabinet Committee Report on Training 1991

The most important challenges facing the new nation after independence were unity and democratisation of education. The process of consolidating the diverse school systems into a cohesive national education system, with the national language as the main medium of instruction, was initiated during this period. In 1957, all existing primary schools were converted to national and national-type schools. Bahasa Malaysia medium primary schools were renamed national schools. English, Chinese and Tamil schools became national-type primary schools. Whilst Bahasa Malaysia was the medium of instruction in national schools, English and the vernacular languages were the medium of instruction in national-type schools. The national language was made a compulsory subject in these national type-schools. The English national-type schools were converted into national schools in stages beginning 1968, with the implementation of five subjects taught in Bahasa Malaysia for Year One to Year Three students.

English and Chinese secondary schools were converted to national-type secondary schools. These schools became fully or partially assisted schools. Private Chinese Schools that opted to become government-aided schools were termed as Conforming schools. The year 1958 marked the beginning of Bahasa Malaysia medium secondary education. Bahasa Malaysia medium secondary classes started as an annex in English secondary schools. These classes eventually developed into national secondary schools.

Dewan Bahasa dan Pustaka (1956) and the Language Institute (1958) were responsible for the development of Bahasa Malaysia. The main function of the Language Institute was to train Bahasa Malaysia specialist teachers. The *Dewan Bahasa dan Pustaka's* main function was to promote Bahasa Malaysia as the national language, and to produce textbooks and reference books in the national language.

In 1962, school fees were abolished in all fully assisted primary schools. Free primary education was made available to all children regardless of their ethnic group or religion. The entrance examination into the secondary school, the Malaysian Secondary School Examination was abolished in 1964 and universal education was extended from six to nine years in Peninsular Malaysia. This examination was abolished in Sarawak in 1974 and in Sabah in 1977.

The national agenda to unite the various ethnic groups in Malaysia started with the reformation of the curricular. Curricular reforms were focused on reviewing the existing syllabuses and designing a common content curriculum with a Malaysian outlook. The first comprehensive review of the scope and content of what was taught in schools was conducted in 1956. The General Syllabus and Review Committee was set up in 1964 to revise, amend or in some cases to devise new syllabuses. A comprehensive education system for lower secondary education was introduced in 1965. Technical and vocational education was given an impetus with the establishment of the Technical and Vocational Education Division in 1964.

EDUCATIONAL DEVELOPMENT DURING THE ERA OF NEW ECONOMIC POLICY (1971 TO 1990)

Social and economic issues shaped the development of education from 1971 to 1990. Racial harmony and efforts to curb economic imbalances in the society were crucial to sustain development, stability and progress. This was the period of the New Economic Policy (NEP) that is a socio-economic policy to achieve unity and development. The focus was on eradicating poverty and restructuring the Malaysian society to eliminate the identification of race with economic function and geographical location. Improving the income of the poor especially in rural areas, bridging disparities between races and location, increasing production and creating more opportunities in the commercial, industrial and professional sectors were of paramount importance.

The NEP brought about significant changes in the national education system. All students followed the same curriculum and sat for the same examinations. Civics was introduced as a subject to instil self reliance in students. Science and technical subjects were offered at the secondary level to produce skilled workforce in the areas of science and technology.

The aim of achieving unity through the use of Bahasa Malaysia as the medium of instruction in all primary and secondary schools had begun since 1970, and implemented in stages. In Peninsular Malaysia and Sabah, English ceased to be the medium of instruction at the primary level in 1975, at the secondary level in 1982, and at the tertiary level in 1983. In Sarawak, the conversion of the medium of instruction was implemented in 1977 beginning with Year One.

Today Bahasa Malaysia is the medium of instruction in all national schools and a compulsory subject in Chinese and Tamil schools. English is taught as a second language in all schools. In 1980, the *Sijil Pelajaran Malaysia* (SPM) examination was conducted in Bahasa Malaysia. In 1970, English ceased to be the medium of instruction for teacher training at the primary level.

The provision of education, which was more focused in urban centres, was extended to the rural areas. More schools were built in the rural areas, providing greater access for rural children, especially the economically disadvantaged. In addition, the government introduced support programmes such as the fully residential schools, science schools, rural school hostels, the textbook loan scheme and educational television programmes. The government also expanded the provision of scholarships, the school meal programme and health programmes.

In 1974, a Cabinet Committee was formed to study the implementation of the national education system. The focus of this committee was to ensure that the education system was able to produce citizens who are united, progressive, disciplined and talented in diverse fields as required to achieve the national mission. As a result of the Cabinet Committee Report, the Integrated Primary School Curriculum (KBSR) was formulated in 1983 and the Integrated Secondary School Curriculum (KBSM) was formulated in 1989. The National Education Philosophy was also formulated in 1988 to guide and strengthen the nation's education system.

EDUCATION DEVELOPMENT DURING THE ERA OF NATIONAL DEVELOPMENT POLICY (1991 TO 2000)

Drastic changes in education took place in the last decade of the 20th century. The vast development of ICT hasten the globalisation era. In concurrence with the demands of globalisation and the information and technology era, Vision 2020 was launched by Dato' Seri Dr. Mahathir Mohamad in 1991 to aspire Malaysians towards achieving the status of a developed nation by the year 2020. Accordingly, the Ministry outlined an education system to realise the vision. Education legislation was amended in order to be relevant to current needs. The Education Act 1961 was replaced with the Education Act 1996. One of the major amendments made was to include preschool into the National Education System. The enactment of the Private Higher Education Act 1996 was also amended to allow the establishments of more private higher education institutes. The Ministry formulated four new acts to encourage a more systematic development of higher education. The acts are:

- **National Council on Higher Education Act 1996** - to allow the establishment of a council that will determine the policy and manage development of higher education.
- **Universities and College Act (Amendment) 1996** - grants more financial and management autonomy to public universities.
- **National Accreditation Board Act 1996** - quality assurance, especially for the private higher education programmes.
- **National Higher Education Fund Corporation Act 1996** - provides student loans and funds in order to increase access to higher education.

One of the major moves at this time was to increase access to higher education by setting up more public universities, college universities, matriculation colleges, community colleges, private colleges and universities as well as branch campus of overseas universities. *Maktab Perguruan Sultan Idris* was upgraded to *Universiti Pendidikan Sultan Idris* (UPSI) in 1997. The Malaysian Teaching Diploma Programme was also introduced to replace the Teaching Certificate Programme for pre-service teachers at Teachers Colleges.

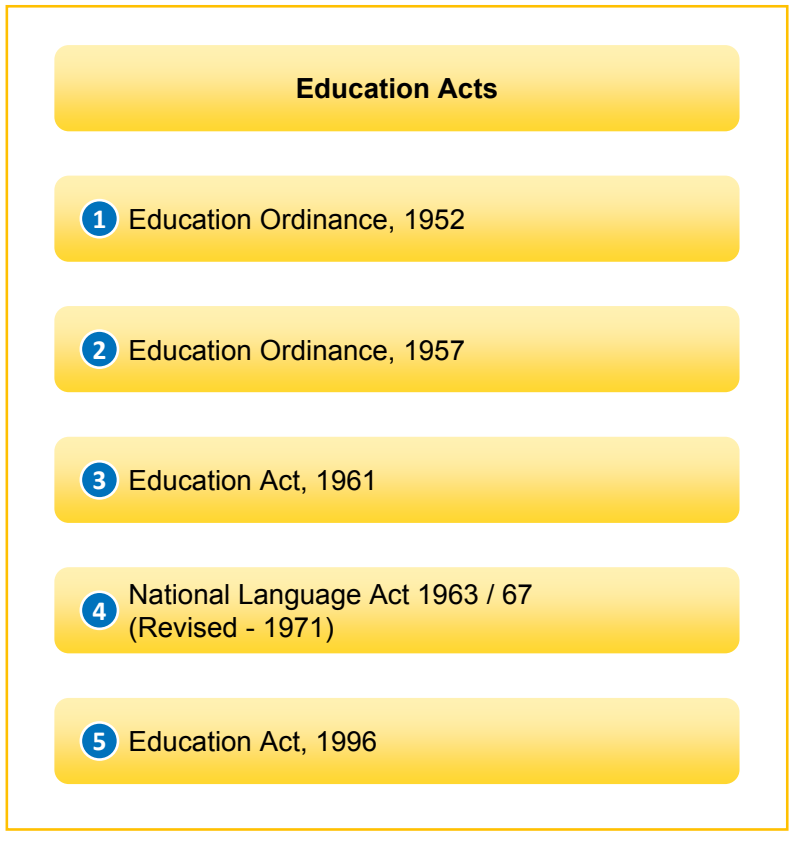
Measures were also taken to improve leadership qualities amongst school heads. *Institut Aminuddin Baki* (IAB) was entrusted with the task to provide leadership and management training to school leaders and administrators. Another significant change was the introduction of the open concept for *Sijil Pelajaran Malaysia* (SPM) and *Sijil Tinggi Persekolahan Malaysia* (STPM) examinations in 2000.

EDUCATION DEVELOPMENT DURING THE ERA OF NATIONAL VISION POLICY (2001 TO 2010)

Globalisation, liberalisation and the vast development of ICT continued to influenced the development of the national education system. The challenge for the nation was to produce knowledgeable, competent and globally competitive human capital.

The National Education Policy was formulated based on the Education Ordinance of 1957 which was later amended through the Razak Report (1956), the Rahman Talib Report (1960) and the Cabinet Committee Report (1979). The education policy was further strengtened through the legislation and amendment of the following acts (See Exhibit I-2).

EXHIBIT I-2



Steps were taken to provide quality infrastructure as well as to increase the number of education facilities in all education institutions, as an effort to accommodate the increase in student enrolment. Developing competency and efficiency amongst leaders, teachers and education officers was also an important agenda during this period of time. Empowerment and learning organisation concepts were widely instilled and encouraged. Allocations were made to promote continuous human resource development. Programmes such as in service training on developing management, leadership and research skills were carried out at all levels of the Ministry as an effort to implement a competent and efficient education management system capable of providing quality and relevant education to the nation.

Education Development Plan (2001-2010)

The Education Development Plan (EDP) took into account the goals and aspirations of the National Vision Policy to build a resilient nation, encourage the creation of a just society, maintain sustainable economic growth, develop global competitiveness, build a knowledge-based economy (K-economy), strengthen human resource development and maintain sustainable environmental development.

EDP aimed to ensure that all citizens had the opportunity to twelve years of education in terms of access, equity and quality. The Ministry also outlined goals and strategies to further develop the potential of individuals in a holistic and integrated manner so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced in line with the NEP. The plan was inclusive of strategies to nurture creativity and innovativeness amongst students; enhance learning cultures; develop a science and technology culture; encourage life-long learning; and to provide an efficient, effective and quality education system.

The EDP focused on the development of pre-school, primary, secondary and tertiary education which were strengthened through the development of support programmes, funding, management and integration of information and communication technology (ICT). The EDP was used as a framework for preparing action plans for education development, which encompassed the expansion and strengthening of existing programmes as well as the replacements of non-relevant programmes with new programmes that are more realistic to current and future needs. The EDP was developed based on four thrusts: (i) increase access to education; (ii) increase equity in education, (iii) increase quality of education, and (iv) increase the competency and efficiency level of the educational management.

To implement the programmes in the Blueprint, the Federal Government continuously increased funds allocation to the Ministry. The Ministry constantly encouraged NGOs, the private sectors and individuals to provide financial support, and offered competitive fees to international students studying in Malaysian schools or education institutes. The private sector's involvement in tertiary education was very encouraging. Smart partnerships, incentives, twinning programmes and cost-sharing in training and Research and Development (R&D) helped the Government towards achieving its educational goals.

Education Development Master Plan (2006-2010)

The Education Development Master Plan (EDMP) was launched in January 2007 to promote the education agenda under the Ninth Malaysian Plan (9MP). THE EDMP outlines six thrusts that mirror the objectives of the National Mission. These thrusts are: nation building, developing human capital, strengthening the national school, bridging the education gap, elevating the teaching profession and accelerating excellence of educational institutions. The Ministry developed the EDMP 2006-2010 as a comprehensive education planning document based on three main aspects i.e. infrastructure, content and human resource.

The aim of the EDMP was to provide quality education for all. To ensure this goal is achieved, two main approaches were identified under the Ninth Malaysia Plan:

- Complete tasks specified under the previous five-year plan, ensure access to education for all and to provide equal opportunities for all students.
- Further develop the potential of schools in their respective clusters of educational institutions, enabling teachers and students to promote the schools and the national education system at the international level.

EDUCATION DEVELOPMENT THROUGH THE NATIONAL KEY RESULT AREAS, 2010-2012

In 2010, the Government launched the NKRAs under the GTP. Under this programme, the Government focused on four initiatives to widen access to quality education:

- **Increase pre-school enrolment**: Research shows that the first five years are the most critical to a child's development. As such, the NKRA targeted an increase in enrolment of students in preschool, particularly in rural areas, from 67% to 87% by 2012;
- **Ensure Literacy in Bahasa Malaysia and Numeracy (LINUS)**: LINUS was set out to ensure that every child would be able to acquire basic literacy and numeracy skills after three years of mainstream primary education by the end of 2012, from a starting base of approximately 80% in 2009;
- **Develop High-Performing Schools (HPS)**: The HPS proposed to develop 100 outstanding schools by 2012 that are at par with global standards. Status as a HPS will afford the school greater operational flexibility in their efforts to improve student outcomes; and
- **Introduce the New Deal (*Bai'ah*) for principals**: A performance incentive programme called the New Deal For Principals that both rewards schools that have made significant gains in short time frames, and schools that have sustained high levels of performance, was introduced to encourage school leaders to significantly improve outcomes.

In two years of implementation, the NKRA education programme has achieved exceptional results in improving access, particularly at preschool level, and improving the quality of the education system, for example through increasing basic literacy and numeracy. The outlook appears encouraging for the targets set out in NKRA to further attain improvement in education.

Appendix II. Methodology

The development of this preliminary Blueprint was a robust, comprehensive, and collaborative effort that involved Malaysians from all walks of life. It spanned two phases. The first phase was a comprehensive review and diagnostic of the education system to assess the current level of performance and identify a set of priority areas for improvement. This involved analysing national and international data as well as conducting state and school visits across the country. Several international and Malaysian organisations also contributed towards evaluating the Malaysian education system, including UNESCO, the World Bank, and six Malaysian universities. The second phase involved further exploration of issues on the ground, and the detailing of a comprehensive transformation programme to be undertaken from 2013 to 2025, with a particular focus on the first wave of transformation, to be undertaken from 2013 to 2015. To that end, a National Dialogue was held to identify the rakyat's pressing concerns and gather their ideas for education transformation. The broad range and diversity of perspectives gathered from almost 12,000 members of the public and several key stakeholder groups was fundamental in shaping the development of this document. A series of labs were also held to develop initiatives for the first wave of the Blueprint (from 2013 to 2015) and to syndicate with relevant stakeholder groups. Throughout the two phases, a Malaysian and an International Review Panel also provided independent input and suggestion.

GOVERNANCE STRUCTURE

The governance structure for this comprehensive undertaking was defined and established in October 2011. This structure was anchored around a Project Management Office (PMO) and Project Taskforce, which would be responsible for conducting the overall review of the education system, developing the new national education blueprint, and engaging a broad range of stakeholders throughout the process.

