Effective Instruction

The keystone to school reform

The Education Policy Position of

GOOD TO GREAT SCHOOLS AUSTRALIA

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Our vision

There are no silver bullets for school reform; instead there are a number of integral components to high quality schooling, and whole system reform requires action on many fronts. However, international evidence shows there is a single keystone, without which it is simply impossible to deliver excellent education. This indispensible keystone is effective instruction.

The Australian education system routinely fails children from low socio-economic backgrounds, Indigenous children and those in remote communities. As a developed country, we should not willingly accept that a child's background determines their educational success. Of course, there are huge challenges which need to be overcome in order to effect positive change, but we must not allow these difficulties to become our excuses. Ultimately educational success is completely dependent on the quality of the teaching we deliver to students in the classroom. We hold the key to unlocking a brighter future for children across Australia.

Noel Pearson, Founder,
Good to Great Schools Australia

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Executive summary

The Australian education challenge

There is no doubt Australia has a good schooling system: we perform well on international tests and generally have high levels of participation and achievement. However, our aim should be to develop a great system. We are failing to do this, with each standardised assessment Australia's declining academic performance becomes more apparent.

While we have our share of high performing schools and students, Australia's education system produces vastly uneven outcomes. There is a chasm between our best and worst performers, and our worst performers have much poorer achievement than the bottom students in the best systems.

What we can learn from international examples

This long tail of educational underachievement is not inevitable. There is much international evidence that a high performing and highly equitable system is attainable. In fact, the world's top performing school systems have far fewer students at the low end of achievement than Australia.

The cost of Australia's educational crisis

The failure to adequately educate our young people is equivalent— in terms of human capital losses—to a permanent national recession that will only become more pronounced as the information age accelerates the demand for highly skilled workers. A good education also confers substantial benefits on the individual: for example, a person with a postgraduate degree will earn almost 1.8 times the projected lifetime earnings of a person who attended school to Year 11.

Australian education reforms have had limited impact

Successive state and federal governments have made significant investments in education in an attempt to arrest the decline in student performance, with Australia increasing its real education expenditure by 41 per cent in the decade from 1995 to 2006.

While in principle we support additional funding for students from low socio-economic, remote and Indigenous backgrounds, we believe merely increasing expenditure—without ensuring that expenditure is targeting measures that have been proven to reform education systems internationally—will not be effective.

Specific interventions for different school stages

In 2007 in response to the question of why some school reform agendas succeed and some do not, McKinsey & Company studied the world's best performing school systems. McKinsey concluded that substantial improvements in student outcomes are possible with the application of three major practices at the system-level: getting the right people to become teachers; developing them into effective instructors; and ensuring the system is able to deliver the best possible instruction for each student.

Building on their initial work, in 2010, McKinsey analysed over 20 education systems at different levels of performance to understand how a school system with poor performance becomes a good system and how one with good performance becomes excellent. We propose these findings apply equally within systems to individual schools. The measures to achieve significant, sustained and widespread gains in student outcomes will vary based on a school's starting point. The McKinsey study also found a lever common to all stages is to develop teachers' instructional skills.

Effective instruction is the keystone to school reform

McKinsey's conclusion on the importance of instruction quality is consistent with a large body of research that finds the impact of effective instruction on student outcomes outweighs the effect of any other intervention. High quality instruction is the keystone to educational reform, and should be the central organising principle of any school.

We need instruction which caters for all

Today's teachers are often forced to teach to the middle, allowing lower achieving students to fall behind when the content is beyond them, and leaving higher achieving students with free time, rather than focusing on challenging assignments. The answer to this profound challenge is to deliver instruction that teaches to all students; challenging and extending the best, while leaving none behind.

Evidence from international studies supports explicit instruction

Between 1997 and 2006 the Australian, British and United States governments each commissioned large independent investigations into the teaching of literacy. All found overwhelming support for the use of explicit phonics instruction as the most effective method of teaching the fundamentals of literacy to all students.

High quality curriculum is important too

Explicit instruction is highly successful, partly because of the way information is structured and sequenced, and because of the method employed for introducing new material. This process of instruction must be coupled with good-quality content—the curriculum—to ensure effective teaching.

The Australian Curriculum describes the high-level knowledge, skills and understanding organised by learning areas, but schools are left to decide how to design the detailed content and deliver the curriculum. Teachers are provided with very limited guidance on this monumentally complex task, and it is unreasonable to

expect them to be expert in both the delivery of highly-quality instruction and the science of quality curriculum design.

Direct Instruction is an integrated curriculum and pedagogy

Direct Instruction is a form of explicit instruction that overcomes this issue by integrating a prescriptive curriculum. This model has been practised for almost 50 years in the United States, over which time it has been continually refined through rigorous field testing. By combining explicit instruction with a comprehensive curriculum and student assessment (in addition to myriad effective teaching tools), Direct Instruction stretches the most able students, while guarding against lower performers falling behind.

The evidence base for Direct Instruction is comprehensive

Direct Instruction has been shown—through many hundreds of studies—to deliver significant and sustained gains in student outcomes. It is one of the most effective forms of instruction for literacy and numeracy, for learners with diverse skills and from a range of backgrounds.

In Professor John Hattie's internationally acclaimed synthesis of research on 'what actually works in schools to improve learning', the Direct Instruction program was judged one of the most effective instructional methods of the 130 influences studied.

Project Follow Through—an American experiment involving 200,000 children and 22 instructional approaches—is the largest longitudinal education experiment ever conducted. It found Direct Instruction to be the most effective method of instruction achieving the best results in maths, spelling and language and concluded it was the only approach to improve higher-order skills.

Direct Instruction success in Cape York

Direct Instruction has been responsible for delivering remarkable improvements in literacy and numeracy in many schools, including some in Australia. Indigenous children in three remote North Queensland primary schools (Aurukun, Coen and Hope Vale) and Djarragun College in Cairns have made significant progress using the program. This progress is evidenced through both internal and external measures, including Australia's NAPLAN tests, and international standardised measures such as DIBELS.

Cape York has developed a comprehensive school model

Cape York Aboriginal Australian Academy (CYAAA) has a comprehensive school program which incorporates four distinct, but related, learning domains of Childhood, Class, Club and Culture. These are supported by Community initiatives to support student attendance and wellbeing. An important aspect of this model is an extended school day, which allows students more time every day to access high-quality teaching in a rich learning environment.

CYAAA believes an enriched educational program offers a range of activities which deepen critical thinking and problem-solving skills, stimulate a life-long love for learning, build character, and develop self-confidence and social cooperation. Exposing disadvantaged students to the world around them helps uncover their talents, grows their love for the arts, sparks creative expression, and encourages healthy eating and sporting participation.

Recommended principles for school reform

We can achieve a high-performing, highly equitable education system in Australia.

There is no silver bullet. If Australia is to lift student outcomes across the board, particularly in the long tail of underperformance, it will require a scalable model of comprehensive and lasting school reform.

It is clear that effective instruction is the keystone of achieving sustained and widespread improvement.

By implementing specific and sound reform measures, we can achieve lasting nation-wide school reform and propel Australia from good to great.

Reform principles

1. Embed sustainable school reform within a system reform context.
2. Ensure effective instruction is the keystone of whole school reform.
3. High-performing school systems get three elements right:
    a. Get the right people to become teachers
    b. Develop them into effective instructors
    c. Ensure the system is able to deliver the best possible instruction for each student.
4. Stage autonomy according to school performance.
5. Introduce Direct Instruction in target schools.
6. Offer extra-curricular programs in Indigenous schools.
7. Move towards universal use of proven teaching materials.
8. Develop instructional leaders to propagate sustainable school reform.

Australian schools lag behind the world's best

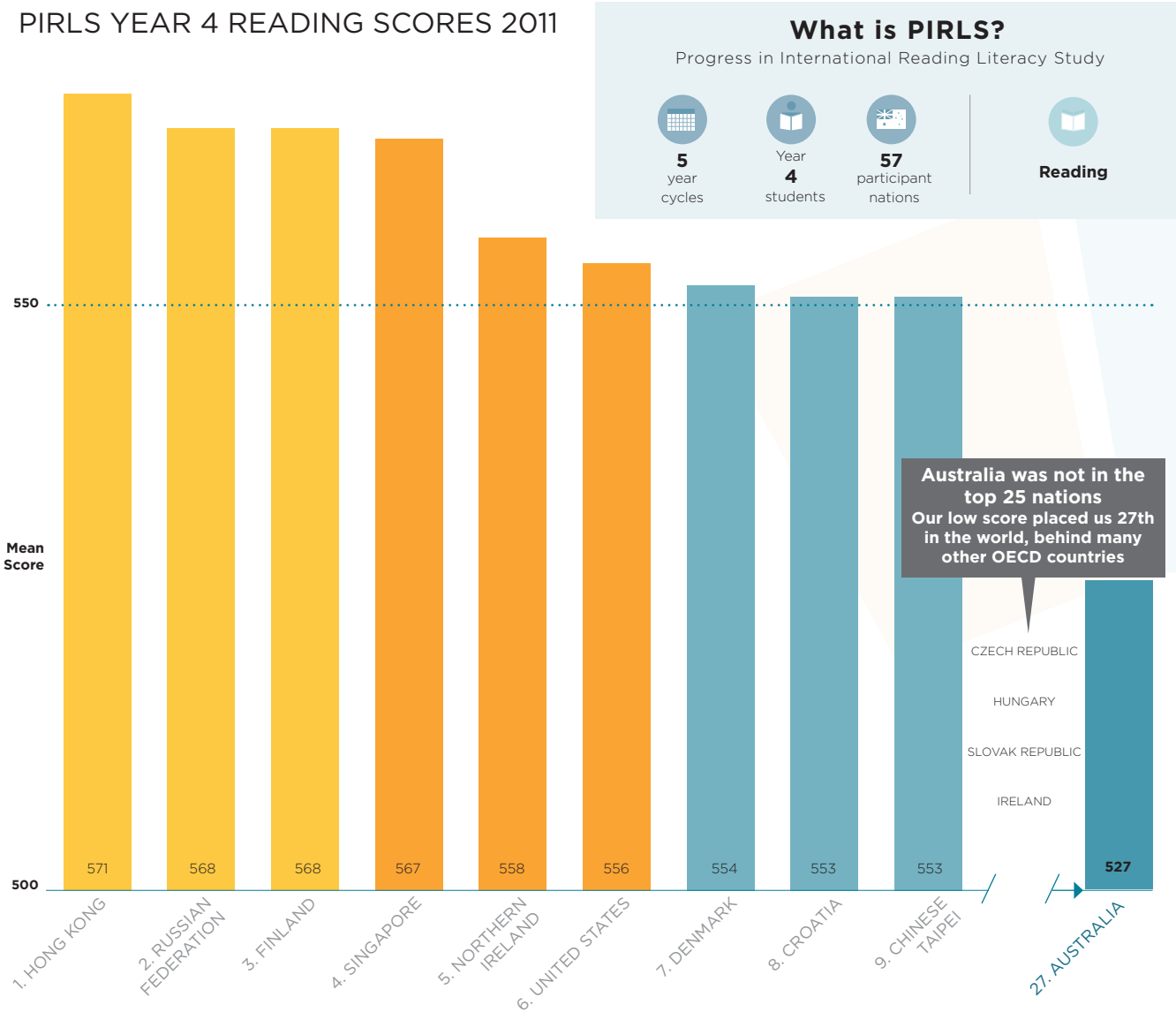
In recent years, the achievement gap between the best in the world and Australia has grown