Project Management Office

To conduct the review of the Malaysian education system and develop the Blueprint, the Ministry established a dedicated PMO in October 2011 that reported directly to the Director-General. The PMO was responsible for conducting diagnostic analyses, integrating the results of the research produced by other entities (for example, UNESCO, World Bank, OECD, Malaysian universities), analysing and incorporating feedback from the National Dialogue, and developing a detailed transformation programme that incorporated and further built upon initiatives developed in the Education Labs. The PMO acted as the Secretariat for the overall review and development effort, and managed all internal and external engagement and interactions with stakeholders and key sources of input to the Blueprint (Exhibit II-1).

Project Taskforce

The PMO reported weekly to a Project Taskforce, which in turn provided regular updates to the Minister of Education, Tan Sri Dato' Haji Muhyiddin Haji Mohd. Yassin.

The members of the taskforce are:

- **Tan Sri Abd Ghafar Mahmud**, Director-General of Education and Chairman of Taskforce
- **Dato' Dr. Rosli Mohamed**, Secretary-General of the Ministry of Education
- **Dato' Wan Khazanah Ismail**, Deputy Secretary-General (Management)
- **Dato' Nazirruddin Abd. Rahman**, Deputy Secretary-General (Development)
- **Dr. Amin Senin**, Deputy Director-General (Policy and Education Development), and Head of PMO as of April 2012
- **Haji Sufa'at Tumin**, Deputy Director-General (School Operations)
- **Datuk Dr. Khair Mohamad Yusof**, Deputy Director-General (Teacher Professional Development)

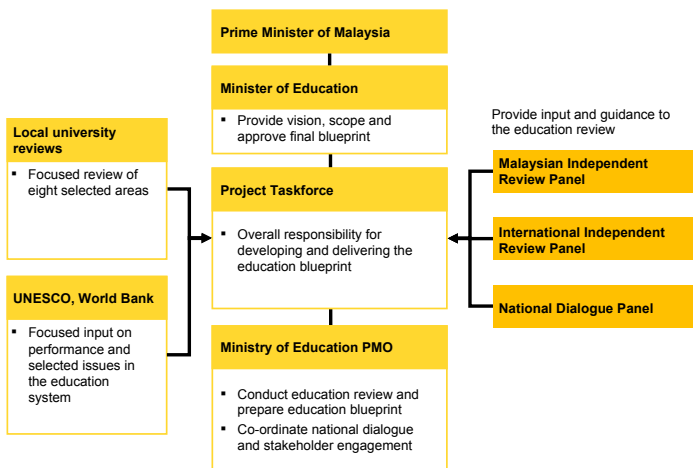
- **Datuk Dr. Haili Dolhan,** Rector, Teacher Education Institute of Malaysia
- **Dr. Faridah Abu Hassan**, Director, Educational Policy, Planning and Research Division
- **Dr. Raslan Haniff Abdul Rashid**, Special Officer to the Minister Education
- **Dr. Noorliza Zakuan**, Head of Delivery Management Office
- **Tengku Azian Tengku Shahriman**, Director of NKRA (Education) and NKEA (Education)

The members of the PMO are:

- **Puan Satinah Syed Saleh**, Head of PMO (January-March 2012)
- **Dr. Habibah Abdul Rahim**
- **Dr. Rosli Yacob**
- **Dr. Mohamed Yusoff Mohd. Nor**
- **Dr. Isham Ishak**
- **Norliah Abdul Aziz**
- **Dr. Hayati Ismail**
- **Dr. Rusmini Ku Ahmad**
- **Hj. Mustaffa Majid**
- **Fatin (Lim Siew Geck) Abdullah**
- **Noor Azman Mohd. Johan**

EXHIBIT II-1

Governance structure for the Education System Review and Blueprint Development



Report Editing Team

During the final phase of preparing the preliminary blueprint, a larger team was convened by the Director-General to support the project taskforce in providing input towards the editing of the document. These additional team members were:

- **Khalid Abu Bakar**, Undersecretary, Competency Development and Evaluation Division
- **Sabri Hj. Said**, Undersecretary, Finance Division
- **Khadijah Kassim**, Undersecretary, Human Resource Development Division
- **Dato' Haji Khairil Awang**, Director, Aminuddin Baki Institute
- **Dr. Masnah Ali Muda**, Director, Curriculum Development Division
- **Dr. Naimah Ishak**, Director, Examination Syndicate
- **Ee Hong**, Director, Sports Division
- **Hj. Mohd. Subri Mat Isa**, Director, Private Education Division
- **Dr. Aliah Haji Ahmad Shah**, Head, National Key Economic Area Unit
- **Dr. Azian T.S. Abdullah**, Deputy Director, Curriculum Development Division
- **Dr. Zainal Aalam Hassan**, Deputy Director, Educational Policy, Planning and Research Division
- **Datin Nawal Hj Salleh**, Deputy Director, Examination Syndicate
- **Sazali Ahmad**, Deputy Director, School Management Division
- **Hj. Zainudin Abas**, Deputy Director, Sports Division
- **Rusnani Mohd. Sirin**, Deputy Director, Special Education Division
- **Zainurin Suparman**, Deputy Director, Technical and Vocational Education Division
- **Dr. Marzuki Mohamad**, Special Officer to the Deputy Prime Minister
- **Nor Zamani Abdol Hamid**, Special Aide to the Director-General of Education
- **Abrar Idris**, Islamic Education Division
- **Dr. Asmah Ahmad**, Educational Policy, Planning and Research Division
- **Ho Wooi Cheng**, Curriculum Development Division
- **Zamzaitul Akmal Hisham**, Curriculum Development Division
- **Ida Hairani Bakar**, Curriculum Development Division
- **B. Jagdeesh Kaur Gill**, Curriculum Development Division

ANALYSES CONDUCTED BY THE PMO

The PMO conducted analyses and built the core fact base for the Blueprint from a number of internal and external sources.

Key information sources

- **Ministry reports**: The Blueprint drew upon over 100 reports published by the Ministry and various Ministry divisions over the last 10 years. These include:
  - Ministry reports that are publicly available such as Malaysian Education Statistics, Quick Facts and the Annual Report of the Ministry of Education;
  - Internal reports and publications such as the detailed UPSR, PMR, and SPM Assessment Results, the Detailed Operating Expenditure Report, the Development Expenditure Report, the School Inspection Report, and the Annual Audit Report; and
  - Special policy papers on topics such as KSSR, PBS, MBMMBI, PPSMI, 1 Student 1 Sport, and Pembestarian.
- **Major reviews and policy documents**: Since independence, several major reforms and reviews have been conducted. The Blueprint has referenced these reports to provide a historical perspective across a number of areas. To this end, reform and strategy documents and supporting evidence were examined such as the Razak Report (1956), Rahman Talib Report (1960), Education Act 1961, Cabinet Committee Report (1979), National Education Philosophy (1988), Education Blueprint (2006-2010), and Strategic Plan: Transformation of Vocational Education (2011).
- **Ministry database**: The analyses at the core of the Blueprint, from student outcomes to the drivers of performance, is based on data provided by divisions across the Ministry. These include:
  - EMIS from the EPRD, comprising student, teacher, and school information such as demographics of students and teachers, grade level of teachers, and infrastructure in schools among others;
  - Secondary School Operations or *Operasi Menengah* (OPMEN) from the Day School Operation Unit comprising detailed personnel data on teachers to deployment of teachers throughout the education system; and
  - The IAB EMIS database from the Aminuddin Baki Institute comprising data on principal participation in preparatory, induction, and in-service training.
- **Literature review and international research**: To benchmark aspects of the Malaysian education system with countries globally, a wide literature review of academic publications, education journals, non-governmental organisation publications, and the mainstream media was undertaken. A sample of these are included below:
  - *Changing Education Paradigms* by Sir Ken Robinson, published in 2010;
  - *Cumulative and Residual Effects on Future Student Academic Achievement* by Sanders and Rivers, published in 1996;
  - *Deliverology 101: A Field Guide For Educational Leaders*, by Michael Barber, published in 2010;
  - *Education Today: Mother Tongue Dilemma* by UNESCO, published in 2002;
  - *How the World's Most Improved School Systems Keep Getting Better* by McKinsey & Company, published in 2010;
  - *Impossible and Necessary* by Sir Michael Barber, presented at the ASCL annual conference in 2009;
  - *Reviews of Vocational Education and Training—Learning for Jobs* by the Organisation for Economic Co-operation and Development (OECD), published in 2010;
  - *Teachers Matter: Attracting, Retaining and Developing Teachers* by the OECD, published in 2005; and
  - *Teaching and Learning International Survey (TALIS)* by the OECD, published in 2010.
- **International data**: To further quantitatively benchmark Malaysia's education system outcomes and drivers, several international data sources were analysed, including:
  - *Education at a Glance* from the OECD comprising yearly indicators on global education;
  - *PISA Results* by the Australian Council for Education Research (ACER) comprising information and analyses on student performance in PISA;
  - *TIMSS Results* by the International Association for the Evaluation of Educational Achievement and PISA comprising information and analyses on student performance in TIMSS and PISA international assessments;
  - *UNESCO Institute for Statistics* comprising statistics on education systems such as student enrolment and participation, teaching staff, and education expenditure; and
  - *World Bank Database* comprising financial indicators of global education systems including spending as a percentage of total government budget.
- **Nationwide surveys**: The Ministry recognises the importance of obtaining first-hand information from a large portion of the population across the country to create a robust picture of the system today. As such, the Ministry conducted a number of online surveys, designed to be a representative sample of the population across states and urban/rural locations.

- **National student survey**: to understand students' perceptions of their education and classroom experience, as well as their language proficiency. Approximately 22,000 students responded to this survey;
- **National teacher survey:** to understand teachers' perceptions of their working environment, teaching practices, teacher workload, support received, and issues faced. Around 15,000 teachers responded to this survey; and
- **National principal survey:** to understand principals' perceptions of skills required, training received, and time allocation. 570 principals responded to this survey.
- **Ministry focus groups and interviews**: Officers from the Ministry at the Federal level were engaged to obtain a firsthand understanding of the critical elements of delivery. This process of gaining deep perspectives on the system was key to the development of the Blueprint. Focus groups were conducted across the Ministry, including with the following:
- **Research and Evaluation Sector, EPRD**: student participation and performance in international assessments including PISA and TIMSS;
- **Public School Management Division**: deployment of teachers to national schools, both at primary and secondary level;
- **Financial Assistance Unit, Finance Division:** understanding the 22 financial assistance programmes available for schools and students, the allocation mechanism and challenges, and perspectives on effectiveness of financial aid handouts, especially to students;
- **Teacher Unit, Human Resource Division**: understanding compensation schemes of teachers and average starting pay of graduate teachers; and
- **Maintenance Unit, Development Division**: conditions of infrastructure in schools and challenges in conducting maintenance and repair works.

State visits

The Ministry undertook field research in schools and districts via five state visits. These visits were to Selangor, Sabah, Terengganu, Johor, and Kedah.

Selection criteria: Target states were determined based on rigorous selection criteria to form a representative sample of the education system (Exhibit II-2) across dimensions of:

- Variability in performance journey;
- Mix of urban-rural settings;
- Size of state by number of schools and student population; and
- Geographical zone in Malaysia.

EXHIBIT II-2

Evaluation of states for selection for state visits

Key deciding factor

Selection criteria	Johor	Terengganu	Sabah	Selangor	Kedah
1 **Variability in performance journey**	**Best performing state** for primary and **among the top** for secondary	**Best performance** at secondary level and **strong** at primary	**Lowest performing state** at both secondary and primary levels	**Among the average at primary and among the top for secondary**	**Average performance at primary level and poor at secondary**
▪ School performance – Band 5-7 – Band 3-4 – Band 1-2	Primary / Secondary ▪ 1% / ▪ 56% ▪ 58% / ▪ 34% ▪ 40% / ▪ 10%	Primary / Secondary ▪ 1% / ▪ 61% ▪ 71% / ▪ 24% ▪ 27% / ▪ 14%	Primary / Secondary ▪ 36% / ▪ 78% ▪ 60% / ▪ 21% ▪ 4% / ▪ 1%	Primary / Secondary ▪ 5% / ▪ 47% ▪ 71% / ▪ 44% ▪ 24% / ▪ 9%	Primary / Secondary ▪ 3% / ▪ 74% ▪ 82% / ▪ 16% ▪ 15% / ▪ 10%
2 **Mix of urban-rural**	**Mixed urban,** with a good mix of rural areas	**Substantial rural** population, with almost equal distribution	**Substantial rural** population, with almost equal distribution	**Highly urbanised**, with a small mix of rural areas	**Mostly rural population**
▪ % urban pop.	66.2%	51.2%	49.3%	88.4%	40.8%
3 **Larger state**	Among the larger states	Average in terms of state size	Also among the larger states	**Largest state in terms of # of students**	Average in terms of state size
▪ # of students ('000) ▪ # of schools *[xx] denotes rank across 14 states*	▪ 657 [2] ▪ 1,130 [3]	▪ 261 [10] ▪ 484 [9]	▪ 497 [4] ▪ 1,277 [2]	▪ 930 [1] ▪ 903 [5]	▪ 415 [6] ▪ 712 [7]
4 **Good zone coverage**	▪ South	▪ East coast	▪ East M'sia	▪ Central	▪ North

SOURCE: Education Statistics 2011; Economic Planning Unit

- **School types**: With over 20 categories of schools in the Malaysian education system, the five states were also selected to represent the diverse mix of school types. The different types of schools visited include:
  - National primary and secondary schools;
  - Fully residential schools;
  - Vocational schools;
  - Private schools including Independent Chinese Schools and private religious schools;
  - Indigenous schools (for Orang Asli), in Selangor;
  - *Sekolah Pondok* in Kedah; and
  - Ethnic minority schools in Sabah.
- **Key research activities**: The Ministry conducted extensive focus groups and interviews during their visits to the five states. The stakeholders engaged and interview objectives include:
  - **Teacher and principal interviews and focus groups**: to understand practices in schools, in terms of experiences as well as challenges in implementation of key policies. These were attended by around 330 teachers and principals;
  - **Parent focus groups**: to understand the extent of parents' involvement and engagement in their child's education and what their main concerns are. These were attended by over 100 parents;
  - **JPN, PPD and Sector Head focus groups**: to understand the roles and responsibilities of these "middle layers" as the buffer and linkage between policy makers and schools, in terms of the experiences and challenges in executing recent policies and initiatives such as LINUS and KSSR. These were attended by around 165 officers; and
  - **School visits**: to observe the teaching and learning practices in schools, targeted at rapidly improving schools to identify good practices and key challenges, covering around 15 schools.

ANALYSES CONDUCTED BY PUBLIC UNIVERSITIES

Six public universities were tasked by the Ministry to undertake academic research in eight key areas to contribute to the Blueprint. Each university was assigned individual research questions, and independently determined relevant methods to meet the needs of respective areas of research. The research areas and highlights of their methodology are outlined below:

Universiti Putra Malaysia

Research focus: Effectiveness of **management and administration** from Ministry down to schools. Primary focus of the research was on the perception of Ministry officials and the PIBG towards the management and administration of schools.