There is no doubt Australia has a good schooling system: we perform well on international tests and generally have high levels of participation and achievement.[1] However, our aim should be to develop a great system. We are failing to do this, with each release of standardised assessment results, Australia's declining academic performance—in both relative and absolute terms—becomes more apparent.

In the 2000 OECD Program for International Student Assessment (PISA) results, Australia ranked second in reading and mathematics.[2] Yet, in the most recent test in 2009, Australia trailed 12 countries in mathematics and six in reading.[3] Results from the Progress in International Reading Literacy Study (PIRLS) test are even more concerning: in 2011, Australia ranked 27th for reading.[4] These and other internationally administered tests, together with national literacy and numeracy results paint the reality that Australia's school education system—long one of the best performing in the world—has stagnated.

> *All Australian children deserve a high quality education that enables them to develop the skills necessary to realise their potential.*
>
> *— Liberal Party of Australia[5]*

PIRLS YEAR 4 READING SCORES 2011



What is PISA?

Program for International Student Assessment

3 year cycles

15 year-old students

65 participant nations

Reading **Science** **Maths**

So, what is the gap to the world's best?

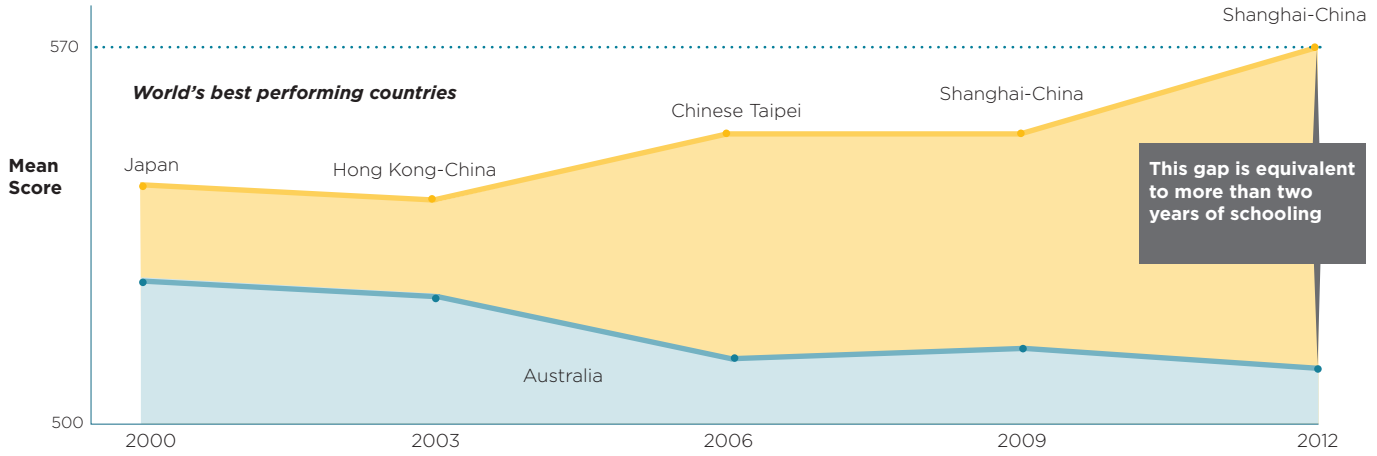
In 2009, a year's worth of learning in OECD countries was equivalent to 39 PISA points.[6] This means that students in Shanghai, by age 15, have accumulated more than an additional year of learning relative to Australian 15-year-olds in reading and more than two years in maths. To reach the top tier of countries for reading Australian students need to increase their average score by 18 points, equivalent to nearly half a year of learning.[7] Put another way, Australian students need to learn five per cent more in every year from their first year of school to compete with the world's best by Year 10.

To meet this challenge, we cannot afford to be complacent and content with only above average results; we must embark on an ambitious reform program targeted at the causes of poor performance.

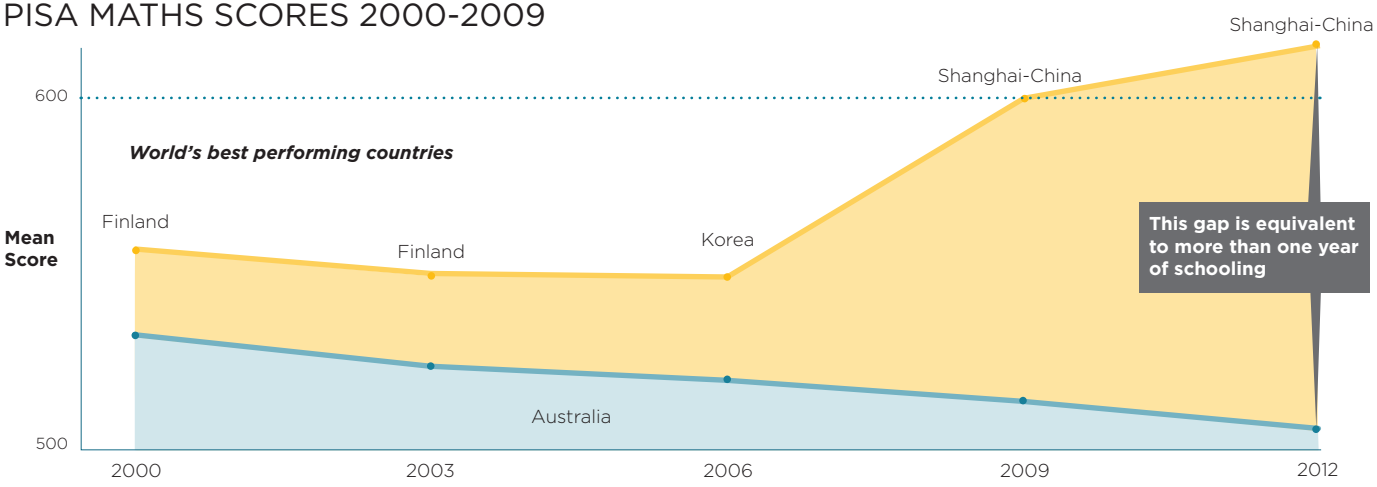
It is concerning that our high performing students are not doing well as students from other countries and that our low performing students are performing very poorly.

— Christopher Pyne, Minister for Education, December 2013[8]

PISA READING SCORES 2000-2009



PISA MATHS SCORES 2000-2009



Outcomes are uneven across Australian schools

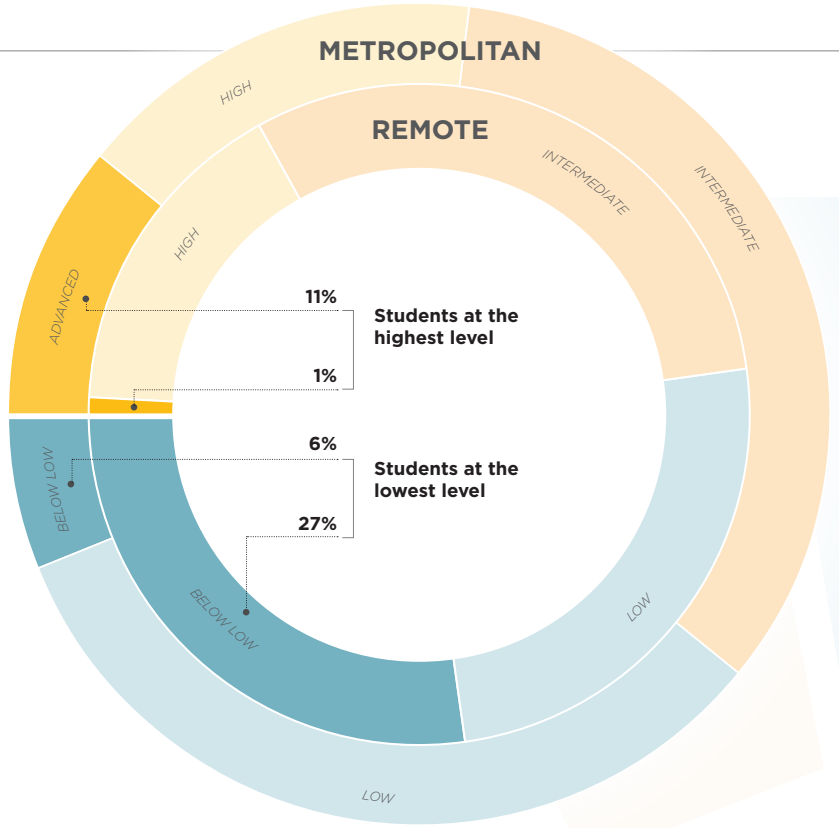
While we have our share of high-performing schools, Australia's system produces uneven outcomes.[9] Students who begin formal education behind their peers—and who do not catch up in the first years of primary school—never catch up. Indigenous children, children from jobless households and children living in remote areas are much more likely to be illiterate and innumerate than non-Indigenous children, children with employed parents and city dwellers.[10] These students are less prepared for school when they commence, and typically have a formal education characterised by inexperienced teachers, high teacher turnover, disrupted classrooms and poor instruction.