Sources and methodology: An opinion/perception survey was completed by multiple stakeholders including 105 Ministry officers, 60 JPN officers from six states, with equal representation from each state and across urban/rural regions, 660 school leaders and teachers from representative nationwide sample across different types of schools, and 60 PIBG heads.

In total, 945 questionnaires were distributed, with a response rate of 86.5% (817 responses).

Universiti Kebangsaan Malaysia

Research focus: The extent to which the objectives, content, teaching, and examination of the **curriculum** meet the intent of the National Education Philosophy.

Sources and methodology: Literature analyses, interviews, and surveys were conducted across a number of stakeholders. The approximately 470 respondents included teachers, lecturers, officers, industry, parents, and graduates across six zones in Malaysia.

Universiti Pendidikan Sultan Idris

Research focus: Universiti Pendidikan Sultan Idris (UPSI) was commissioned to review two areas:

- The extent to which the **infrastructure** provided by the Ministry, including schools, IPGs, and access centres, meets the needs of students and teachers; and
- The overall quality of **human resources** in terms of recruitment, performance management, professional development, compensation, and appropriate distribution of workload.

Sources and methodology:

- For the i**nfrastructure component**: surveys were conducted that collected responses from approximately 1,200 teachers and principals, 160 Institute of Teacher Education (IPG) heads and lecturers, and 160 access centre personnel. Focus groups were also run across geographical zones: North, South, Central, East Peninsular plus Sabah and Sarawak; and
- For the **human resource component**: a survey was conducted that encompassed preschools through to Ministry level with over 7,000 respondents from a total of 10,200 surveys distributed.

Universiti Sains Malaysia

Research focus: **Structure and school types** in the Malaysian education system and school types since independence and their relevance today.

Sources and methodology: A broad literature review was conducted and supplemented by interviews with educational experts, Ministry officers, school leaders, and other stakeholders such as education groups or organisations.

Universiti Malaya

Research focus: Impact of seven major **education policies** and 72 sub-policies implemented between 1957 to 2011.

Sources and methodology: A survey of teachers, school leaders, district and state officers, Ministry officers, and university lecturers across eight states was conducted. Of the 7,200 surveys distributed, nearly 5,500 responses were received.

Higher Education Leadership Academy (AKEPT), Ministry of Higher Education

Research focus: **Quality of teaching and learning processes** in the classroom, particularly as they pertain to the development of higher-order thinking skills (for example, creativity and problem-solving).

Sources and methodology: 125 lessons were observed in 41 schools across six states.

Joint research: Universiti Malaya and UPSI

Research focus: **Quality of teachers and school leaders** in the system including quality of training (pre and in-service), and an understanding of what needs to be done to improve the quality of teachers and school leaders.

Sources and methodology: Interviews were conducted with a total of 133 individuals including 17 primary school principals, 41 primary school teachers, 10 secondary school principals, 32 secondary school teachers, 10 lecturers, seven *tokoh pendidikan*, and 16 members of society. Additionally, approximately 300 graduates from IPG and IPTA were asked to fill in a survey about the quality of teacher training.

ANALYSES CONDUCTED BY UNESCO

In December 2011, UNESCO was formally commissioned to review Malaysia's education system including Planning and Management across five policy domains:

- Curriculum development;
- Information and Communication Technology in Education;
- Teacher education;
- Technical and vocational education and training (TVET); and
- Assessment and examination.

In brief, UNESCO's methodology comprised four components: a review of the National Background Report compiled by the Ministry, desktop

research, stakeholder interviews on the ground, and consolidated analysis. The Blueprint draws on findings from the final report published in April 2012.

ANALYSES CONDUCTED BY WORLD BANK

The World Bank was commissioned in the first quarter of 2010 to undertake a full review of public expenditure (the *Public Expenditure Review*) in Malaysia. Within the scope of the World Bank study, the Ministry of Education's expenditure and organisation were examined. The Ministry's Project Taskforce has used the World Bank's research as the basis for the diagnostic of the Ministry's financial systems and processes and its organisational structure. The analyses from the World Bank were compared against the findings of the Ministry to identify inconsistencies or discrepancies.

NATIONAL DIALOGUE

The National Dialogue was launched in April 2012, to gather feedback and input from the rakyat on the education system. Input was gathered in a variety of formats to ensure the feedback gathered was inclusive and robust, including through public townhalls, submitted in written form as memoranda, closed door roundtable discussions and online forums. Suggestions raised were carefully considered and incorporated into the initiatives developed for the Blueprint (refer to Appendix III for more details).

Townhall meetings

Townhall meetings were the primary mode for gathering open feedback on a large, broad scale. These were held across all fourteen states to ensure that people from all parts of Malaysia had the opportunity to raise their views. The Panel established for the dialogues and roundtable discussions comprised twelve experts in education and related fields. Panel members and secretariat included the following:

- **Tan Sri Dato' Dr. Wan Mohd. Zahid Mohd. Noordin**, National Dialogue Panel Chair, Chairman of Universiti Teknologi MARA, Ex-Director General of the Ministry of Education
- **Prof. Datuk Dr. Shamsul Amri Baharuddin**, Founding Director, Institute of Ethnic Studies (KITA), UKM
- **Tan Sri Alimuddin Mohd. Dom**, Director of Malaysian Teachers Foundation, Ex-Director General of the Ministry of Education
- **Tan Sri Dato' Sulaiman Mahbob**, Ex-Chairman of Malaysian Investment Development Authority (MIDA)
- **Datuk Kamal D.E. Quadra**, Director of the Sabah Foundation College
- **Dato' Dr. Asariah Mior Shaharudin**, Ex-Deputy Director General of Teacher Professional Development, Ministry of Education
- **Dato' Dr. Sidek Baba,** Education Professor, International Islamic University Malaysia
- **Prof Dr. Sivamurugan Pandian**, Deputy Dean of Research and Postgraduate, Universiti Sains Malaysia
- **Prof Teo Kok Seong,** Deputy Director, Institute of The Malay World and Civilization
- **Dr. Zahri Aziz,** Ex-Deputy Director General of School Operations, Ministry of Education
- **Dr. Zulwali Kifli Merawi**, Deputy Director of Educational Services Bureau, Sarawak Islamic Council
- **Agnes Maria Sam**, General Manager of Policy Initiative, Talent Corporation Malaysia Bhd.
- **Dzulhijah Sukarno** (Secretariat)
- **Dr. A' Azmi Saahri** (Secretariat)

Feedback was collected from live verbal discussions and also through written exit survey forms. A total of 16 townhalls were held, with almost 12,000 people participating. The attendees were diverse in ethnicity (79% Bumiputeras, 15% Chinese and 6% Indians). Approximately 66% were teachers, 18% were PIBG members and 16% were members of the general public.

Date	Venue	Attendance
29 April 2012	Putrajaya	1,868
6 May 2012	Taiping, Perak	558
12 May 2012	Alor Setar, Kedah	725
19 May 2012	Kota Kinabalu, Sabah	625
19 May 2012	Tawau, Sabah	765
20 May 2012	Labuan	879
26 May 2012	Kuching, Sarawak	524
27 May 2012	Miri, Sarawak	812
3 June 2012	Melaka, Melaka	527
3 June 2012	Seremban, Negeri Sembilan	426
9 June 2012	Shah Alam, Selangor	709
17 June 2012	Penang	526
23 June 2012	Kuantan, Pahang	530
23 June 2012	Kota Bahru, Kelantan	912
30 June 2012	Terengganu	425
14 July 2012	Johor Bahru, Johor	999

Roundtable discussions

These were closed-door sessions that aimed to gain more detailed perspectives on specific topics. This was done through engagement with specific stakeholders in greater depth. A total of 20 roundtable sessions were held, with participation from 325 people. They provided the Ministry with focused, in-depth input from a wide range of leaders and experts that included representatives from NGOs, political parties, civil service, youth organisations, women's groups, ethnic minority groups, and special needs groups.

Date	Group
23 April 2012	Teachers Unions
15 May 2012	Media
19 May 2012	Leaders from Sabah
22 May 2012	Women's organisations
26 May 212	Leaders from Sarawak
30 May 2012	NGOs and associations
31 May 2012	Youth groups
2 June 2012	Leaders from Melaka
4 June 2012	Retired Guru Cemerlang
11 June 2012	Ruling party representatives
12 June 2012	Private sector and industrialists
16 June 2012	Leaders from Penang
18 June 2012	Opposition party representatives from Kelantan, Penang
19 June 2012	Higher education representatives
20 June 2012	Former Ministers of Education and Chief Secretary of Government of Malaysia
23 June 2012	Leaders from Kelantan
25 June 2012	Special needs organisations
25 June 2012	Sports community
25 June 2012	Barisan Nasional representatives
13 July 2012	Leaders from Johor

School visits

The Ministry wanted to get to the heart of what makes a good education system by hearing the voices of the students themselves. Consequently, school visits to primary and secondary schools were conducted by members of the PMO. They sought students' perspectives on what makes their schools and teachers exemplary, as well as ideas for changes they would want to see in their schools.

Memoranda

The Ministry received over 150 detailed memoranda as of July 2012 from many individual Malaysians and a diverse range of stakeholder groups including NGOs, special interest groups, and Ministry officers.

Online media

The Ministry received close to 100 responses through its three online channels. This included an online forum, Facebook and Twitter.

EDUCATION LABS

To develop detailed initiatives as part of the first wave of the Blueprint, a series of education labs were held over a period of six weeks from May to June 2012. These were conducted with the support of PEMANDU, as part of the GTP 2.0 effort. These labs covered the identified priority areas for improvement (for example, curriculum and assessments, teachers and principals, and Ministry transformation). Lab teams comprised of a team leader, a facilitator and team members with relevant expertise to solve the problem at hand. More than 90 members from the Ministry of Education, other related Ministries (such as the Ministry of Finance and the Ministry of Women, Family, and Community Development) and the private sector were involved on a full-time basis over six weeks. This included officers from the federal, state and district levels of the Ministry.

Lab members worked to define initiatives for transformation, develop detailed delivery plans for the first wave of implementation (from 2013 to 2015) and set concrete targets. Ideas developed in the labs were syndicated extensively with practicing teachers, principals, district and state officers, as well as with stakeholder bodies such as the teacher unions, principal associations, and parent teacher associations. Certain critical and immediately implementable initiatives were also piloted during this duration (for example, testing of English proficiency levels of nearly 8,000 teachers).

The team leaders selected to head these education labs will also be driving implementation of initiatives developed during the labs:

- **Dr. Ranjit Singh Gill**, Director, English Language Teaching Centre (ELTC)
- **Dr. Azian T.S. Abdullah**, Deputy Director, Curriculum Development Division
- **Dr. Aliah Haji Ahmad Shah**, Head, National Key Economic Area Unit
- **Dr. Soon Seng Thah**, Deputy Director, Educational Technology Division

- **Dr. Mehander Singh Nahar Singh**, Deputy Director, Raja Melewar Institute of Teacher Education
- **Hj. Aminuddin Adam**, Deputy Director, Day School Management Division
- **Hj. Zainudin Abas**, Deputy Director, Sports Division
- **Hjh. Fatimah Othman**, Deputy Director, Teacher Training Division
- **Asiah Hamzah**, District Education Officer, Pekan, Pahang
- **Dr. Hj. Ahmad Rafee Che Kassim**, Head of Technology Management Center, IAB

INDEPENDENT REVIEW PANELS

To provide independent opinions on the education system as a whole and on the review itself, a review panel comprised of Malaysian and international representatives was formed.

Malaysian Review Panel

The Malaysian panel constituted twelve members, selected to provide perspectives from both academic and private sector backgrounds.

- **Prof. Tan Sri Dato' Dzulkifli Abdul Razak**, Chair of the Panel, Vice-Chancellor of Albukhary International University
- **Tan Sri Anthony Francis Fernandes**, Founder and CEO of Air Asia Berhad
- **Tan Sri Dato' Azman Hj Mokhtar**, Managing Director of Khazanah Nasional Berhad
- **Tan Sri Dato' Seri Dr. Jeffrey Cheah**, Founder and Chairman of Sunway Group
- **Prof. Tan Sri Dato' Dr. Sharifah Hapsah Syed Hasan Shahabudin**, Vice Chancellor of Universiti Kebangsaan Malaysia
- **Tan Sri Zarinah Anwar**, Ex-Chairman of Securities Commission
- **Prof. Dato' Dr. Ab Rahim Selamat**, Tokoh Guru, Ex-Dean of Faculty Of Education, University Selangor; Ex-Director of Aminuddin Baki Institute

An additional five members joined the panel in the second phase of the Blueprint:

- **Prof. Tan Sri Dr. Mohd Kamal Hassan**, Distinguished Professor of International Islamic University Malaysia; Universiti Islam Antarabangsa
- **Dr. Haji Adi Badiozaman Tuah**, Director of Education Services Bureau, Sarawak Islamic Council
- **Prof. Dato' Dr. Chuah Hean Teik**, President of Universiti Tunku Abdul Rahman
- **Prof. Dr. Rajendran A/L Nagappan**, Professor of Universiti Pendidikan Sultan Idris, Co-ordinator of the Action Plan for Future of Tamil Schools
- **Dr. Hj. Abdul Kadir Hj. Rosline**, Rector of Universiti Teknologi MARA Sabah

Since the formation of the Malaysian review panel in 2011, panel members have convened eight times at the time of this preliminary Blueprint to review key diagnostic findings, provide ideas on priority themes for action, and to give advice on successful implementation for the future development of the Blueprint. Additional meetings with the panel will be convened to finalise the Blueprint.

International Review Panel

The four members of the international panel were commissioned to provide expert opinion from their deep experience in education globally:

- **Dr. Andreas Schleicher**, Head of Analysis and Indicators, OECD: to provide global expertise and perspectives on education system reviews, and relevant best practices from education system transformation efforts in other countries;
- **Dr. Byong-man Ahn**, Former Minister of Education of Korea: to provide perspectives from experience in leading the Korean education system and from the Korean education reform journey;
- **Professor Michael Fullan**, Special Advisor to the Premier and Minister of Education Ontario, Canada: to bring insights from global education reform efforts and from his extensive experience of leading successful system transformation in Ontario;
- **Professor Sing Kong Lee**, Director of the National Institute of Education (NIE), Singapore: to provide perspectives from the Singapore education reform experience, and expertise on professional development of teachers and school leaders; and

Their guidance and ideas have served as external, objective input to the Ministry in enhancing the robustness and comprehensiveness of the education review process and the development of the Blueprint.

Appendix III: National Dialogue Feedback

Feedback from the *rakyat* via the National Dialogue was critical in the development of the Blueprint. The Ministry has carefully considered all concerns and suggestions received through the multiple sources. This appendix lists some of the frequent and consistent topics the *rakyat* raised and maps exactly how the Ministry commits to addressing them.