> *The problems are at both ends of the academic ladder. Fewer high-performing 15-year-olds are reaching the top literacy and mathematics levels than in 2000. At the bottom, one-quarter of Year 4 students do not meet minimum international literacy proficiency benchmarks. Too many of these students will drop out of school and, in time, society. It is an appalling situation.*
>
> *— Ben Jensen, School Education Program Director, Grattan Institute*[11]

Because foundational literacy and numeracy skills are the building blocks of academic success, in many ways, rather than alleviating intergenerational disadvantage, our system only serves to entrench it.

GEOGRAPHY AFFECTS PERFORMANCE

Analysis of school results in the PIRLS 2011 test by geographic location show alarming differences in reading achievement. 11 per cent of students in metropolitan schools achieved the 'advanced' benchmark, and only six per cent were 'below low'. In stark contrast, just one per cent of students attending schools in remote areas achieved the 'advanced' international benchmark, and 27 per cent were at the 'below low' level.



SOME STUDENTS ARE BEHIND THEIR PEERS EVEN BEFORE THEY START SCHOOL[12]

Number of words heard by children in different socio-economic groups

Inequity is not inevitable

Australia has a long tail of underachievement

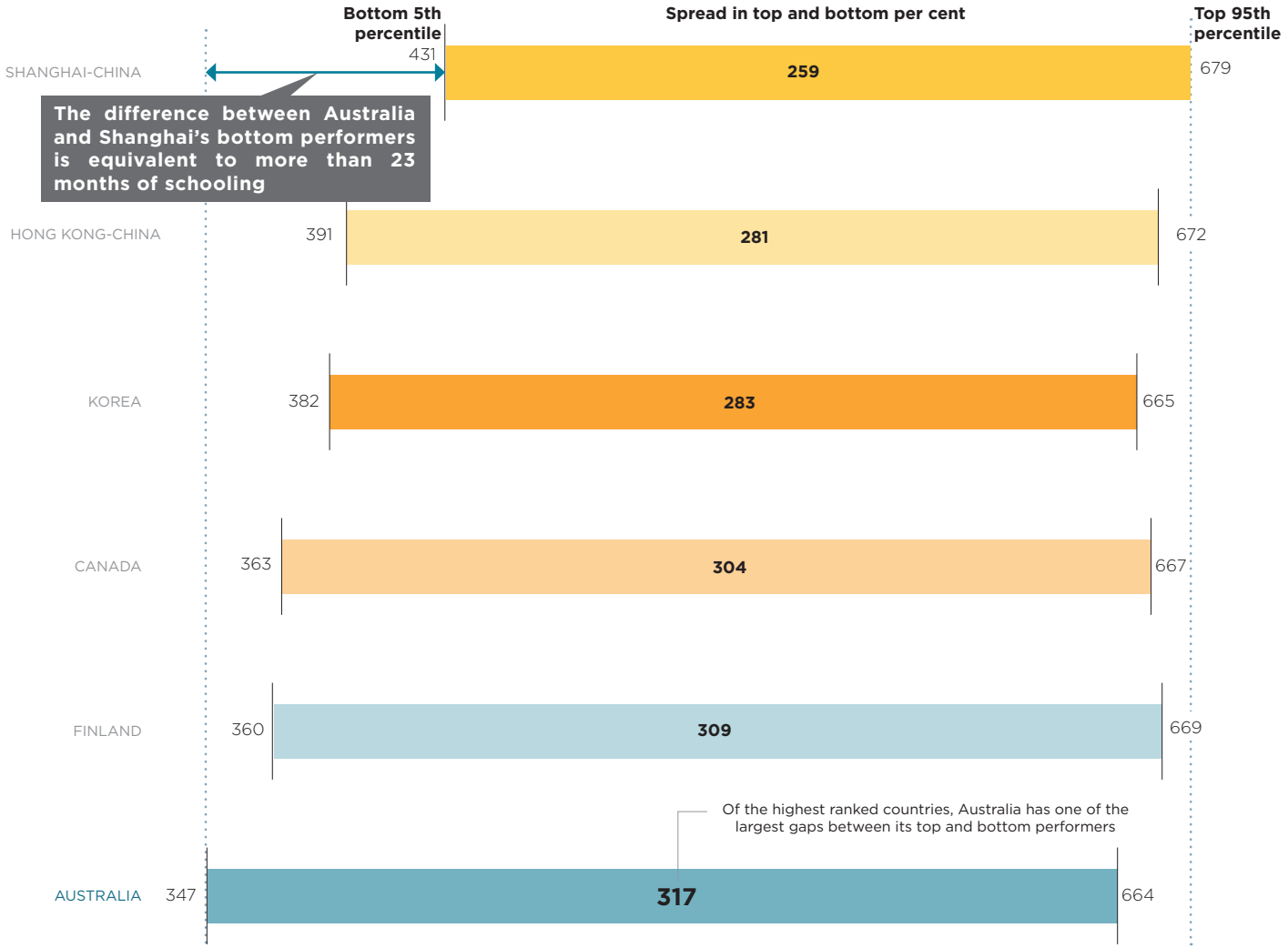
Our top students perform well relative to international peers, but there is a chasm between our best and worst performers. And our worst performers have much poorer achievement than the lowest performing students of the best systems: the bottom five per cent of students for reading in Shanghai—the top-ranked country in 2009—performed at a level 23 months ahead of the bottom five per cent of Australian students.[13]

International experience suggests a school system can achieve excellence and equality

This long tail of educational underachievement is not inevitable. There is much international evidence that a high-performing and highly equitable system is attainable. The world's top performing school systems have far fewer students at the low end of achievement than Australia: the gap between our top and bottom five per cent of students in the 2009 PISA reading tests was one of the greatest of any country with above average overall performance.[14]

> *Successful countries are able to get more children performing at the higher end of the scale, but Australia has a long tail of underperforming students.*
>
> *— Kevin Donnelly, Director, Education Standards Institute*[15]

DIFFERENCE IN TOP AND BOTTOM 5% OF 2009 PISA READING SCORES



Educational underachievement impacts our economy

The failure to adequately educate our young people is equivalent—in terms of human capital losses—to a permanent national recession that will only become more pronounced as the information age accelerates the demand for highly skilled workers.

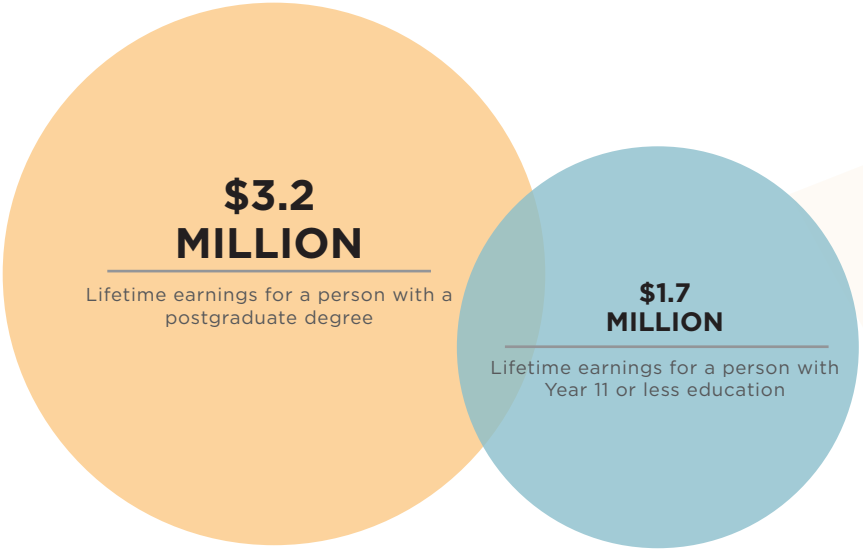
Many researchers have attempted to quantify the relationship between student performance and national economic growth. While precise estimates vary, a conservative view is that increasing international test scores by one standard deviation would lift GDP growth by at least one per cent per annum.[16]

PwC has estimated that the cost of inaction in Australia equates to productivity losses of $1.5 trillion over the next 80 years. The benefit of bringing Australia's education performance in line with the rest of the world is even more significant, with an aggregate gain of $3.6 trillion estimated over the same time period.[17]

Of course, education also confers substantial benefits on the individual: for example, a person with a postgraduate degree will earn more than $3.2 million in their lifetime, almost 1.8 times the projected lifetime earnings of a person who attended school to Year 11.[18]

INDIVIDUAL COSTS

Over their lifetime, a highly educated person will earn significantly more than someone with less education



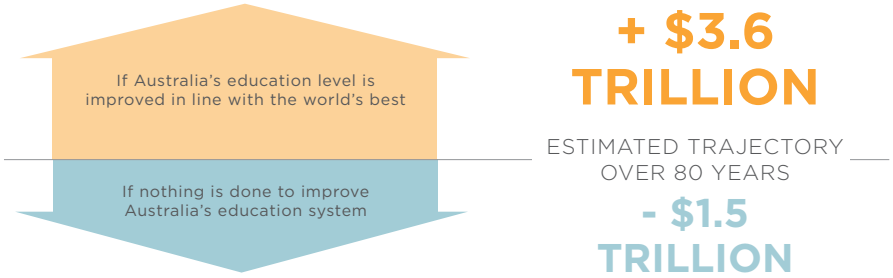
SOCIETAL IMPACTS

A high-performing education system leads to much more than economic gain

- **Healthier diet**
- **Reduced unhealthy habits**
- **Greater civic engagement**
- **Reduced crime**
- **Greater arts involvement**

NATIONAL COSTS

There are economic costs associated with educational underachievement



+ $3.6 TRILLION

ESTIMATED TRAJECTORY OVER 80 YEARS

- $1.5 TRILLION

Which equates to

$3.8 BILLION

THIS FISCAL YEAR

Australian school reforms have had limited impact

Successive state and federal governments have made significant investments in education in an attempt to arrest the decline in student performance. Australia increased its real education expenditure by 41 per cent in the decade from 1995 to 2006.[19] However, between 2000 and 2006, Australian student performance in PISA stagnated in mathematics and declined significantly in reading.[20]

Why so little return from such a large investment?