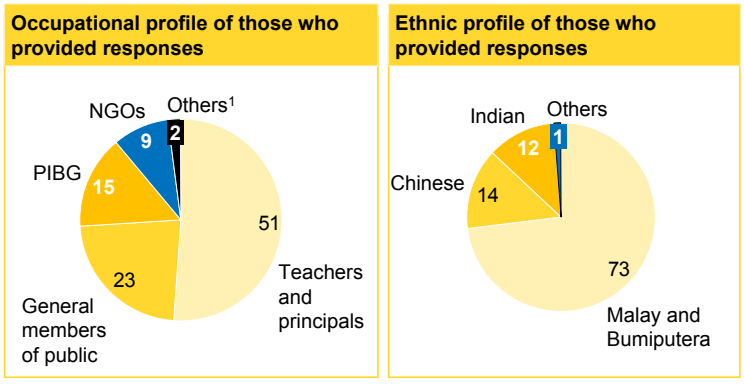
The Ministry received a large sample of responses from a wide cross-section of society through the National Dialogue. In total, the Ministry received more than 7,000 responses across different channels. Responses came in from all relevant stakeholders including students, teachers, principals, parents, as well as special interest groups, politicians, and the private sector. The rakyat firmly believes in the urgent need for the education review. Of the more than 3,000 people surveyed at the townhalls, 42% believe the time is right for a review of our education system, while 56% believe a review is long overdue.

SOURCES OF RAKYAT RESPONSES

The 16 **townhalls** and three **online channels** reached out to the general public across all walks of life and from all parts of Malaysia. Close to 87% of the responses came from townhalls. Teachers and principals contributed 51% of responses, members of the public voiced 28%, PIBG members provided 13%, NGOs expressed 7%, students and politicians collectively articulated 2% (Exhibit III-1). The responses came from a mix of ethnicities, with the Bumiputera community comprising 73% , the Chinese community providing 14%, and the Indian community contributing 12% of responses (Exhibit III-1), while the remaining 1% came from other communities. The profile of the respondents was comparable to the profile of the attendees (refer to Appendix II for details on attendee profile).

EXHIBIT III-1

Townhall response profile



1 Other occupational profiles refer to students (1% of total respondents) and politicians (1% of total respondents)
SOURCE: Project Management Office, Ministry of Education

The 20 **roundtables** engaged in greater detail with specific stakeholder and interest groups (refer to Appendix II for details on which groups were engaged with), and these sessions provided more nuanced perspectives from these stakeholders. Direct feedback from **students** themselves was also gathered through school visits and workshops in Johor. Finally, the submission of memoranda by individuals, organisations, and institutions provided the Ministry with solid, detailed written perspectives and recommendations from important stakeholders and subject matter experts. This feedback was highly informative and critical in the development of the Blueprint.

MAP OF NATIONAL DIALOGUE FEEDBACK TO MINISTRY COMMITMENTS

The National Dialogue provided an opportunity for the rakyat to voice their opinions, provide constructive criticism, and suggest solutions to the issues facing the Malaysian education system. The feedback can be broadly grouped into four categories:

- **Aspirations**: Many of the aspirations raised were in line with existing policies, but the level of interest in this area suggests that more needs to be done to address them. The most recurring feedback was for the Ministry to focus on improving quality, equity, and unity in the near-term. Promisingly, close to 73% of the approximately 3,000 people answering the exit surveys believed that the Malaysian education system can achieve international standards in the future;
- **Teachers**: Participants from all walks of life consistently and frequently discussed the need to raise the quality of teachers, particularly in terms of teacher support and performance management. While the topic was most frequently explored by teachers themselves, this matter was also raised by principals, students, and parents alike;
- **School quality**: There was also extensive feedback on how to improve school quality. Most of the feedback was on ensuring that schools would provide a learning environment that would be more conducive for teaching and learning; and
- **Student learning**: Respondents articulated a desire for a more relevant curriculum, and better language proficiency and communication abilities for our students, to lay the foundations for students' success in the 21st century.

The Ministry is committed to taking action on the feedback it has received. The tables that follow provide a clear mapping of that commitment. They illustrate some of the specific comments and suggestions raised, and provide a brief explanation of how the Ministry will address these issues. A deeper understanding of the context and specifics of the initiatives can be found by referring to the chapters listed in this Blueprint.

Aspirations

Subtopic	Example topic raised in the National Dialogue	Ministry response/action	Reference
Quality	The education system should produce competent students who can compete internationally.	The Ministry shares this aspiration and aims to move Malaysia from the bottom third of countries on international assessments to the top third. Many of the Blueprint's initiatives are directly aimed at making this goal a reality, from improving teachers' pedagogical skills to upgrading existing curriculum and assessments to international benchmarks.	Chapter 2 for aspirations, Chapter 5 for initiatives on teachers, Chapter 4 for initiatives on curriculum and assessments.
	The education system should develop students holistically (in line with the National Education Philosophy).	All Ministry policies will remain anchored to the National Education Philosophy. To that end, the Blueprint moves beyond a traditional focus on content knowledge and cognitive skills to include 21st century elements of leadership, ethics and spirituality, with a strong sense of national identity. For example, the Ministry will include a compulsory community service component to foster unity among students. The Ministry will also continue to require all students to participate in at least 1 sport, 1 club, and 1 uniformed body.	Chapter 2 for aspirations, Chapter 4 for including holistic elements in student learning.
	The education system should inculcate a strong moral foundation in students.	The Ministry will continue to provide Islamic Education to all Muslim students and Moral Education to all other students. The Ministry will refine the curriculum for these two subjects to include a broader study of the main religions in Malaysia, while the pedagogy will be improved to encourage greater understanding and belief in the values taught in these classes.	Chapters 4 and 7
	The education system should better prepare students for entry into the job market.	The Ministry will revise the existing curriculum and assessments to incorporate the 21st century skills required for today's job market. The Ministry is also upgrading the quality of its specialised education pathways (for example, technical and vocational education) to ensure that they are industry-relevant and recognised.	Chapter 7
	The Ministry should enhance vocational education and increase the number of vocational education schools to improve student pathway options.	The Ministry has already launched the Vocational Transformation Plan to increase the quality of vocational education and increase the number of seats offered (including at the lower secondary level).	Chapter 7
	The Ministry should give more attention to religious schools.	The Ministry aims to provide a quality religious and secular education across all national religious schools such as SMKA, in line with the National Education Philosophy. The national religious curriculum is being continuously upgraded to provide quality instruction across all national schools. In order to ensure a high standard of religious education across all religious schools, the Ministry is also providing financial assistance to government-aided religious schools and will continue to offer similar assistance to private religious schools (subject to conversion in status to government-aided religious schools). In the medium-term, the Ministry will also explore options to increase the number of places available at religious schools to meet growing demand.	Chapter 7

Subtopic	Example topic raised in the National Dialogue	Ministry response/action	Reference
Equity	The Ministry should ensure that students from low-income families are able to meet basic literacy standards in primary school.	The Ministry will expand the LINUS programme to ensure that all students, regardless of socio-economic background, achieve basic literacy (in Bahasa Malaysia and English) and numeracy after three years of primary schooling. The Ministry is also expanding access to preschool education for students from low-income families including through the provision of targeted financial aid.	Chapter 4 for expansion of LINUS, Chapter 7 for expansion of preschool education
	The Ministry should have clear and committed policy directions for inclusive provisions for special education to ensure that students with special needs are not left behind.	The Ministry is committed to raising the quality of all special education programmes, and to expanding the proportion of students in inclusive education programmes in mainstream schools (versus those in separate classrooms or schools).	Chapter 4
	The Ministry should have a specific policy for *Orang Asli* and other minority group students that tailors educational experiences to suit their cultural norms and practices, and addresses their poor academic results and high dropout rates.	The Ministry has launched a dedicated action plan for Orang Asli and other minority group students. The plan includes the introduction of an intensive literacy intervention programme for *Orang Asli* and other minority group students in Year 1 to catch "at risk" students early, the establishment of a research centre to develop curriculum and pedagogy specially tailored to Orang Asli and other minority communities, and the implementation of professional development courses to prepare teachers to teach in *Orang Asli* schools.	Chapter 4
Unity	The education system should cater to all Malaysians, and there should be unity in diversity.	The Ministry will continue to encourage appreciation for Malaysia's diversity in all students. The Ministry will extend RIMUP to all schools. RIMUP pairs two different types of schools (for example, a National school with a National-type Chinese school) to conduct co-curricular activities together, such as sports, music, and community service. This is in line with international research findings that performing group-based, task-oriented activities together is one of the most effective ways of encouraging students to form inter-group friendships.	Chapter 7
	The education system should offer a combined Moral Education class for Muslims and non-Muslims.	The Ministry will embed a joint community service element for all students (both Muslims and non-Muslims) to encourage greater inter-group friendships and appreciation for the broader community.	Chapter 7

Teachers

Subtopic	Example topic raised in the National Dialogue	Ministry response/action	Reference
Quality	The Ministry should raise the profile of the teaching profession to make it a profession of choice and ensure a high standard of quality.	The Ministry will revitalise the teaching profession by: (i) raising the bar for entry; (ii) increasing investment in continuous professional development and teacher support; (iii) enabling fast-track progression based on competency and performance, not tenure; (iv) enforcing redeployment to non-teaching roles or voluntary exit of consistently under-performing teachers; and (v) formalising different career tracks based on teachers' skills and interests.	Chapter 5
Focus	The Ministry should ensure that teachers spend more time on teaching activities and less time on non-teaching activities, and should employ non-teaching staff for administrative work.	The Ministry will reduce teachers' administrative burden by streamlining existing data collection and integrating management information systems to eliminate duplicate requests and to simplify the data entry process. The Ministry will also gradually redeploy some teachers into dedicated support, data management and analyst roles.	Chapter 5
Training	The Ministry should provide teachers with continuous professional development and inculcate a culture of continuous learning and improvement among teachers to attain world-class teaching standards.	As described above, the Ministry will enhance continuous professional development by developing its portfolio of training programmes to explicitly link training to competency requirements. The Ministry is also focusing on school-based training and coaching such as the deployment of full-time SISC+ for teachers in Band 5, 6, and 7 schools.	Chapter 5
Performance management	The Ministry should improve the teacher evaluation system, and link it to performance in order to raise the quality of our teachers.	The Ministry is developing a single instrument that clearly articulates the competencies expected of teachers, particularly with regard to teaching and learning. This instrument will be used during the annual evaluation, replacing all existing instruments. The Ministry is also committed to moving to a competency- and performance-based progression system, instead of one based primarily on tenure.	Chapter 5
	The Ministry should give teachers recognition for taking the time and effort to gain a higher qualification (such as a Masters or Ph.D.).	The Ministry is refining the existing career pathway and progression system, and will take into consideration the competencies yielded by higher qualifications.	Chapter 5
	The Ministry should base teacher allowances on their roles and responsibilities.	The Ministry will review salaries and allowances on an ongoing basis to ensure fair compensation corresponding to workload, competency levels and student outcomes achieved.	Chapter 5
	The Ministry should improve residential facilities for teachers in rural areas.	The welfare of teachers is an important focus area for the Ministry. The Ministry will first upgrade basic infrastructure facilities for all schools such as water and electricity supply, and ensuring structural safety. Once this has been achieved, the Ministry will focus on baseline infrastructure improvements, which includes improvements to residential facilities.	Chapter 6

School quality

Subtopic	Example topic raised in the National Dialogue	Ministry response/action	Reference
Class size	The Ministry should enforce smaller class sizes in schools to improve student outcomes.	Research shows that factors like class size have less impact on the quality of student outcomes versus factors like teacher quality. As such, the Ministry will be maintaining the current policy threshold of a maximum of 35 students per class. The focus for the Ministry will be on improving conditions in the 11% of schools with class sizes of more than 35 students.	Chapter 6
Student discipline	The Ministry should give more attention to student discipline.	The new school, district, and state dashboards to be rolled out in 2013 include a metric on disciplinary performance, which will be a focus area for school performance management	Chapter 4
ICT	The Ministry should improve ICT facilities in all schools.	The Ministry is rolling out 1BestariNet, a 4G network and virtual learning environment to all 10,000 schools by mid-2013. It will also look into increasing the number of computers in schools, and providing adequate training to teachers and schools to ensure that ICT can be embedded into day-to-day teaching and learning activities.	Chapter 6
Infrastructure	The Ministry should convert all double-session schools to single-session schools to improve student outcomes.	The Ministry analysed performance of students in both single- and double-session schools and found student outcomes to be comparable on multiple dimensions: academic, co-curricular, and student discipline. A significant number of schools today are double-session schools, and there are significant cost implications on converting all these schools. As such, the Ministry will review school needs on a case-by-case basis to determine if concerns of overcrowding are best addressed by conversion, or if other measures such as the provision of additional classrooms may be more appropriate.	Chapter 6
	The Ministry should ensure schools have sufficient allocation for infrastructure maintenance.	The Ministry will continually review and provide an annual school maintenance budget moving forward.	Chapter 6
Performance management	The Ministry should review KPIs to measure student performance. Current KPIs focus too much on academic results and examinations rather the more important issues of plummeting quality of education.	The Ministry has developed a comprehensive set of KPIs that have an increased focus on critical inputs that affect student outcomes, like number of hours teachers spend on teaching and learning and participation in co-curricular activities. It will also continue to benchmark performance of the entire system against international standards such as TIMMS and PISA, to ensure comparability with other school systems.	Chapter 6 for re-vising Ministry KPIs, Chapter 4 for revising curriculum and examinations

Subtopic	Example topic raised in the National Dialogue	Ministry response/action	Reference
Performance management	The Ministry should set up an Independent Inspection Commission to evaluate key areas of overall quality of education in schools, e.g. (i) student achievement; (ii) quality of teaching; (iii) quality of leadership and school management; and (iv) student behaviour and their general safety.	Within the Ministry, JNJK is responsible for evaluating school quality on a comprehensive set of dimensions (leadership, organisational management, curriculum management, co-curricular activities, sports and student affairs, teaching and learning, and holistic student development). The Ministry is also looking into strengthening the JNJK by streamlining its scope of responsibilities, enhancing capabilities and capacity, as well as increasing its independence.	Chapter 6
Funding	The Ministry should provide differentiated levels of funding to schools based on their needs.	The Ministry is empowering states and districts to allocate discretionary funding (such as for maintenance) to schools as they deem fit. The Ministry is also investing additional resources in the lowest performing schools (for example, full-time teacher and principal coaches, travel allowances for students in rural schools).	Chapter 4
School autonomy	The Ministry should offer schools greater autonomy in initiating school policy changes, appointing school heads and teachers, and tailoring subjects according to students' needs.	In line with the practices of other high-performing systems such as Singapore, the Ministry believes that the level of autonomy a school receives should be based on its current performance level and improvement trajectory. In the first wave of reform, only a small set of high-performing schools are expected to qualify for greater decision rights over budget and curriculum. Most schools will still require high levels of support and close monitoring from the Ministry to meet national standards. In the medium to long term, however, the Ministry expects that most schools will enjoy greater decision rights.	Chapter 4