In the first instance, education reform is complex and there are no silver bullets to quickly lift the performance of all students. The reasons for reform failure are multifaceted, but a key contributing factor is that education reform is often victim to fashion, ideology and intuition, at the expense of robust, evidence-based policy.

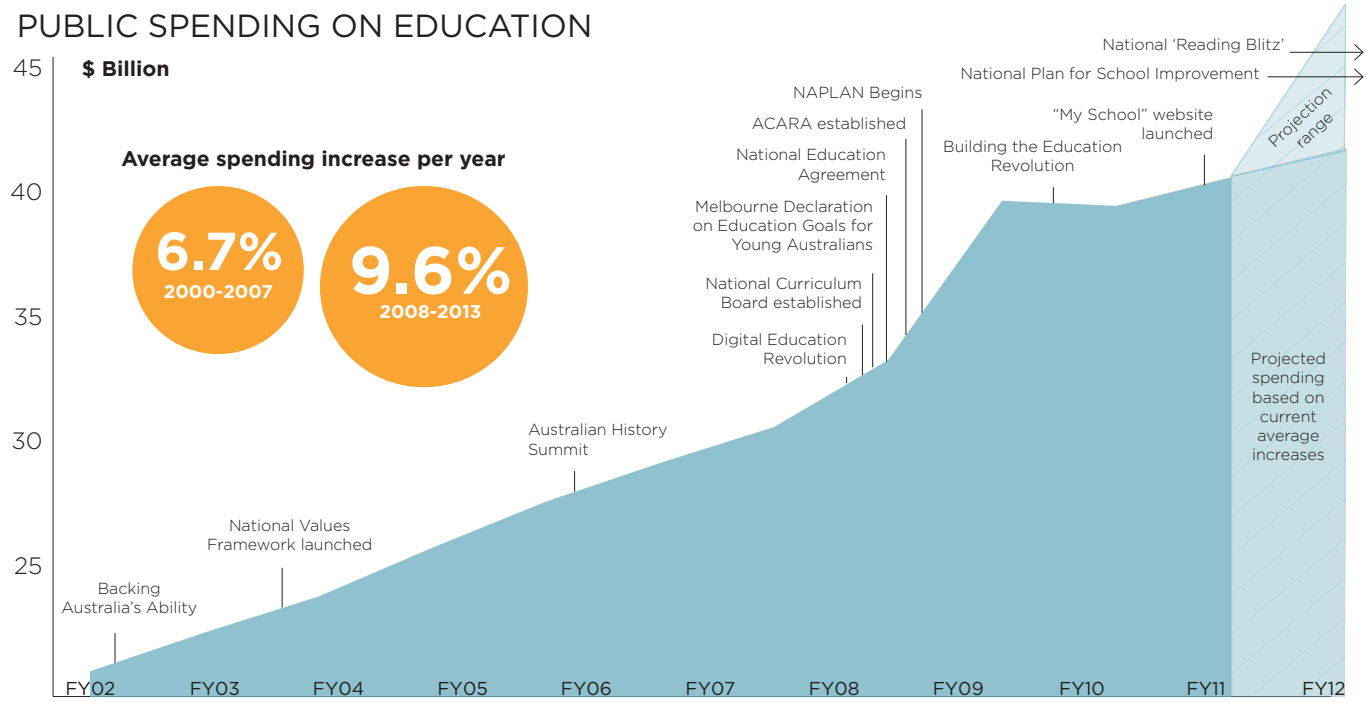
> ***A reasonable level of funding is unquestionably the bedrock for good educational performance, but more money does not equal better performance.***
>
> ***— Public Policy Institute at the Australian Catholic University[23]***

By way of illustration, whole language approaches remain the standard approach to teaching reading and writing in Australian primary schools, despite limited evidence of their effectiveness. Student-centred approaches such as learning styles, personalised learning and differentiated learning have also gained currency in recent years, despite their lack of supporting evidence. Moreover, cost and resourcing issues often constrain implementation of such programs, consigning many to ineffectiveness from the outset.

These biases are further compounded by the tendency to direct policy at what can change, not what should change. This has led to high investment in school capital works programs and information technology assets with little consequent improvement in student outcomes.

Perhaps the most misguided of all initiatives is the pursuit of ever-smaller class sizes. Vast amounts of money have been spent to reduce class sizes, with the average class size in Australian government schools decreasing from 15.4 to 13.9 students over the past 15 years.[21] Funding has been directed towards such a decrease in the belief that a lower student-teacher ratio will—of itself—improve learning outcomes, when in fact, most studies find the effect of smaller class size on student performance to be negligible.[22]

More generally, while in principle we support additional funding for students from low socio-economic, remote and Indigenous backgrounds, we believe the reform task does not end with funding. Merely increasing expenditure—without ensuring that expenditure is targeting measures that have been proven to reform education systems internationally—will not propel Australia into the top tier of education systems world-wide.



Interventions are staged according to performance

In 2007 and in response to the long-debated question of why some schools, and school reform agendas succeed and some do not, McKinsey & Company studied the world's best-performing school systems.[24] By analysing the common features of rapidly improving and highly successful school systems from around the world, McKinsey concluded that substantial improvements in student outcomes are possible with the application of three major practices at the system-level: getting the right people to become teachers; developing them into effective instructors; and ensuring that the system is able to deliver the best possible instruction for each student.

Building on their initial work, in 2010, McKinsey again analysed over 20 education systems at different levels of performance to understand how a school system with poor performance becomes a good system and how one with good performance becomes excellent.[25] This research found that each stage of a school improvement journey—from poor to excellent—is associated with a different cluster of interventions, but a lever common to all stages is to develop teachers' instructional skills.

While this research looked *across* school systems, we propose these findings apply equally *within* systems, to individual schools. Thus, the measures to achieve significant, sustained and widespread gains in student outcomes will vary based on a school's starting point. Policymakers often fail to grasp this nuance, latching onto specific reforms as silver bullets to transform the performance of all schools, rather than aligning interventions at school performance levels.

Our vision of an Australian school system in the top tier globally—for both equity and excellence—requires us to improve the performance of all schools: to move below-benchmark schools to the benchmark, at-benchmark schools beyond the benchmark and support above-benchmark schools in continuous improvement. While the overall approach should aim to improve teaching quality, this will look different for high-performing and low-performing schools.

A unique 'intervention cluster' exists for each stage of the school system improvement journey[26]

Achieving the basics of literacy and numeracy

Providing motivation and scaffolding for low-skill teachers
- Scripted teaching materials
- Coaching on curriculum
- Instructional time on task
- School visits by centre
- Incentives for high performance

Getting all schools to a minimum quality level
- Outcome targets
- Additional support for low performing schools
- School infrastructure improvement
- Provision of textbooks

Getting students in seats
- Expand school seats
- Fulfil students' basic needs to raise attendance

Getting the foundations in place

Data and accountability foundation
- Transparency to schools and/or public on school performance
- School inspections and inspection institutions

Financial and organisational foundation
- Optimisation of school and teacher volumes
- Decentralising financial and administrative rights
- Increasing funding
- Funding allocation model
- Organisational redesign

Pedagogical foundation
- School model/streaming
- Language of instruction

Shaping the professional

Raising calibre of entering teachers and principals
- Recruiting programs
- Pre-service training
- Certification requirements

Raising calibre of existing teachers and principals
- In-service training programs
- Coaching on practice
- Career tracks
- Teacher and community forums

School-based decision-making
- Self-evaluation
- Independent and specialised schools

Improving through peers and innovation

Cultivating peer-led learning for teachers and principals
- Collaborative practice
- Decentralising pedagogical rights to schools and teachers
- Rotation and secondment programs

Creating additional support mechanisms for professionals
- Release professionals from admin burden by providing additional administrative staff

Systems-sponsored experimentation/innovation across schools
- Providing additional funding for innovation
- Sharing innovation from front-line to all schools

Six interventions are common across all journeys

Building technical skills of teachers and principals

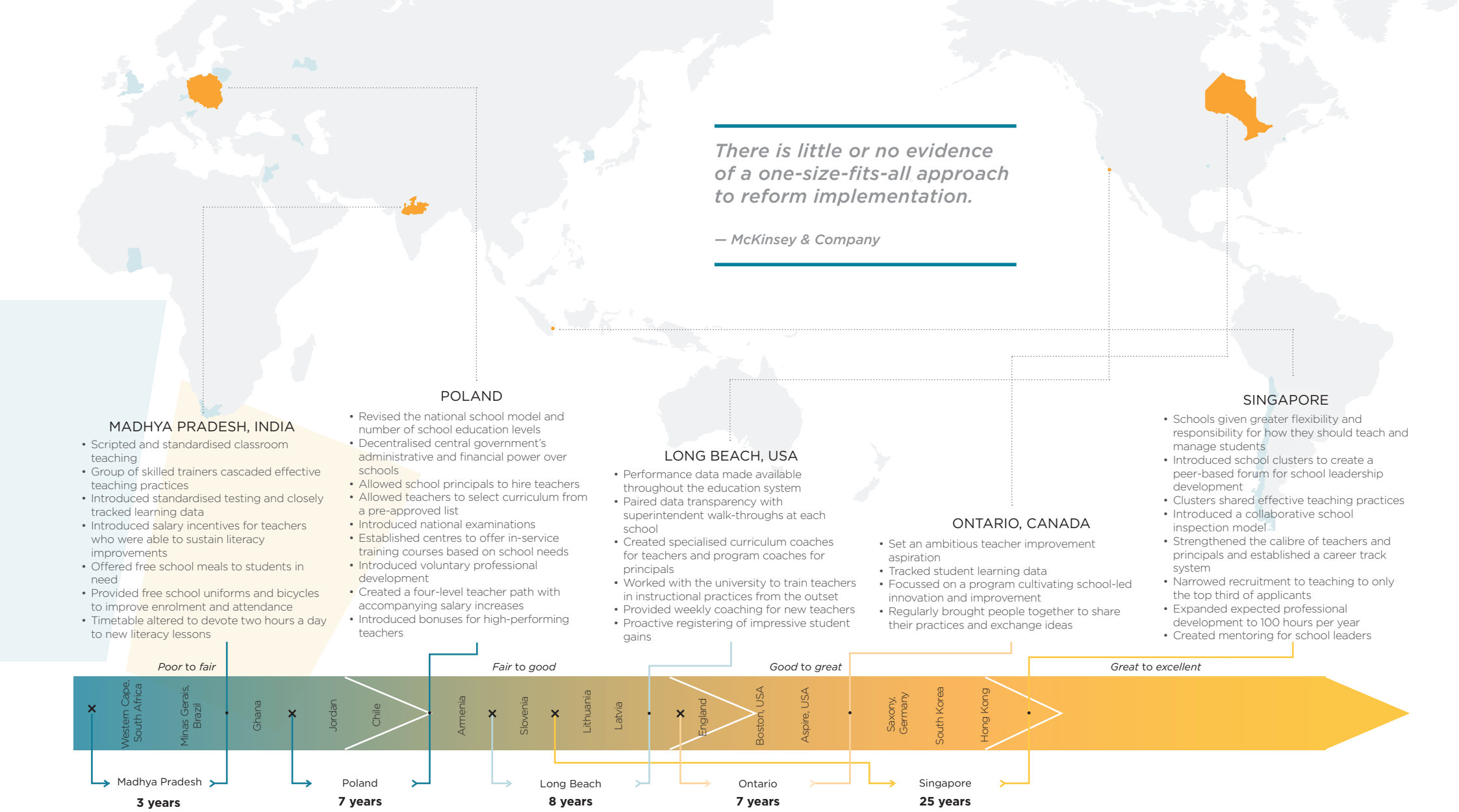
Utilising student data

Assessing student learning

Establishing policy documents and education laws

Reviewing reward and renumeration structure

Revising curriculum and standards



Worldwide improvement journeys

The 2010 McKinsey study found that all school systems that have achieved sustained improvement share a common set of characteristics in what they do and how they do it. The variation arises from how a system implements these interventions in terms of sequence, timing, and roll-out based on its individual context. For example—in building the technical skills of teachers—the City of Boston invited teachers with track records of demonstrated success to speak to leadership about their teaching, while Hong Kong recommended fulfilment of 150 hours of professional development for teachers and principals every three years. Both approaches yielded results, but systems were able to design implementations to take into account their specific local context.

Effective instruction is the keystone to reform

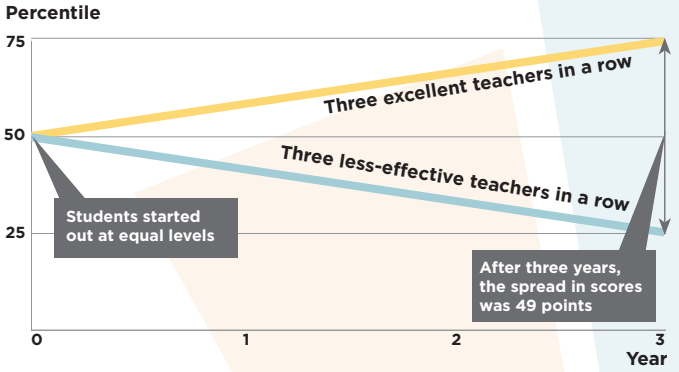
INSTRUCTION

McKinsey's conclusion on the importance of teaching and instruction quality is consistent with a large body of academic research that finds the impact of effective instruction on student outcomes outweighs the effect of any other school policy.[27] Conservative estimates suggest an Australian student with a teacher in the 75th percentile of effectiveness will learn in three quarters of a year what a student with a teacher in the 25th percentile of effectiveness would learn in a full year.[28] Moreover, the impact of effective teaching is cumulative. Evidence from the United States shows students who had an 'effective' teacher three years in a row outperformed students who had an ineffective teacher by 49 percentile points on school assessments.[29] The evidence also suggests that as teacher effectiveness increases, lower-achieving students are the first to benefit, followed by average students and lastly, by students considerably above average.[30]

High-quality instruction is the keystone to educational reform, and should be the central organising principle of any school. Like similar calls before us, we recognise the blame does not lie with individual teachers, and advocate for a new approach to improve teacher effectiveness through high-quality and consistent instruction and a coherent, integrated curriculum. By focusing on the method of instruction, we can improve the quality of teaching much faster than improving the stock of teachers. While there are many necessary reforms to the process of attracting, training and retaining high-calibre candidates and teachers, these are long-term and any benefit—even if implemented today—is likely to be felt many years away. We need a scalable model of effective instruction now.

TEACHER EFFECTIVENESS

Research shows that students who have three effective teachers in a row score higher on school assessments compared to students assigned ineffective teachers.



The answer ... lies with the person who gently closes the classroom door and performs the teaching act—the person who puts into place the end effects of so many policies, who interprets these policies, and who is alone with students during their 15,000 hours of schooling.

— John Hattie, Director of the Melbourne Education Research Institute, University of Melbourne[31]

Responding to a common challenge

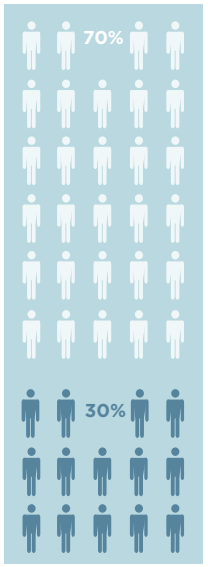
Providing quality instruction to all students is critical but hugely challenging because teachers typically face a class of students with wildly varying academic abilities. Different educational models have developed in response to this, recognising that one-quarter—or thereabouts—of students will require additional support to make progress and acknowledging that a conventional classroom requires supporting structures to protect those students most in danger of falling behind.

The central limitation of most of these models is that they rely on the pre-emptive identification of individual students who require additional support. They are then typically very highly resource intensive because support is tailored to each individual student. Given the difficulty of pre-emptive identification, by the time students are identified and assisted, they are often already burdened with a significant educational deficit.

MULTILIT MODEL

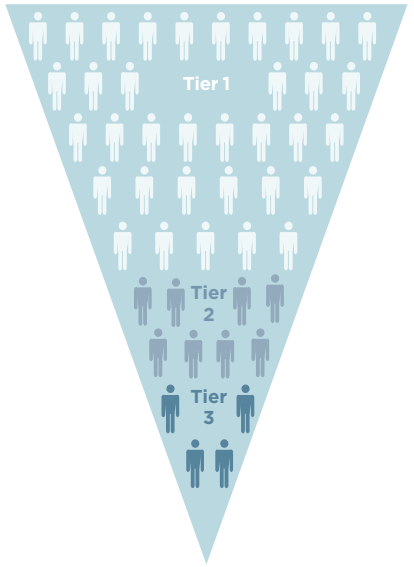
In a normal cohort of students, 25 per cent will learn to read no matter how they are taught, the middle 50 per cent will learn to read with any competently taught teaching method, while the bottom 25 per cent will not learn to read without an explicit, phonics-based, teaching approach.[32]

FINNISH MODEL



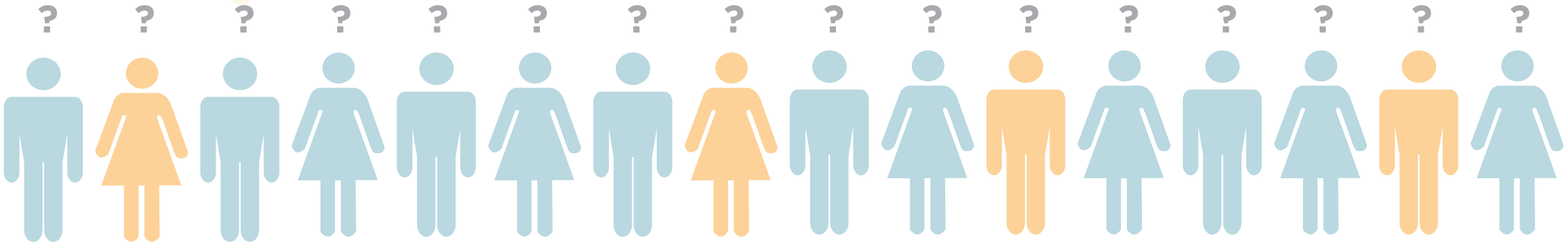
Around 30 per cent of comprehensive school students in Finland receive formal special education in any given academic year. This includes intensified support, special needs assistance, part-time special education and/or remedial teaching.