Student learning

Subtopic	Example topic raised in the National Dialogue	Ministry response/action	Reference
Curriculum	The education system should develop students' problem-solving skills and the school curriculum should be relevant to "real-world experiences."	The Ministry is taking concrete steps to embed 21st century skills in the curriculum, and to ensure the curriculum is delivered as intended. This includes increasing the proportion of questions focused on higher-order thinking skills in the national examinations, paring down the curriculum to create more time in the classroom for group and project-based work, and improving pedagogical skills.	Chapter 4
English	The education system should strengthen student learning of English and English literacy.	The Ministry is expanding the LINUS programme to ensure 100% of students achieve basic English literacy standards by the end of three years of primary schooling. The Ministry is also investing in an intensive upskilling of all 70,000 English teachers to ensure that they meet international proficiency standards. Additionally, the Ministry will strengthen its MBMMBI initiatives on English including OPS English (to improve conversational English) and Set System (to tailor English teaching to student proficiency levels).	Chapter 4
	The education system should strengthen students' communication skills to improve their employability.	The Ministry is introducing OPS English, a programme designed to refocus classroom teaching on developing conversational English skills.	Chapter 4
	The Ministry should retain PPSMI.	The MBMMBI programme will be enhanced to deliver significant improvements in the English proficiency of all students, and to learn from shortcomings and implementation issues from previous programmes such as PPSMI. One critical pre-requisite is the rapid upgrading of the English proficiency levels of English teachers, which will be an important and immediate focus of the Ministry.	Chapter 4
	The Ministry should provide enhanced English teaching to students with aptitude for the language to allow them to use the language at advanced levels	The Ministry is introducing a range of initiatives to improve the quality of English language subject instruction, including the practice of grouping students by proficiency levels into "sets" and tailoring instruction accordingly.	Chapter 4
	The Ministry should reintroduce English as the medium of instruction in schools	Bahasa Malaysia will remain the main medium of instruction in National schools. The aspiration is for all Malaysian children to be proficient in both Bahasa Malaysia as the national language, and in English as the international language of commerce and diplomacy. The Ministry recognises that achieving significantly higher levels of English proficiency will require improving the quality of teaching and lesson delivery in English subject classes. In the medium-term, the Ministry will also consider introducing structural changes to support greater instructional time in English.	Chapter 4
Multilingual proficiency	The education system should improve multilingual proficiency amongst students and teach third languages such as Arabic, Mandarin, and Tamil.	The Ministry is committed to offering Mandarin and Tamil in all SKs when at least 15 children request it. Similarly with the new KSSR, students can elect to learn additional languages such as Mandarin, Tamil and Arabic subject to the availability of teachers. In the longer-term, as proficiency in Bahasa Malaysia and English improve across the system, the Ministry will also look into expanding the range of third languages options to include other major Asian and international languages such as Japanese and Spanish.	Chapter 4

Appendix IV: The Universal Scale

This review has relied on the use of a Universal Scale to classify school systems' performance as poor, fair, good, great or excellent. Different school systems participated in various assessments of student performance (TIMSS, PISA, PIRLS, NAEP) across multiple subjects (Mathematics, Science, Reading), at a variety of grades/levels (primary and lower secondary) and over a prolonged period, from 1980 through to the present. Collectively, there were 25 unique assessments, each using an independent scale. The Universal Scale methodology attempts to combine and compare performance of different education systems on the same scale.

Systems participating in international and national assessments

As part of this review, a Universal Scale was used to classify school systems' performance as poor, fair, good or great. The Universal Scale was used in the "How the world's most improved school systems keep getting better" 2010 report by Mckinsey and Co., based on methodology developed by Eric Hanushek and Ludger Woessmann ("The High Cost of Low Educational Performance" OECD 2010). This methodology was used to normalise the different assessment scales of systems that have participated in international assessments or national assessments such as the U.S. National Assessment of Educational Progress (NAEP) into a single Universal Scale. The units of the Universal Scale are equivalent to those of the 2000 PISA exam; on this scale approximately 38 points is equivalent to one school year. For example, eighth graders in a system with a Universal Scale score of 505 would be on average two years ahead of eighth graders in a system with a Universal Scale score of 425.

To create the Universal Scale, the Hanushek et al. methodology requires calibrating the variance within individual assessments (for instance, PISA 2000) and across every subject and age-group combination for a range of education systems , dating back to 1980. There are numerous challenges in calibrating variance. Each of these assessments tests different school systems, reflecting multiple geographies, socio-economic levels, and demographics. For example, PISA predominately includes OECD and partner countries while TIMSS has a much larger representation that includes developing nations. A variance of X on TIMSS is therefore not equivalent to a variance of X on PISA. Within each assessment, the cohort of participating countries changes from one year to the next. In order to compare the variance between the two assessments, a subset of mature and stable systems (i.e. those with consistently high rates of school enrolment) is used as a control group, and the variance between these systems is then compared across the assessments. After calibrating the variance, the methodology calls for calibrating the mean for each assessment. This has been done using the U.S. NAEP assessment as a reference point. The U.S. NAEP was selected for this purpose firstly because it provides comparable assessment scores as far back as 1971 and secondly because the U.S. has participated in all international assessments.

Once the various assessment scales have been made comparable, each school system's average score for a given assessment year is calculated by taking the average score across the tests, subjects, and grade levels for that year. This creates a composite system score on the universal scale for each year that can be compared over time.

Finally, each country's Universal Scale score is classified either as poor, fair, good, great, or excellent, based on the distribution below. The various performance categories are explained below:

- **Excellent:** greater than two standard deviations above the mean - > 560, points
- **Great**: greater than one standard deviation above the mean - 520-560 points
- **Good**: less than one standard deviation above the mean - 480-520 points
- **Fair:** less than one standard deviation below the mean - 440-480 points
- **Poor**: greater than one standard deviation below the mean - <440 points

According to the distribution of scores on the Universal Scale, the improvement gap – the improvement required for a system to progress from one performance level to the next – is one school year equivalent, or approximately 38 Universal Scale points (Exhibit IV-1)

EXHIBIT IV-1

The universal scale

Multiple assessments…

- **PISA**
- **TIMSS**
- **NAEP**
- **Other local assessments**

…normalised…

- 25 unique assessments
  - Test
  - Subject
  - Year
  - Level
- Normalised to a single scale[1]
- New units are equivalent to 2000 PISA
- Tiered into Poor, Fair, Good, Great, and Excellent performance

…onto a Universal Scale

1 Via method of Erik Hanushek & Ludger Woessmann
2 Standard deviation
3 School Year Equivalent (equal to 38 points on the PISA 2000 scale)

SOURCE: TIMSS; PISA; PIRLS; Hanushek and Woessmann, "The High Cost of Low Educational Performance" 2010, McKinsey & Co.

Appendix V: Sample questions from PISA 2009+

The Programme for International Student Assessment (PISA) assesses 15-year-old students in three aspects, Reading, Mathematics and Science over a range of difficulty from below minimum, intermediate to advanced level. PISA is administered in the same language of instruction in the mainstream education system in the participating country (Bahasa Malaysia in the case of Malaysia). This appendix provides a sample of questions from each aspect of Reading, Mathematics and Science across the three levels of difficulty and the performance of Malaysia's students in the assessment as compared to peers.

EXHIBIT V-1

Assessment of Mathematics

Scale	Level	Lower score limit	% of students able to score at each level or above (in OECD)	Expected competencies
Advanced	6	669	3.1	▪ Conceptualise, generalise and utilise information based on their modeling of complex problem situations ▪ Link different information sources and representations and flexibly translate between them ▪ Capable of advanced mathematical thinking and reasoning ▪ Provide accurate interpretations of their findings
	5	607	12.7	▪ Develop and work with models for complex situations, identify constraints and specify assumptions ▪ Use broad, well-developed thinking and reasoning skills, appropriately linked representations, symbolic and formal characterisations, and insight pertaining to these situations ▪ Communicate their interpretations and reasoning
Intermediate	4	545	31.6	▪ Work effectively with explicit models for complex concrete situations that may involve constraints or call for making assumptions ▪ Select and integrate different representations, including symbolic representations, linking them directly to aspects of real-world situations
	3	482	56.0	▪ Execute clearly described procedures ▪ Select and apply simple problem-solving strategies ▪ Interpret and use representations based on different information sources and reason directly from them ▪ Develop short communications reporting their interpretations, results and reasoning
	2	420	78.0	▪ Interpret and recognise situations in simple contexts with direct inference ▪ Extract relevant information from a single source and make use of a single representational mode ▪ Direct reasoning and literal interpretations of the results
Below min	1	358	92.0	▪ Answer questions involving familiar contexts ▪ Identify information and carry out routine procedures according to direct instructions in explicit situations ▪ Perform obvious actions that follow immediately from the given stimuli

SOURCE: OECD

EXHIBIT V-2

PISA

A sample question from PISA 2009: Mathematics

Below min

Description: P2003 Tossing Coins (Q01) M423Q01
Difficulty: Level 1

LAMBUNG DUIT SYILING

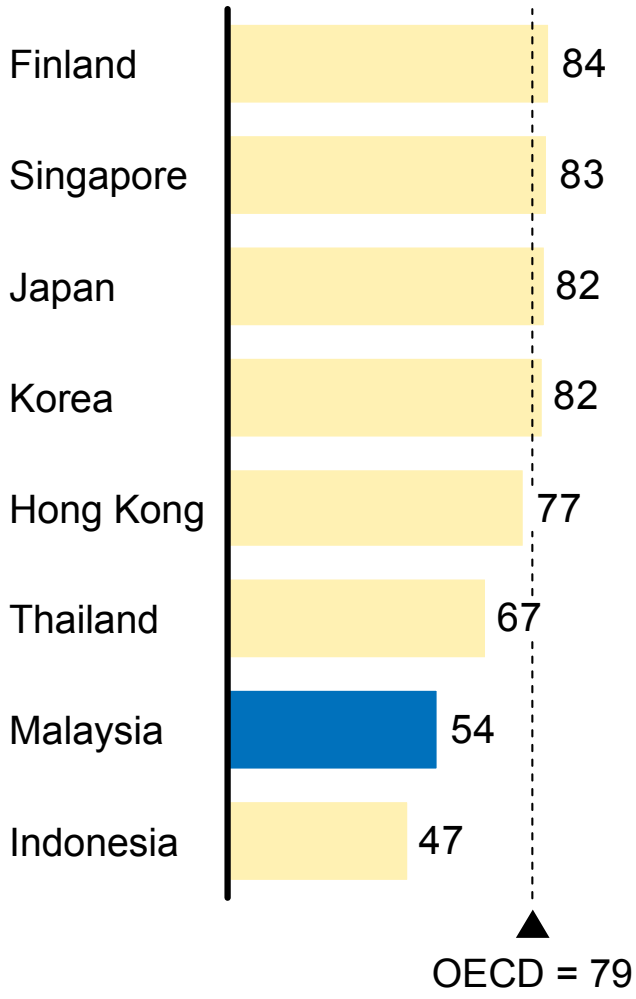
Soalan 44: LAMBUNG DUIT SYILING

Duit syiling adil di lambung 4 kali, dan setiap kali lambungan keputusannya adalah kepala.

Jika duit syiling itu dilambung sekali lagi, pernyataan yang manakah benar bagi lambungan seterusnya?

A. Ia berkemungkinan sama untuk mendapat kepala atau ekor.
B. Ia berkemungkinan besar untuk mendapat ekor.
C. Ia berkemungkinan besar untuk mendapat kepala.
D. Ia tidak mungkin mendapat kepala lagi.

% of 15-year old students with correct answer



SOURCE: PISA 2009+ report

EXHIBIT V-3

PISA

A sample question from PISA 2009: Mathematics

Inter-mediate

Description: P2003 Cash Withdrawal (Q01) M496Q01
Difficulty: Level 3

PENGELUARAN TUNAI

Soalan 42: PENGELUARAN TUNAI *M496Q01*

Luis hendak mengeluarkan wang dari mesin pengeluar wang automatik (ATM). Mesin ATM hanya boleh mengeluarkan dua jenis nota wang kertas, 20 zeds dan 50 zeds.

Bolehkah Luis mengeluarkan setiap jumlah wang berikut daripada mesin ATM?

Bulatkan sama ada "Ya" atau "Tidak" bagi setiap jumlah wang di dalam jadual berikut.

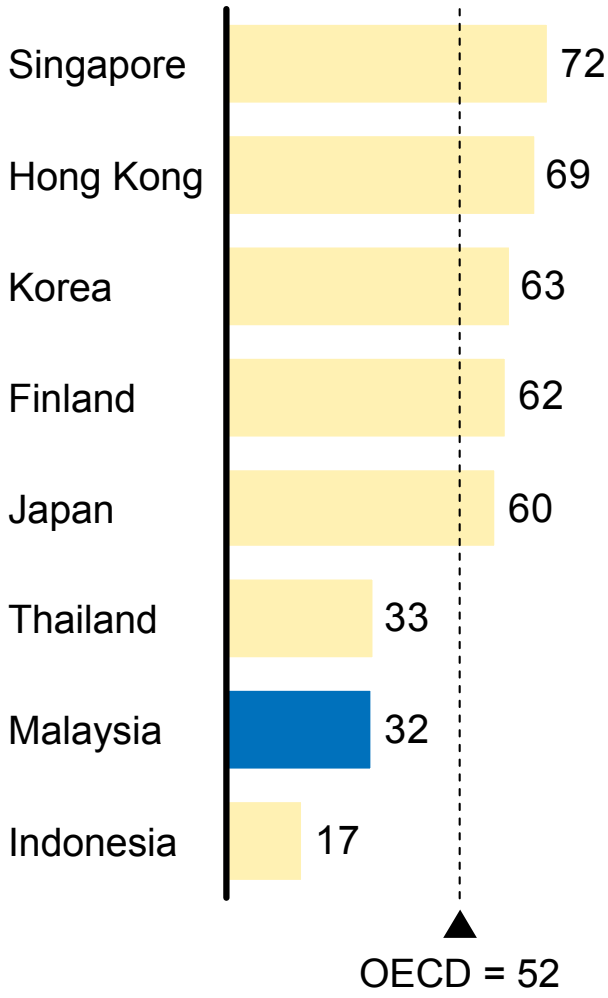
Jumlah	Bolehkah jumlah ini dikeluarkan?
30 zeds	Ya / Tidak
110 zeds	Ya / Tidak
330 zeds	Ya / Tidak
1330 zeds	Ya / Tidak

Soalan 43: PENGELUARAN TUNAI *M496Q02 - 0 1 9*

ATM telah diprogramkan untuk mengeluarkan nota wang kertas paling besar sehingga 50 zeds daripada jumlah wang yang dikeluarkan.

Berapakah bilangan nota wang kertas 50 zeds dan 20 zeds yang mungkin Luis perolehi daripada mesin ATM sekiranya dia mengeluarkan 310 zeds?

% of 15-year old students with correct answer



SOURCE: PISA 2009+ report

EXHIBIT V-4

PISA

A sample question from PISA 2009: Mathematics

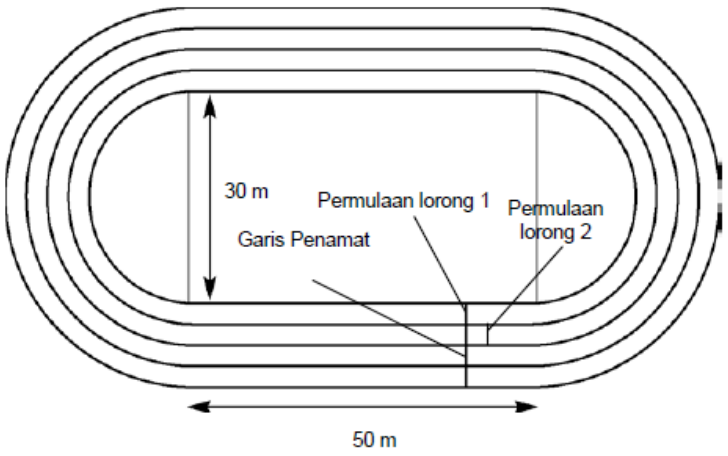
Ad-vanced

Description: P2003 Running Tracks (Q01) M406Q01
Difficulty: Level 5

TREK BALAPAN

Rajah di bawah menunjukkan sebahagian daripada trek balapan. Di tengah-tengah trek terdapat kawasan segiempat dan kawasan separuh bulatan di setiap bahagian hujung trek balapan.