RESPONSE TO INTERVENTION MODEL



Under the Response to Intervention model, between 15 per cent and 25 per cent of all students receive supplementary learning support (Tier 2 and 3). The second tier provides extra instruction supplementing the core curriculum, while the third tier uses assessment-based, intensive, individualised tutorial interventions with individual students.

It is very difficult to determine which students require additional support



By the time they are identified they may already be significantly behind

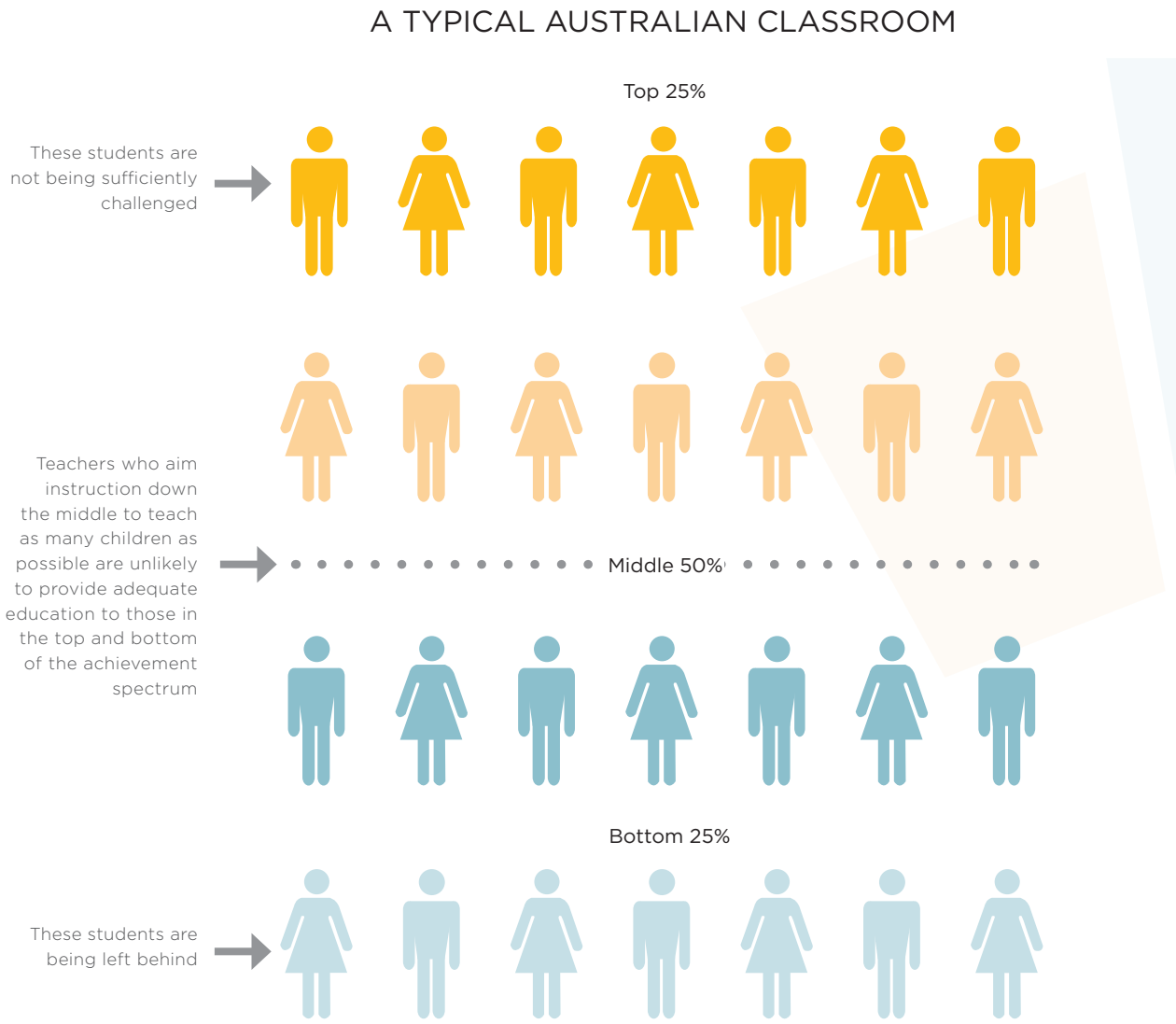
Not all students are learning with our current educational methods

In response to the aptitudinal diversity that confronts them day-to-day, teachers are often forced to teach to the middle, allowing lower achieving students to fall behind when the content is beyond them, and leaving higher achieving students with free time, rather setting challenging assignments to accelerate their learning.[33]

This set of circumstances is especially damaging in early literacy and numeracy education. If students fall behind early on, and are not given the support to repair this deficit in the first years of school, they will never catch up. Studies show that without intervention, low-progress readers can fall behind by up to six months each year. In some cases where students are several years behind, learning progress has been shown to stop altogether, or even go backwards.[34]

In the tail of Australian schools, most students have generally fallen behind national standards. Where a class consists primarily of low achieving students, teachers understandably continue to teach to the middle of the class—a lowered point in itself—and lifting outcomes across all ability levels in the classroom becomes gradually more difficult to achieve.

> ***Traditionally, teachers have been trained to teach a 10-year-old the curriculum for a 10-year-old, so they teach to the middle of the class, but there are kids at the bottom who might be at the level of a seven-year-old and kids on top who might be on par with a 15-year-old.***
>
> *— Field Rickards, Dean of Education, University of Melbourne*[35]



We need instruction which caters for all

The answer to the profound challenge of aptitudinal diversity is to deliver instruction that teaches to all students; an approach which challenges and extends the best students, while leaving no students behind.

In this way, effective instruction is similar to immunisation. In any given population, the individual propensity to contract diseases varies but it is difficult to identify who is in most need of preventative vaccination. The solution is to immunise the whole population. The best instruction technique is the same: to immunise the whole class against falling behind. A highly effective instructional approach will not only address the needs of lower-performing students but also accelerate top students.

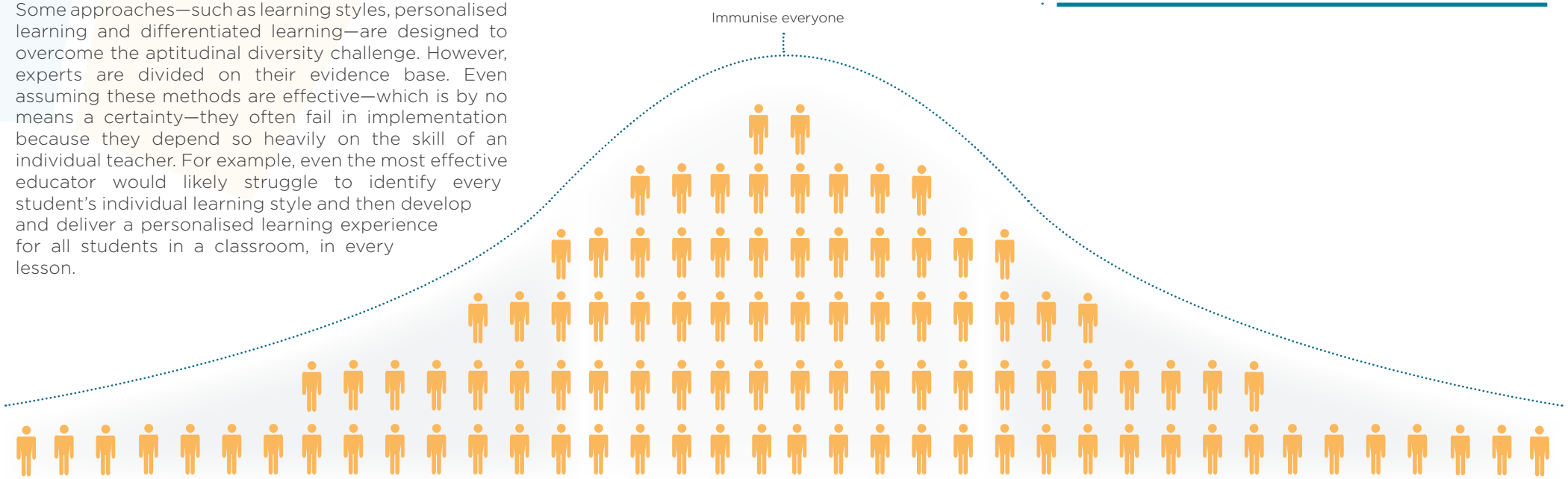
Some approaches—such as learning styles, personalised learning and differentiated learning—are designed to overcome the aptitudinal diversity challenge. However, experts are divided on their evidence base. Even assuming these methods are effective—which is by no means a certainty—they often fail in implementation because they depend so heavily on the skill of an individual teacher. For example, even the most effective educator would likely struggle to identify every student's individual learning style and then develop and deliver a personalised learning experience for all students in a classroom, in every lesson.

Students differ in their abilities, interests, and background knowledge, but not in their learning styles. Students may have preferences about how to learn, but no evidence suggests that catering to those preferences will lead to better learning.

— Cedar Riener, assistant professor of psychology, Randolph-Macon College; and Daniel Willingham, professor of psychology, University of Virginia[36]

Boys, girls, Indigenous students, students in urban, rural and remote locations, students who are recent arrivals in Australia, other students from non-English speaking backgrounds, children with vision or hearing impairment, or disability, all begin school with the expectation that they will learn to read and write. Their parents share this expectation.

— National Inquiry into the Teaching of Literacy[37]



International studies support explicit phonics instruction

Explicit phonics instruction is a pre-requisite for effective literacy instruction

Between 1997 and 2006 the Australian, British and United States governments each commissioned large-scale independent investigations into the teaching of literacy. Each had similar objectives, namely; to review international research about the efficacy of various literacy teaching approaches, to identify ways evidence could inform classroom teaching practices and to offer best practice in effective approaches.

While the reviews approached the topic of teaching literacy from varying perspectives, all found overwhelming support for the use of explicit phonics instruction as the most effective method of teaching the fundamentals of literacy and recommended its widespread implementation.