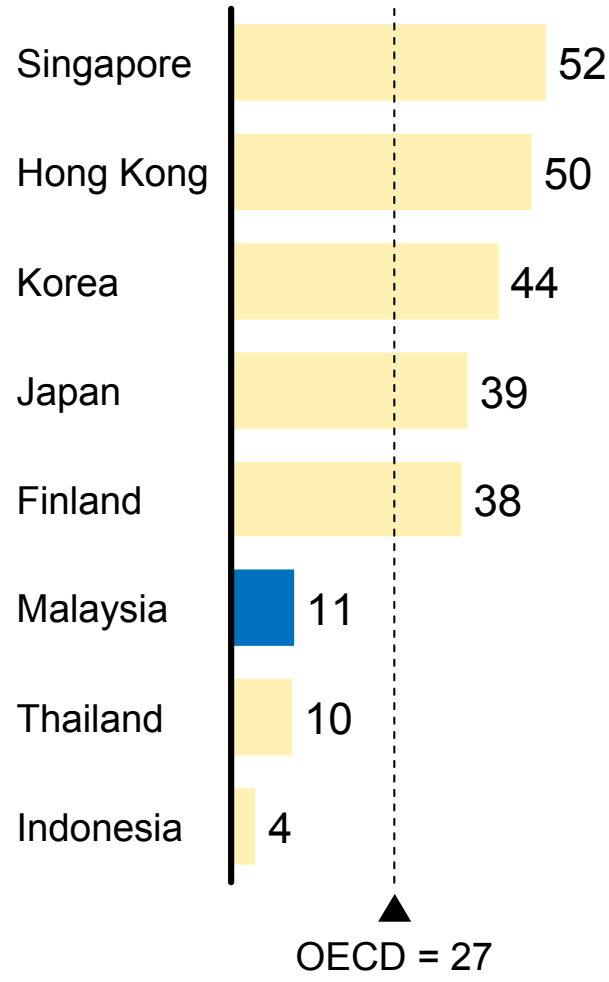
Setiap lorong adalah 1 meter lebar.



Soalan 46: TREK BALAPAN *M406Q01 - 0 1 9*

Apakah jarak untuk satu pusingan trek sekiranya anda berlari di lorong 1 (iaitu lorong yang paling dalam)? Tunjukkan jalan penyelesaian.

% of 15-year old students with correct answer



SOURCE: PISA 2009+ report

EXHIBIT V-5

PISA

Assessment of Science

Scale	Level	Lower score limit	% of students able to score at each level or above (in OECD)	Expected competencies
Advanced	6	708	1.1	▪ Apply scientific knowledge and knowledge about science in complex life situations ▪ Clearly and consistently demonstrate advanced scientific thinking and reasoning, Use scientific knowledge and develop arguments in support of recommendations and decisions that centre on personal, social or global situations.
	5	633	8.5	▪ Identify the scientific components of many complex life situations ▪ Apply both scientific concepts and knowledge about science to these situations ▪ Compare, select and evaluate appropriate scientific evidence ▪ Bring critical insights to situations
Intermediate	4	559	29.1	▪ Work effectively with situations and issues that may involve explicit phenomena requiring them to make inferences about the role of science or technology
	3	484	57.7	▪ Identify clearly described scientific issues in a range of contexts ▪ Select facts and knowledge to explain phenomena and apply simple models or inquiry strategies
	2	409	82.0	▪ Adequate scientific knowledge to provide possible explanations in familiar contexts or draw conclusions based on simple investigations ▪ Direct reasoning and make literal interpretations of the results of scientific inquiry or technological problem solving
Below min	1	335	95.0	▪ Limited scientific knowledge that it can only be applied to a few, familiar situations ▪ Present obvious scientific explanations that follow explicitly from given evidence

SOURCE: OECD

EXHIBIT V-6

PISA

A sample question from PISA 2009: Science

Below min

Description: P2006 Cooking Outdoors (Q02) S521Q06
Difficulty: Below Level 1

MEMASAK DI LUAR

Sven dan Marika bercadang memasak di luar rumah. Marika berkata mereka patut menggunakan tong gasnya yang mengandungi gas propana. Gas propana berasal dari minyak mentah atau gas asli, dan boleh dibeli dalam bentuk cecair di dalam bekas logam.

Sven berkata mereka patut menggunakan kayu sebagai bahan api. Marika berkata api dari kayu akan menghasilkan banyak asap dan jelaga (zarah-zarah karbon).

Sven dan Marika memutuskan untuk menguji samada nyalaan kayu atau nyalaan propana menghasilkan lebih jelaga. Mereka menggunakan penyepit untuk memegang kepingan aluminium di atas kedua-dua nyalaan. Selepas beberapa ketika mereka mengeluarkan kepingan dari setiap nyalaan dan membersihkannya menggunakan kertas putih. Sebarang jelaga yang terhasil akan membentuk sebagai bahan hitam atas kertas putih.

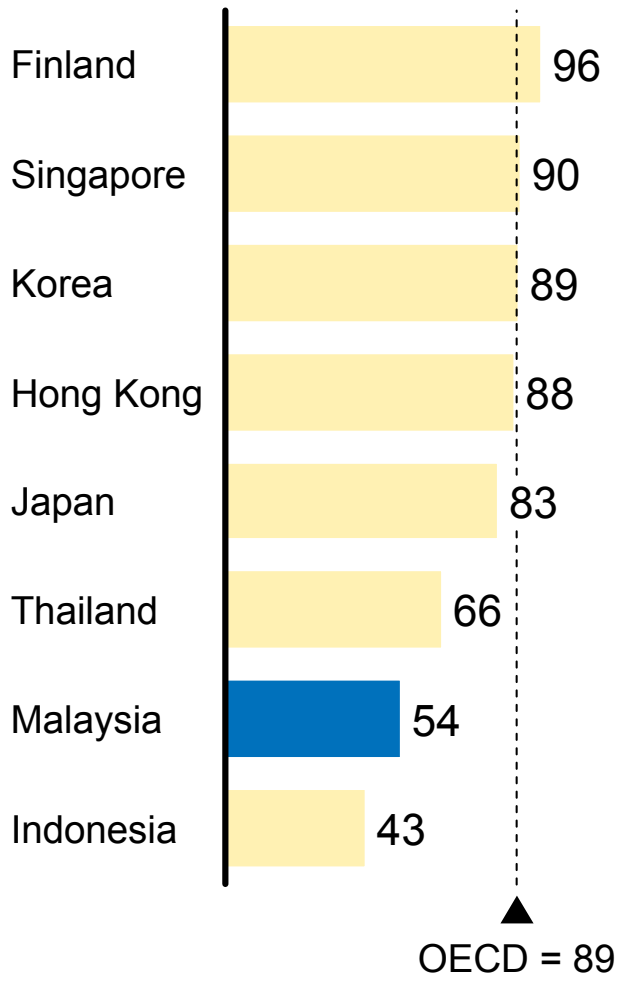
Sven dan Marika mendapati nyalaan kayu menghasilkan banyak jelaga. Pada mulanya terdapat sedikit jelaga dari nyalaan propana, tetapi selepas Marika meningkatkan jumlah udara bergerak pada nyalaan tersebut , ia tidak menghasilkan jelaga lagi.

Soalan 39: MEMASAK DI LUAR

Sven memberitahu simbol C_3H_8 ada dicetak di sebelah tepi bekas gas propana. Apakah yang ditunjukkan oleh simbol-simbol ini mengenai propana?

A Dimana ia di keluarkan.
B Komposisi kimia.
C Kod amaran api.
D Ketumpatan cecair propana.

% of 15-year old students with correct answer



SOURCE: PISA 2009+ report

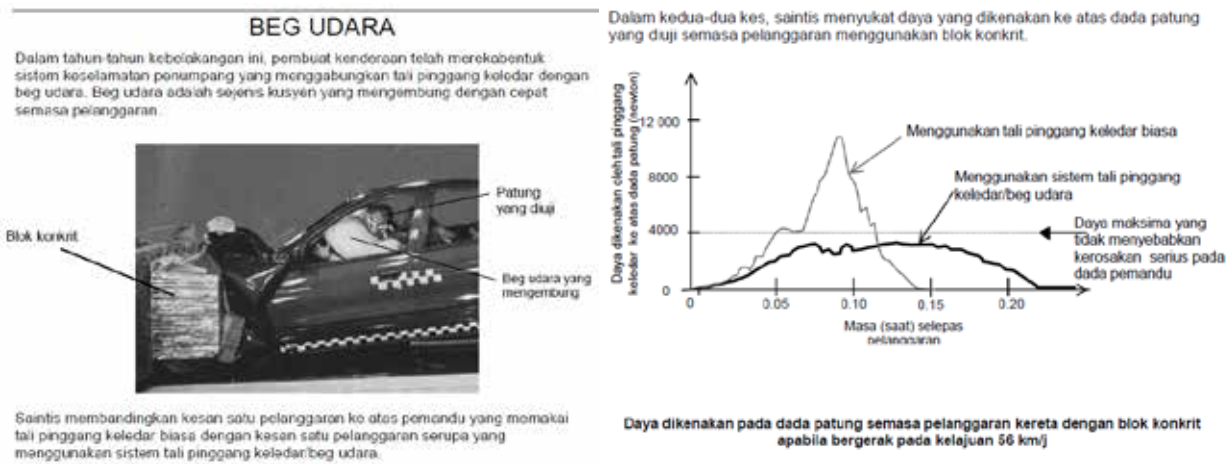
EXHIBIT V-7

PISA

A sample question from PISA 2009: Science

Inter-mediate

Description: P2006 Airbags (Q01) S519Q01
Difficulty: Level 3



Soalan 40: BEG UDARA

S519Q01 – 0 1 2 9

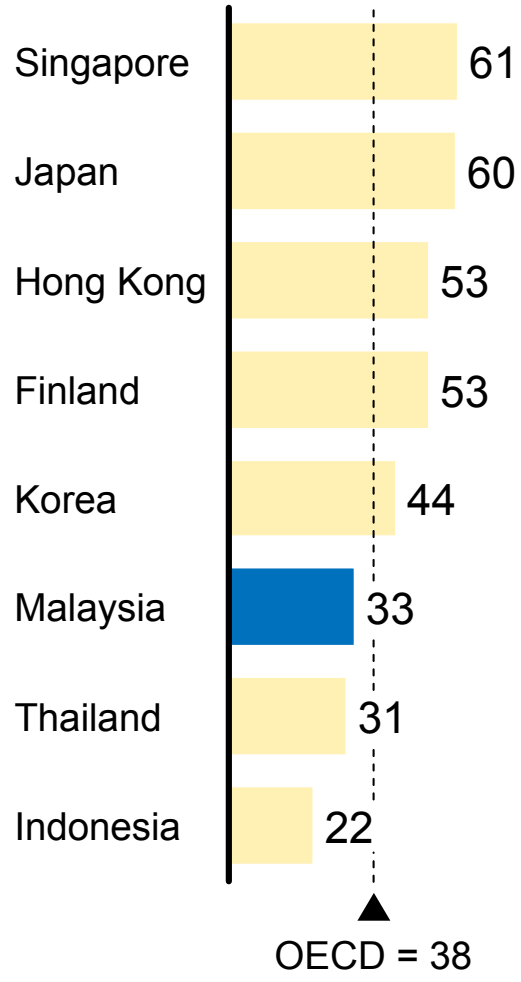
Gunakan data dalam graf untuk menerangkan mengapa pemandu yang terlibat dalam satu pelanggaran pada kelajuan 56 km/j lebih selamat menggunakan sistem gabungan tali pinggang keledar/beg udara berbanding dengan menggunakan tali pinggang keledar tanpa perlindungan beg udara.

.....

.....

.....

% of 15-year old students with correct answer



SOURCE: PISA 2009+ report

EXHIBIT V-8

PISA

A sample question from PISA 2009: Science

Ad-vanced

Description: P2006 Wild Oat Grass (Q03) S408Q03
Difficulty: Level 5

Soalan 35: RUMPUT OAT LIAR

S408Q03 – 0 1 9

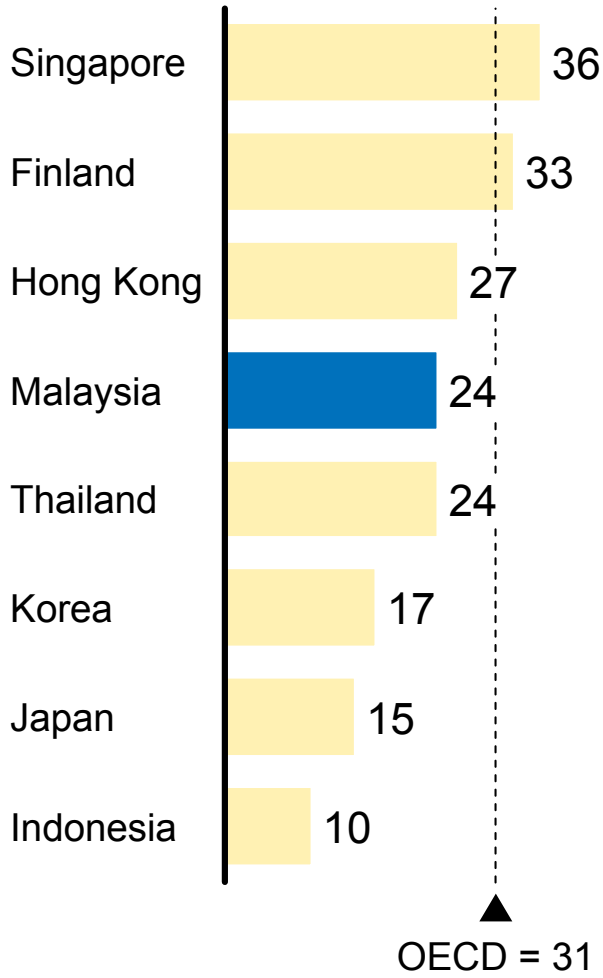
Petani menanam rumput biasa di sebahagian ladangnya untuk makanan lembu. Rumput dipotong tiga kali semasa musim pertumbuhan untuk menyekat penyebaran rumput oat liar.

Terangkan kenapa rumput dipotong beberapa kali semusim boleh menyekat penyebaran rumput oat liar .

.....

.....

% of 15-year old students with correct answer



SOURCE: PISA 2009+ report

EXHIBIT V-9

PISA

Assessment of Reading

Scale	Level	Lower score limit	% of students able to score at each level or above (in OECD)	Expected competencies
Ad-vanced	6	698	0.8	▪ Highly skilled readers ▪ Comprehend both explicit and implicit information ▪ Reflect on and evaluate what they read at a more general level
	5	626	7.6	▪ Find information in texts that are unfamiliar to either form or content, demonstrate detailed understanding, and infer which information is relevant to the task ▪ Evaluate critically and build hypotheses, draw on specialised knowledge and accommodate concepts that may be contrary to expectations
Inter-mediate	4	553	28.3	▪ Capable of difficult reading tasks, such as locating embedded information, construing meaning from nuances of language and critically evaluating a text
	3	480	57.2	▪ Capable of reading tasks of moderate complexity, such as locating multiple pieces of information, making links between different parts of a text, and relating it to familiar everyday knowledge
	2	407	81.2	▪ Locate information that meets several conditions ▪ Make comparisons or contrasts around a single feature ▪ Understand a well-defined text even when the information is not prominent ▪ Make connections between the text and personal experience
Below min	1a	335	94.3	▪ Locate pieces of explicitly stated information that is rather prominent in the text ▪ Recognise a main idea in a text about a familiar topic and the connection between information in such a text and their everyday experience
	1b	262	98.9	▪ Find explicitly stated information in short, simple texts with a familiar style and content ▪ Make low-level inferences such as recognising a causal connection across two sentences even when it is not stated

SOURCE: OECD

EXHIBIT V-10

PISA

A sample question from PISA 2009: Reading

Below min

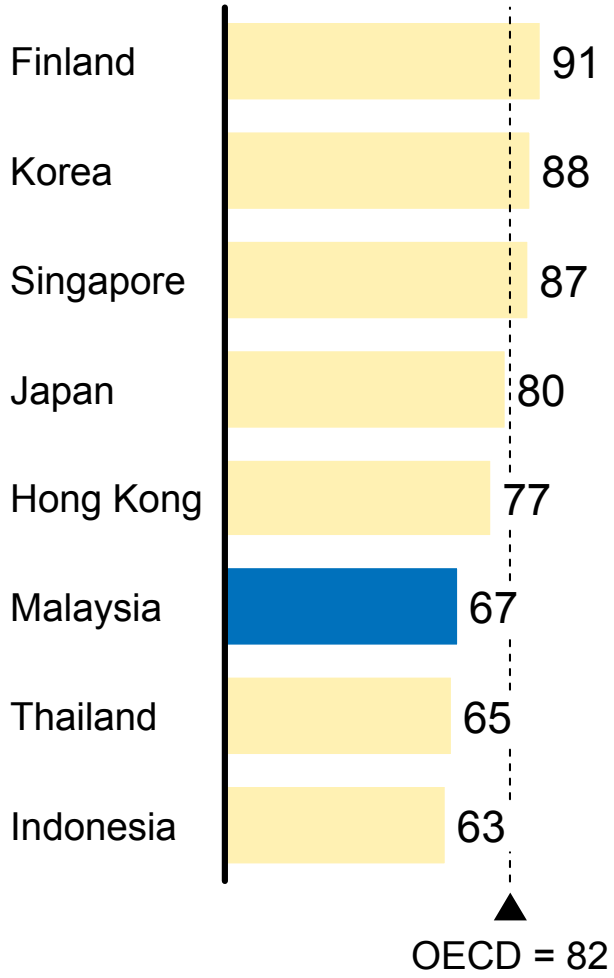
Description: P2000 Drugged Spiders R055Q01
Difficulty: Level 1

Soalan 35: LABAH-LABAH DI BAWAH PENGARUH DADAH *R055Q01*

Apakah objektif utama kajian terhadap labah-labah oleh NASA?

A Untuk mengetahui samada labah-labah boleh digunakan untuk kajian di angkasa lepas.
B Untuk meneroka berapa jenis sarang yang dapat dijalinkan oleh labah-labah.
C Untuk mengetahui samada labah-labah yang di bawah pengaruh dadah masih dapat menjalinkan sarangnya pada lewat malam.
D Untuk meneroka bagaimana labah-labah bertindakbalas dengan dadah yang berbeza.

% of 15-year old students with correct answer



SOURCE: PISA 2009+ report

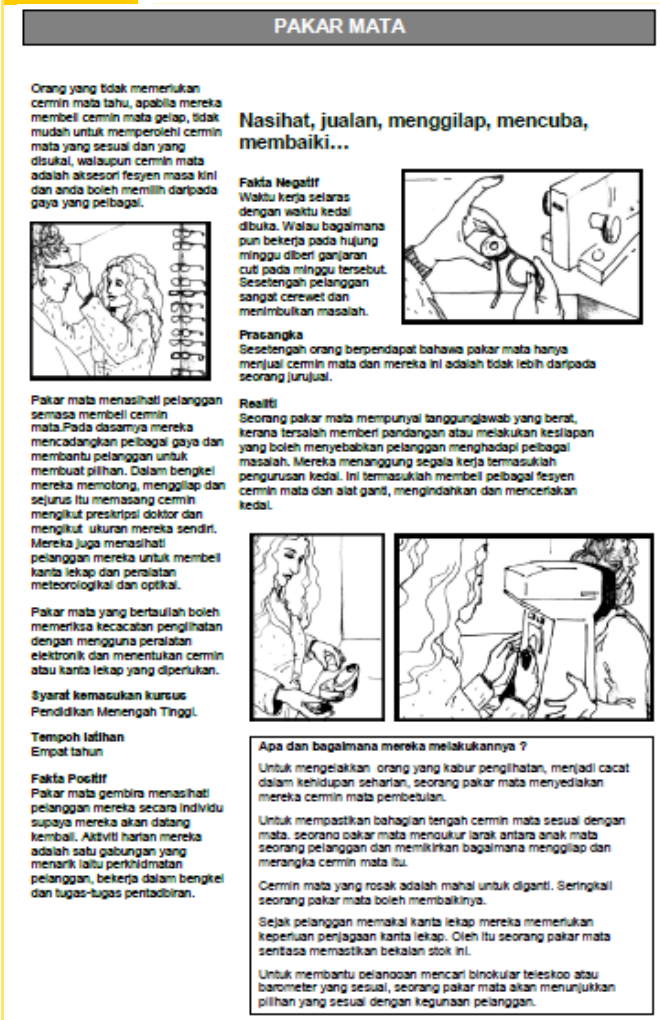
EXHIBIT V-11

PISA

A sample question from PISA 2009: Reading

Inter-mediate

Description: P2000 Optician (Q01) R227Q01
Difficulty: Level 3



PAKAR MATA

Orang yang tidak memerlukan cermin mata tahu, apabila mereka membeli cermin mata gelap, tidak mudah untuk memperolehi cermin mata yang sesuai dan yang disukai, walaupun cermin mata adalah aksesori fesyen masa kini dan anda boleh memilih daripada gaya yang pelbagai.

Pakar mata menasihati pelanggan semasa membeli cermin mata.Pada dasarnya mereka mencadangkan pelbagai gaya dan membantu pelanggan untuk membuat pilihan. Dalam bengkel mereka memotong, menggilap dan sejurus itu memasang cermin mengikut preskripsi doktor dan mengikut ukuran mereka sendiri. Mereka juga menasihati pelanggan mereka untuk membeli kanta lekap dan peralatan meteorologikal dan optikal.

Pakar mata yang bertauliah boleh memeriksa kecacatan penglihatan dengan menggunakan peralatan elektronik dan menentukan cermin atau kanta lekap yang diperlukan.

Syarat kemasukan kursus
Pendidikan Menengah Tinggi.

Tempoh latihan
Empat tahun

Fakta Positif
Pakar mata gembira menasihati pelanggan mereka secara individu supaya mereka akan datang kembali. Aktiviti harian mereka adalah satu gabungan yang menarik iaitu perkhidmatan pelanggan, bekerja dalam bengkel dan tugas-tugas pentadbiran.

Nasihat, jualan, menggilap, mencuba, membaiki…

Fakta Negatif
Waktu kerja selaras dengan waktu kedai dibuka. Walau bagaimana pun bekerja pada hujung minggu diberi ganjaran cuti pada minggu tersebut. Sesetengah pelanggan sangat cerewet dan menimbulkan masalah.

Prasangka
Sesetengah orang berpendapat bahawa pakar mata hanya menjual cermin mata dan mereka ini adalah tidak lebih daripada seorang jurujual.

Realiti
Seorang pakar mata mempunyai tanggungjawab yang berat, kerana tersalah memberi pandangan atau melakukan kesilapan yang boleh menyebabkan pelanggan menghadapi pelbagai masalah. Mereka menanggung segala kerja termasuklah pengurusan kedai. Ini termasuklah membeli pelbagai fesyen cermin mata dan alat ganti, menginduksikan dan mencerlakan kedai.

Apa dan bagaimana mereka melakukannya ?

Untuk mengelakkan orang yang kabur penglihatan, menjadi cacat dalam kehidupan seharian, seorang pakar mata menyediakan mereka cermin mata pembetulan.

Untuk mempastikan bahagian tengah cermin mata sesuai dengan mata, seorang pakar mata mengukur jarak antara anak mata seorang pelanggan dan memikirkan bagaimana menggilap dan merangka cermin mata itu.

Cermin mata yang rosak adalah mahal untuk diganti. Seringkali seorang pakar mata boleh membaikinya.

Sejak pelanggan memakai kanta lekap mereka memerlukan keperluan penjagaan kanta lekap. Oleh itu seorang pakar mata sentiasa memastikan bekalan stok ini.

Untuk membantu pelanggan mencari binokular teleskop atau barometer yang sesuai, seorang pakar mata akan menunjukkan pilihan yang sesuai dengan kegunaan pelanggan.

Bahan di muka surat sebelah dan di bawah menerangkan tentang pekerjaan pakar mata di Switzerland. Sila rujuk kepada bahan untuk menjawab soalan berikut.

Profil Kelayakan

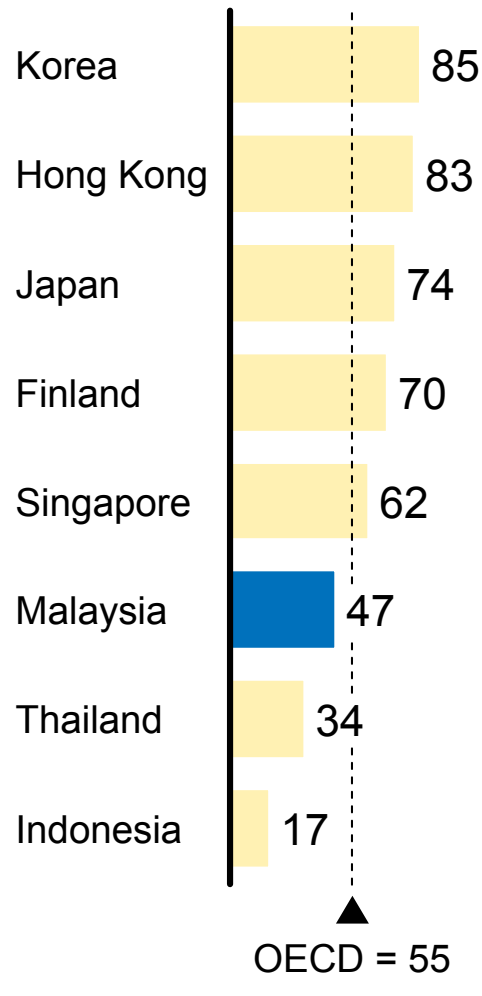
	Kelebihan	Penting	Sangat Penting
Kemahiran manual			
Kemahiran Organisasi			
Ketepatan			
Minat dalam Matematik, Geometri dan			
Keperoayaan			
Kemahiran bahasa asing			
Deria estetik, peka terhadap perkembangan fesyen			
Kemahiran sosial, peramah			
Kesabaran			

Soalan 49: PAKAR MATA

Apakah matlamat utama bahan ini?

A Untuk memaklumkan pakar mata tentang kursus ulangkaji.
B Untuk memaklum orang ramai tentang kerjaya sebagai seorang pakar mata.
C Untuk memaklumkan orang ramai menghargai kepakaran seorang pakar mata.
D Untuk menggalakkan orang ramai membuat pemeriksaan mata oleh seorang pakar mata.

% of 15-year old students with correct answer



SOURCE: PISA 2009+ report

EXHIBIT V-12

PISA

A sample question from PISA 2009: Reading

Ad-vanced

Description: P2009 Narcissus Q7 R437Q07
Difficulty: Level 5

NARCISSUS

Seorang Ahli Kimia telah mengambil sebuah buku, yang dibawa bersama oleh seseorang dari karavan. Salinan tersebut tidak mempunyai muka depan, namun dia dapat membaca nama penulis buku tersebut, iaitu Oscar Wilde. Setelah membelek beberapa helaian maka dia telah menemui cerita tentang Narcissus.

Ahli Kimia ini tahu tentang lagenda Narcissus, iaitu seorang pemuda tampan yang mana setiap hari pergi ke tasik untuk merenung kecantikannya. Pada suatu hari disebabkan terlalu asyik dengan dirinya, dia terjatuh ke dalam tasik dan lemas. Di tempat dia terjatuh, sekuntum bunga telah tumbuh yang mana mereka memanggilnya narcissus.

Bagaimanapun, ini bukanlah caranya Oscar Wilde mengakhiri cerita.

Dia berkata apabila Narcissus meninggal, Oreads iaitu dewi-dewi dari hutan datang dan melihat bahawa tasik tersebut telah bertukar daripada tasik air tawar kepada suatu balang berisi air mata yang masin.

"Kenapa anda menangis?" Oreads bertanya.

"Saya menangis untuk Narcissus," tasik berkata.

"Oh, sebab anda menangisi Narcissus tidak mengejutkan kami," mereka berkata. "Walaupun kami mengejarnya melalui hutan kecil, namun hanya anda sahaja yang berpeluang untuk merenung kecantikannya dengan lebih dekat.

"Jadi, adakah Narcissus cantik?" tasik bertanya.

"Siapakah yang terbaik untuk menjawab soalan ini? Jawab Oreads dengan nada terkejut.

"Tidakkah tebing kamu ini tempat dia duduk setiap hari."

Tasik terdiam seketika. Akhirnya ia menjawab, "Saya menangis untuk Narcissus, tapi saya tidak perasan bahawasanya dia cantik. Saya menangis untuk Narcissus kerana setiap kali dia membongkok ke tebing sungai, saya dapat melihat kecantikan saya di dalam matanya."

"Betapa indahnya cerita ini," Alchemist berkata.