DEFINITIONS FROM THE STUDIES

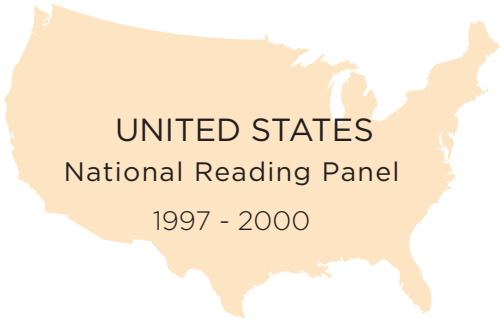
Phonics instruction: explicitly teaching students how to use the relationship between letters and sounds to translate printed text into pronunciation: a major element in the reading process.

Phonemic awareness: the ability to hear, identify and manipulate individuals sounds—phonemes—in spoken words.

Vocabulary: the set of words within a language that are familiar to that person. A vocabulary usually develops with age, and serves as a useful and fundamental tool for communication and acquiring knowledge.

Reading fluency: the ability to read text smoothly and at a reasonable rate. When fluent readers read aloud, they do so effortlessly with speed, accuracy, and proper expression as though they are speaking.

Reading comprehension: the level of understanding of a text. This understanding comes from the interaction between the words that are written and how they trigger knowledge outside the text.



UNITED STATES

National Reading Panel

1997 - 2000

In 1997, the National Reading Panel was convened to assess the status of research-based knowledge, including the effectiveness of various approaches to teaching children to read, and produced the Teaching Children to Read report in 2000.[38] This comprehensive report considered over 100,000 studies on reading instruction to determine the best approaches in teaching children to read. The Panel concluded that the best model for reading instruction is one that incorporates explicit instruction in phonemic awareness, systematic phonics instruction and guided reading practices for word recognition, fluency and comprehension. In addition, the report recommended that vocabulary should be taught both directly and indirectly with repetition and multiple exposures to vocabulary items of significant importance. The Panel also noted that children taught to read using specific phonics instruction showed markedly better performance than those using whole language approaches.

Elements of the subsequent *No Child Left Behind Act of 2001* drew on the findings of the National Reading Panel and established the federal education program, Reading First. This program aimed to improve reading instruction in American schools and close the gap in test scores between ethnic minorities and mainstream Americans, particularly in the early primary years.

UNITED KINGDOM

Independent Review of the Teaching of Early Reading

2006

The Independent Review of the Teaching of Early Reading examined the United Kingdom's approach to the instruction of early reading and synthetic phonics. The Review conceded that, while phonics instruction had been part of the national curriculum since 1989, its application in practice was limited until the introduction of the National Literacy Strategy in 1998.

The review found that instruction of phonics offers the vast majority of children the greatest opportunity to become skilled readers and writers. In addition, consistent with other international inquiries into reading instruction, the review recognised the importance of a holistic approach to literacy. While phonetic competence is necessary to read and write, in isolation it is insufficient. The review made further recommendations, including developing children's positive attitudes to literacy, ensuring effective provisions for children with special educational needs and investing in quality teaching with a focus on training for teachers in both phonics content and delivery.[39]

In November 2004 the Hon. Dr Brendan Nelson MP—Minister for Education, Science and Training—established a National Inquiry into the Teaching of Literacy. The committee of this Inquiry was chaired by Dr Ken Rowe, a research director at the Australian Council for Educational Research (ACER). It comprised a wide range of professionals including experts in literacy research and policy, teacher preparation and professional learning, leadership, a practising principal and teacher, a parent, and a journalist.

The committee was commissioned to report on the teaching of reading in Australian schools; the assessment of reading proficiency including identification of children with reading difficulties; and the extent to which teacher education prepares teachers adequately for reading instruction.

The committee drew on the collective experience of members and consulted widely, including with a number of leading Australian health professionals. Committee members visited a cross section of schools and conducted a study of teacher preparation courses at Australian higher education institutions. To inform the Inquiry's findings and recommendations, the committee also reviewed Australian and international experience, as well as findings from the available evidence-based research literature.[40]

The Inquiry found overwhelming evidence in favour of phonics instruction, particularly in low socio-economic schools. The report touched on the assumed dichotomy between explicit phonics instruction and whole-language learning and concluded that one should not be deployed at the expense of the other, but used together to consolidate a child's early literacy experience. The Inquiry did, however, stress that whole-language learning alone is not in the best interests of children, particularly those experiencing reading difficulties and that direct systematic instruction in phonics during the early years of schooling is an essential foundation for teaching children to read.

The Australian Inquiry found that the greatest impact of phonics was on the progress of students who start school at risk of experiencing difficulties. These students can and do learn to read at average or above average levels only if they are identified early and provided with systematic, explicit and intensive instruction in phonemic awareness, phonics, reading fluency, vocabulary and reading comprehension strategies.

In all, the Australian report made 20 recommendations and was received favourably by the federal government and praised by advocacy organisations, including Learning Difficulties Australia. Despite all this, to date none of its recommendations have been implemented.

21 December, 2012

An Open Letter to all Federal and State Ministers of Education

In a recent article in the Australian ("Bell tolls for classroom reform", 12/12/12), Geoff Masters, Chief Executive of the Australian Council for Educational Research is reported as being extremely disappointed (as any Australian would be) at seeing Australia ranked 27th in the PIRLS international survey of children's reading abilities, and quotes him as urging that we should be looking at such questions as "How well are we teaching reading? How well are we preparing teachers to teach reading?"

These are not new questions.

In March 2004, The Australian published an open letter addressed to Dr Brendan Nelson, then Minister for Education, Science and Training, signed by 26 senior people in the fields of psychology, education, speech pathology, audiology, and linguistics, expressing concerns with literacy levels in Australian children and especially concerns with the way in which reading was typically being taught in Australian schools. The letter asked the Minister to commission a review of the approaches to reading instruction adopted in Australian schools.

The Minister did so, instituting towards the end of 2004 a National Inquiry into the Teaching of Literacy in Australia and particularly asking the Committee conducting this inquiry to report on the current state of teacher education and the extent to which it prepares teachers adequately for reading instruction. This Committee submitted its report in December 2005.

The Report made 20 recommendations. Several of these focused on improving the preparation of student teachers for being able to teach children how to read, since the Committee had found clear evidence that this was currently inadequate. The Report was favourably received by the Minister, and also by various national bodies concerned with children's reading difficulties, such as Learning Difficulties Australia. But none of the Report's 20 recommendations was ever acted upon

...

And so the results from PIRLS showing that so many Australian children are

now very poor readers, though certainly disappointing, are not surprising to anyone who examines what happens in schools, and compares it to what research has clearly shown to be effective in promoting successful reading development

...

We have significant problems in education from the beginning stages, in

that we do not teach reading well. We do not use approaches known to be effective in initial reading instruction

...

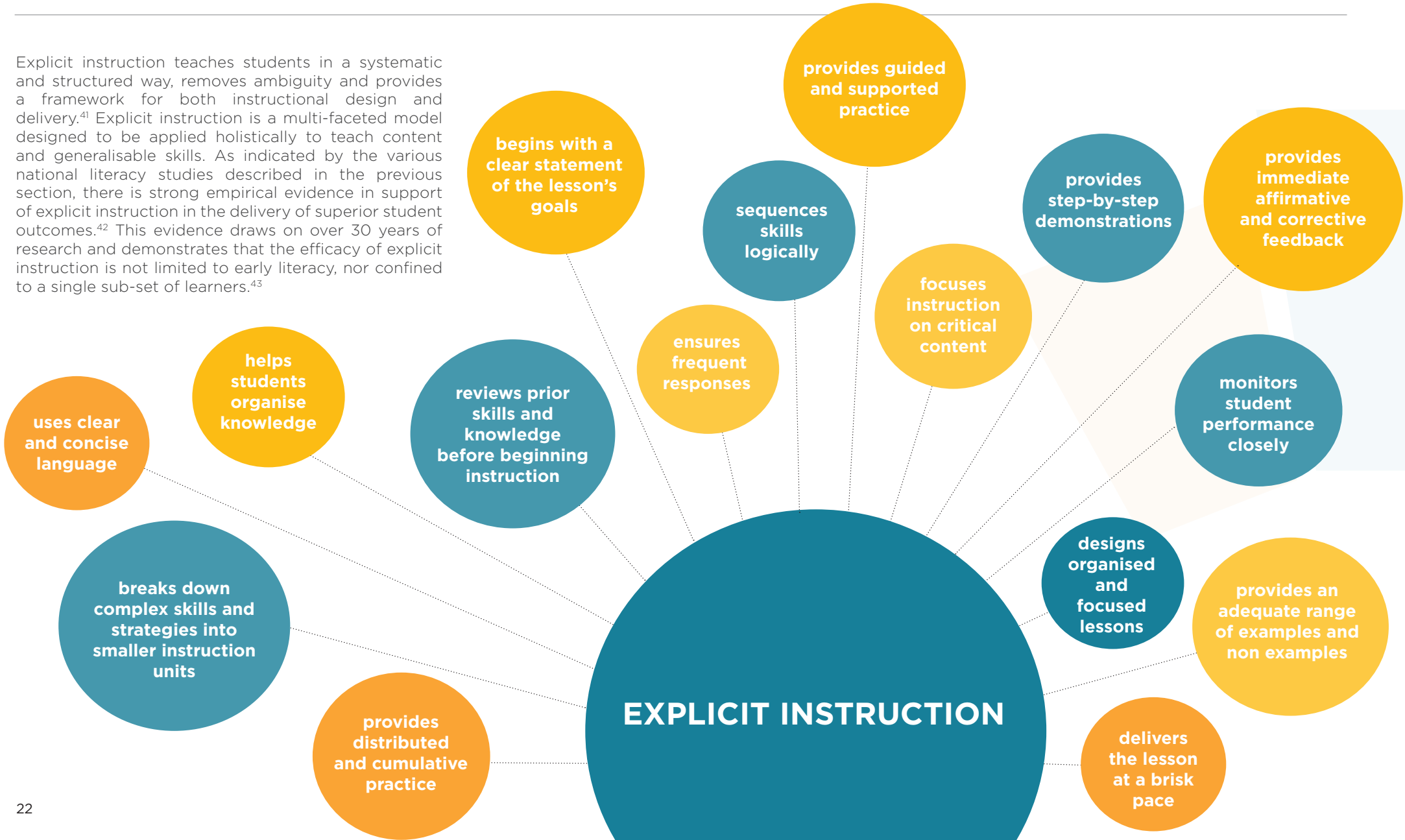
We, as a group of concerned reading scientists, clinicians and educators,

urge your immediate attention to what has become a national disgrace.