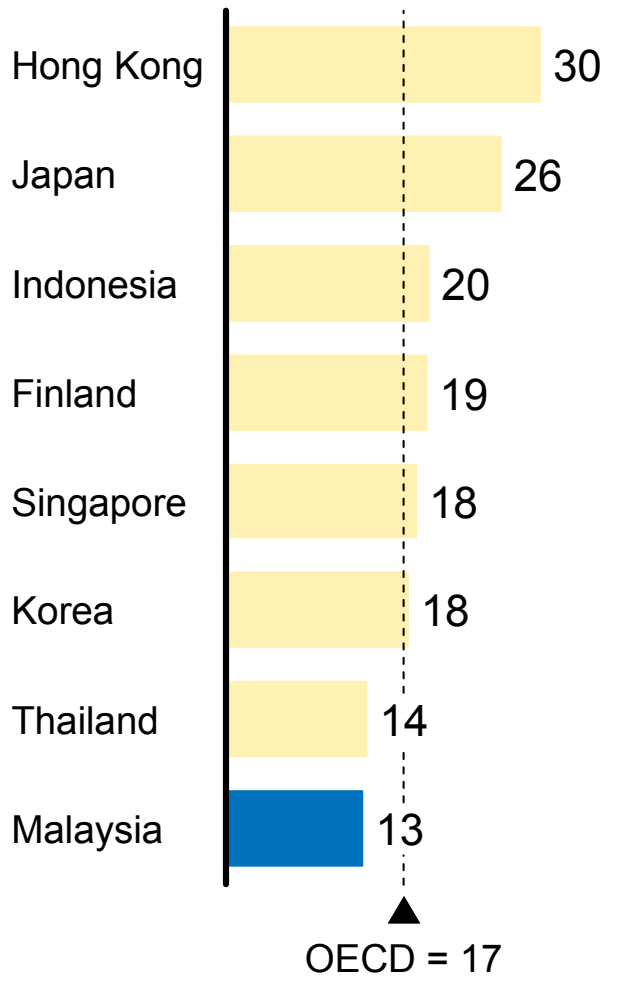
Soalan 58 : NARCISSUS R437Q07 – 0 1 9

Apakah idea yang anda fikir Oscar Wilde cuba nyatakan pada versinya tentang cerita -cerita Narcissus ini?

.....

.....

% of 15-year old students with correct answer

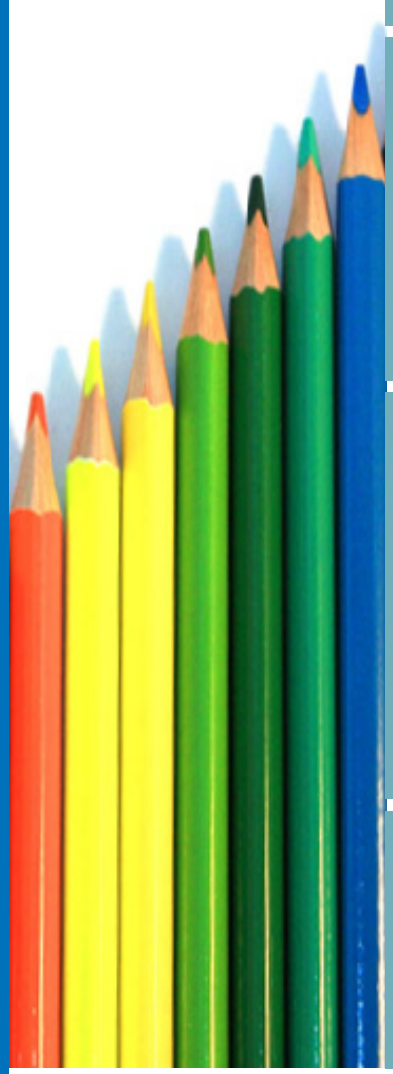


SOURCE: PISA 2009+ report

Appendix VI: The Education Roadmap

Chapter 8 articulated the importance of sequencing initiatives in a manner that does not overburden the system and highlighted priority initiatives that the Ministry will focus its energies on. This appendix shows the sequencing of the transformation programme in further detail and includes all Blueprint initiatives that will be completed across three waves from now to 2025. For the sake of clarity, initiatives are categorised according to the waves that they are actually implemented in rather than at the point where planning or preparation starts. For further details, please refer to the relevant chapter.

The education transformation will take place over 13 years



LEVERS		WAVE 1: Turn around system
STUDENT LEARNING	CURRICULUM & ASSESSMENT	**Improved translation of curriculum into classroom teaching** ▪ Increased proportion of questions testing higher order thinking in assessments ▪ Pared down content within core subjects if overcrowding is detected through international benchmarking ▪ *IThink* training and programme rolled out ▪ Tools to ease KSSR roll-out introduced **IB programme introduced**
	LANGUAGE	**Improved BM and English proficiency through MBMMBI** ▪ Standardised BM curriculum across National and National-type primary schools ▪ BM remedial classes introduced in National-type schools ▪ English teachers all trained to minimum proficiency levels ▪ LINUS expanded to include English literacy ▪ English OPS rolled out across Secondary schools ▪ Set system for English rolled out across all Secondary schools
	ACCELERATING SCHOOL IMPROVEMENT	**Scaled up school improvement starting with lowest performing schools** ▪ Redefined JPN and PPD roles with greater operational flexibility over budget and personnel development ▪ Tailored interventions rolled out ▪ Common system goals cascaded down from federal to JPN to PPD to schools
	GROUPS WITH SPECIFIC NEEDS	**Targeted interventions for groups with specific needs** ▪ School improvement programmes include specific elements for SKM schools ▪ Comprehensive IOM data collected ▪ K9 schools for *Orang Asli* and *Penan* trebled, KEDAP rolled out nationally and KAP updated ▪ Infrastructure upgraded and improved to be friendly to students with special needs ▪ Incorporate new modules on teaching special needs students into teacher training ▪ Increase physical and teaching resources for students with special needs
TEACHERS AND SCHOOL LEADERS	TEACHERS	**Pedagogical skills boosted to improve student-centred teaching** ▪ Single evaluation tool with clear competencies for teaching and learning defined and introduced ▪ SISC+ for teachers in Bands 5,6,7 schools introduced ▪ *eGuru* up and running ▪ Lighter administrative burden for teachers **Higher entry standards for teachers introduced**
	SCHOOL LEADERS	**School leadership enhanced** ▪ SiPartners+ introduced ▪ Succession planning started ▪ Residency and immersion programme **Enhanced selection criteria and process for principals put in place** **Best principals given incentives to go to underperforming schools**
SYSTEM STRUCTURE	PHASES OF EDUCATION	**Pre-school and secondary enrolment increased** ▪ Aggressive enrolment drive launched ▪ 11 years compulsory schooling introduced
	PATHWAYS	**Vocational education strengthened** ▪ Enrolment increased using trained guidance counselors who produce student career profiles ▪ Quality of practicum improved through enhanced collaboration with private industry **Improved standards in religious schools (public and private) through STAM promotion** **Form 6 rebranded**
	ENHANCEMENT OF UNITY	**National-type schools maintained and strengthened through initiatives targeting quality (see student learning)**
	PARENTS, COMMUNITY AND PRIVATE SECTOR	**Parental and community involvement increased** ▪ Parental toolkit rolled-out ▪ Adjustments to financial aid based on need ▪ Private sector-funded scholarships for rural and poor children
MINISTRY TRANSFOR-MATION	RESOURCE PRODUCTIVITY	**Ministry efficiency improved** ▪ RM 1 bn annual cost savings reallocated to teacher training and upskilling ▪ All schools equipped with basic infrastructure ▪ Annual rationalisation of programmes at district, state and Ministry level **1BestariNet and school hardware rolled out and teachers trained in ICT usage**
	DELIVERY CAPABILITIES	**JPN and PPD leadership and roles strengthened** ▪ Top 150 leaders appointed as JPN / PPD heads ▪ Almost 2,500 more personnel deployed from MOE and JPNs to PPDs to support schools

WAVE 2: Accelerate system improvement	**WAVE 3:** Move towards excellence
Learning standards raised ▪ KSSM and revised KSSR launched with embedded 21st Century Skills based on international benchmarking ▪ National exams consist of 80% higher order thinking questions ▪ Co-curricular activities and community service made a requirement for graduation ▪ Islamic Education and Moral Education enhanced **IB programme scaled up**	**Curriculum and assessments revisited and revised** ▪ Revised KSSM rolled out in 2022 ▪ Revised KSSR rolled out in 2023
Structural changes to increase English exposure time introduced ▪ Expanded English Literature module for SPM explored and possibly piloted ▪ English remedial class introduced at Upper Primary level **Remove class phased out** **Chinese, Tamil and Arabic made available as additional languages in all National primary schools (including using ICT innovations to ease rollout)**	**Successful English exposure options scaled up** ▪ Successful English exposure options rolled out based on parental demand ▪ English remedial class rolled out across all Secondary schools **Chinese, Tamil, Arabic and additional languages such as Spanish, French and Italian made available in all National primary and secondary schools**
New programmes for groups with specific needs rolled out **Operational flexibility over curriculum timetabling and budget allocation increased for select schools provided they meet clearly defined performance criteria**	**Autonomy over curriculum and budgets increased for most schools**
IOM, Gifted, Orang Asli and special needs programmes enhanced ▪ Tailored curricula introduced ▪ Infrastructure upgraded ▪ Differentiated teacher training in place ▪ Partnerships with private sector developed ▪ Accelerated pathway for high-achieving students introduced	**Gifted education programme rolled out nationally**
New teacher career package implemented ▪ Comprehensive CPD linked to competencies rolled out ▪ Fast tracking or redeployment based on performance implemented **Pre-service teacher training enhanced** ▪ Curriculum reform	**Principals and teachers empowered and role professionalised** ▪ Greater operational flexibility over professional issues ▪ Certification for teachers linked to competencies considered
New career pathways and progression mechanism for principals rolled out: ▪ Fast tracking or redeployment based on performance implemented ▪ Comprehensive CPD linked to competencies rolled out ▪ Strengthened middle layer of leaders in schools	**Increased school-based management for all schools that meet criteria**
Matriculation upgraded to international standards **Increased uptake of vocational education:** ▪ Number of guidance counselors increased ▪ Off-take agreements with private vocational colleges scaled up	**Scale up private sector involvement in vocational education**
Unity improved between schools ▪ Compulsory community service introduced ▪ RIMUP expanded ▪ Revamped Islamic Education and Moral Education syllabus rolled out **Private religious schools voluntarily converted to National Religious schools or registered**	**System structure reviewed and updated**
Feedback gathered from every PIBG on contextualisation of curriculum and teacher quality	**Private sector partnerships at scale** (e.g. trust schools, school adoption programme)
All schools have baseline infrastructure needed to deliver new curriculum **Overcrowded primary schools with significant after-school remedial requirements converted to single session schools** **Outcome-based budgeting system of financial management in place** **ICT innovations piloted**	**Successful models of ICT innovation scaled up** **Overcrowded secondary schools with significant after-school remedial requirements converted to single session schools**
Key Ministry divisions strengthened ▪ JNJK independence increased ▪ BPK strengthened into a centre of excellence ▪ LP, BPPDP and BPG strengthened **Organisation structure streamlined to align with new core functions**	**New career pathways and progressions for Ministry officers rolled out**

Appendix VII: GTP 2.0 Education Initiatives

Education was identified as a National Key Result Area (NKRA) within the Government Transformation Programme (GTP) in 2009 with five focus areas, namely preschools, literacy and numeracy, high-performing schools, New Deal (*Bai'ah*) for principals and the School Improvement Programme. The planning for the next phase of GTP 2.0 was dovetailed with that of the Blueprint to ensure alignment in priorities and actions. To that end, the GTP2.0 initiatives which will run from 2013 to 2015 will form part of the first wave of the Blueprint which spans the entirety of the timeframe of 2013-2025. These initiatives will be delivered jointly with PEMANDU.

GTP 2.0 FOCUS AREAS

GTP 2.0 will include the continuation of the five focus areas from GTP 1.0 with enhancements over the next three years. Three focus areas will be added, namely the Principal Career Package, Teacher Career Package and Upskilling of English language teachers.

Focus Area	Enhancements and Initiatives
Preschool	GTP 1.0 stressed the importance of increasing preschool enrolment while GTP 2.0 has the goal of enhancing the programme by introducing minimum preschool standards and extending the programme to cover early childcare as well. Initiatives include: ■ Increasing the number of preschool classes available from both private and public providers; ■ Reviewing and revising eligibility requirements (and better linking them to needs) and disbursement mechanisms for preschool fee assistance and grants; ■ Harmonising preschool teacher and teacher assistant qualifications; ■ Expanding fee assistance and launching grants for preschools and childcare; ■ Putting in place National ECCE Standards and professional standards for teachers
Literacy and Numeracy Screening (LINUS)	The LINUS programme in GTP 1.0 successfully delivered significant improvements in Bahasa Malaysia literacy and numeracy. To build upon this success, GTP 2.0 will expand the programme to cover English language literacy. The structure of the programme will also be enhanced to ensure more comprehensive and consistent assessment of all Year 1 to Year 3 students. Correspondingly, the cohort of LINUS facilitators, the FASILinus, will be expanded.
High-performing Schools (HPS)	The focus over the next three years will be on maintaining the high quality standards of all high-performing schools, namely that these HPS fully utilise their additional decision-making rights to continue to innovate and raise standards. In GTP 2.0, the target will continue to be on achieving 100 high-performing schools.

Focus Area	Enhancements and Initiatives
School Improvement Programme (SIP) and District Transformation Programme	The success of the SIP in GTP 1.0 confirmed the importance of targeting weaker schools and providing them with coordinated support to improve. This effort will continue under GTP2.0 through the District Transformation Programme with focus on greater empowerment and accountability of the State Education Department or JPN and District Education Offices or PPDs. These are at the frontline and closest to the schools and therefore best placed to support schools. Initiatives include: ■ Revising the role of JPNs and PPDs to empower them and make them accountable for providing support to the schools; ■ Creating standard KPIs at the school, district, state and national levels via new dashboards and rankings; and ■ Targeting interventions towards schools that need it most. For example, deploying more full-time teachers coaches to district offices to support schools, regular performance dialogues at the level of states, districts and schools to instil discipline in monitoring, problem-solving and following through on actions, etc. PPDs will be supported with additional training and resources to fulfil their new roles and platforms will be established for PPDs to share best practices.
Principal Career Package	The New Deal initiative from GTP 1.0 that rewarded high-performing school principals and head teachers proved to be an effective mechanism to motivate and incentivise school leaders, and will be continued in GTP 2.0. Additional initiatives on principal succession planning and principal fast-tracking will be added, specifically: ■ The selection process for principals will be optimised and shortened in order to identify successors for an outgoing principal, ideally six months before actual retirement date; ■ Creation of a centralised system to recruit from a candidate pool whose readiness has been pre-assessed; ■ Revision of incentives to attract quality candidates to rural schools; ■ Providing support to help principals transition into a new school; and ■ Clear competency-based criteria as basis for selection, evaluation, promotion and continuous professional development of principals will be established.
Teacher Career Package	Better equipping and rewarding teachers for delivering high student outcomes remains a core objective. Additional initiatives have been added to GTP2.0 towards this goal, namely: ■ New competency-based pathways to create exciting career opportunities for teachers, including fast-tracking for high performers; ■ Creation of a single unified evaluative instrument focusing on teaching and learning, combining best elements from the five existing evaluation instruments, and incorporating student outcomes; ■ Continuous Professional Development (CPD) Masterplan to provide tailored support to each teacher; and ■ New standards for CPD, new entry standards and monitoring mechanism for recruitment of new teachers , and career-long support and evaluation of teachers.
Upskilling of English language teachers	The objective of this focus area is to remedy the standard of English language proficiency of Malaysian students by improving the way the language is taught in schools and by raising the proficiency and skills of English language teachers. Consequently, all English language teachers will have their proficiency in English language assessed. Remedial programmes have been put in place to retrain English language teachers that do not meet international proficiency standards.