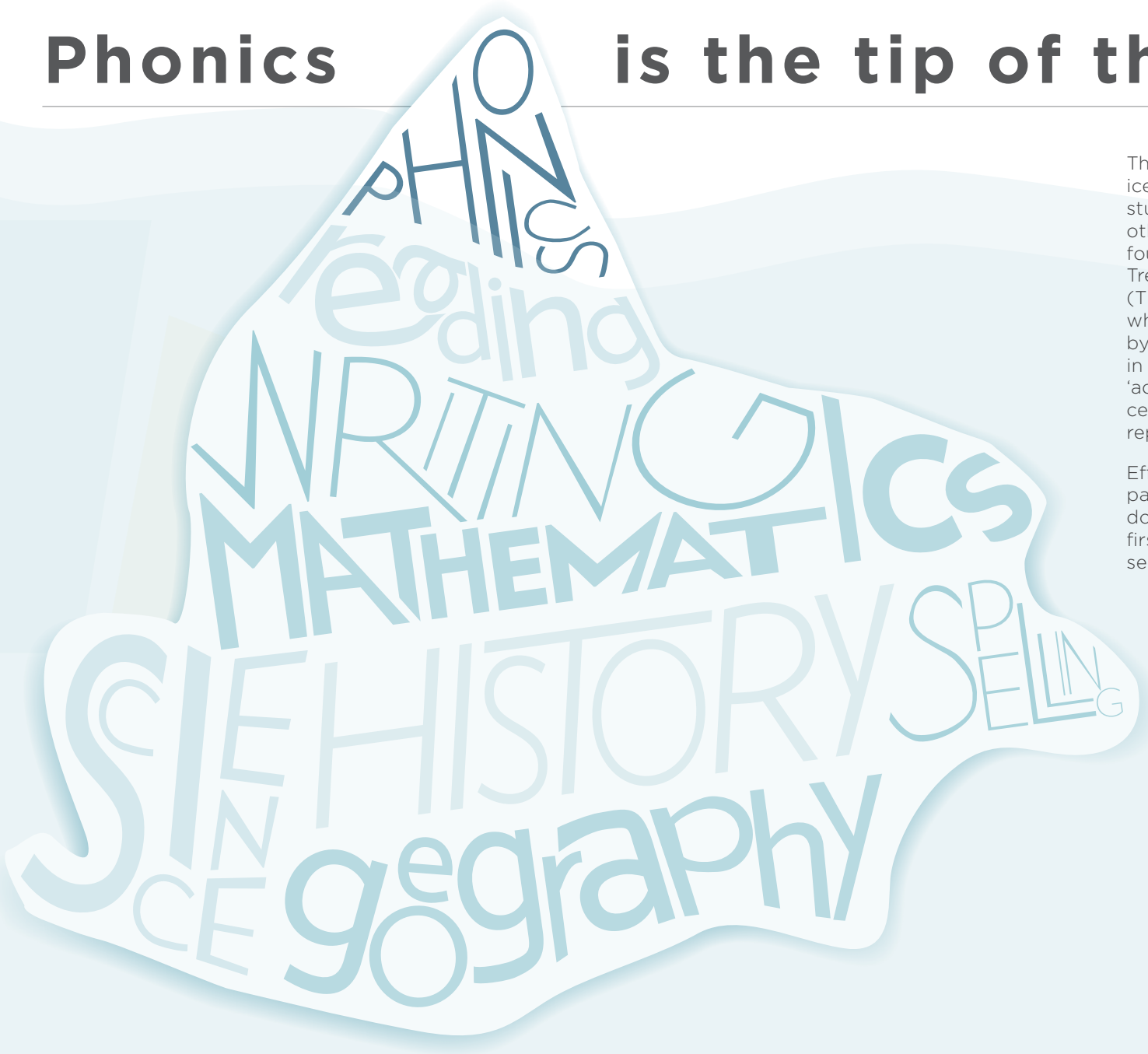
— Signed by 36 senior professionals in the fields of psychology, education, speech pathology, audiology and linguistics.

The evidence supports explicit instruction

Explicit instruction teaches students in a systematic and structured way, removes ambiguity and provides a framework for both instructional design and delivery.[41] Explicit instruction is a multi-faceted model designed to be applied holistically to teach content and generalisable skills. As indicated by the various national literacy studies described in the previous section, there is strong empirical evidence in support of explicit instruction in the delivery of superior student outcomes.[42] This evidence draws on over 30 years of research and demonstrates that the efficacy of explicit instruction is not limited to early literacy, nor confined to a single sub-set of learners.[43]



Phonics is the tip of the iceberg



The failure to teach phonics is just the tip of the iceberg of ineffective instruction. Many Australian students have inadequate grounding in a wide range of other subjects from reading to science, and this poor foundation limits advanced achievement. In the 2011 Trends in International Mathematics and Science Study (TIMMS), the proportion of Australian Year 4 students who achieved the 'advanced' benchmark was dwarfed by international peers. While nearly half of students in Korea, Singapore and Chinese Taipei reached the 'advanced' benchmark in mathematics, only nine per cent of Australian students did so. A similar pattern is repeated in science and reading.[44]

Effective teaching of phonics and early literacy is not a panacea to the educational challenges we face, but it does reflect the need for instruction—especially in the first few years of school—to be explicit and carefully sequenced.

A reading program metaphor: not all dogs with spots are Dalmatians

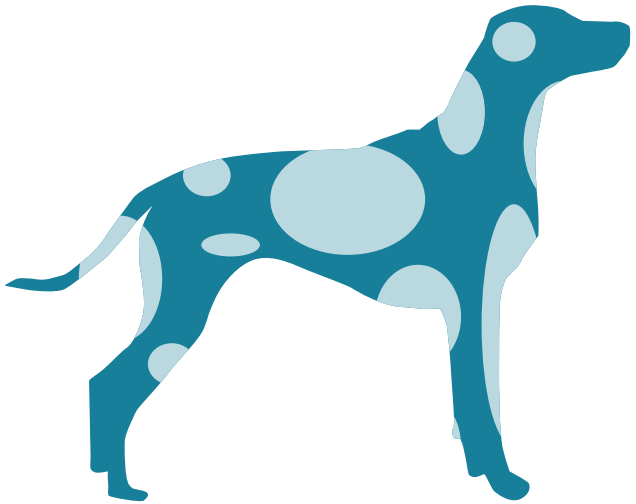
Despite the strong evidence for phonics instruction, international experience has also taught us that it must be part of a coherently designed and carefully constructed program.

In the United States, the recommendations of the National Reading Panel to include phonemic awareness and systematic phonics instruction in reading instruction were incorporated into the *No Child Left Behind Act of 2001*. The Act established the Reading First initiative which aimed to improve reading instruction in American schools and close the gap in minority test scores, particularly in the early primary schooling. It channelled federal funding towards literacy programs supported by 'scientifically-based research.'[45] Despite the intention of supporting only research-based methods, many programs with no validation data were approved because they shared some features of validated programs, therfore, Reading First had mixed results.[46]

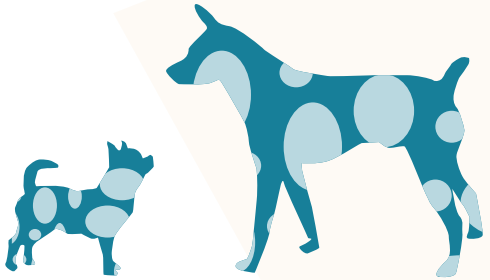
Siegfried Engelmann, a renowned American educator, attributed these poor results to the program's initial selection methodology. Instead of Reading First selecting and funding programs with a strong base in empirical research, the initiative attempted to isolate individual components of successful reading programs and then fund any program that incorporated these elements. Such a method ignored the importance of whole program composition and considered instead only individual aspects of the program, primarily the use of phonics. Engelmann outlined this concept with the use of a simple analogy:

If a dog is a Dalmatian, it has spots. Therefore, if a dog has spots, it is a Dalmatian.

Just because a dog has spots does not necessarily mean it is a Dalmatian



Just because a beginning-reading program includes phonics does not necessarily mean the program will be highly effective



If a beginning-reading program is highly effective, it has various features: phonics, phonemic awareness, and so on. Therefore, if a program has these features, it will be highly effective.

The conclusion has no logical basis. There is a lot more to a Dalmatian than having spots, and a lot more to programs that generate superior outcomes than having the features that are specified in recommendations.[47]

Ultimately, a successful program is more than just a collection of effective components. It must be coherently designed and constructed to sequence information accordingly and hence ensure the effective transmission of new information to student learners. Reading First largely failed because it cherry-picked only a few elements in the effective instruction of early reading and literacy. Again, this experience highlights that there are no easy fixes for improving the approach of teaching in our schools and no single characteristic that separates good policies or programs from poor ones. In teaching reading, as in all teaching that takes place in primary schools every day, it is the combination of carefully constructed concepts and the effective approach in delivery of these concepts to students that ensures successful learning.

Explicit instruction has been effective in Australia

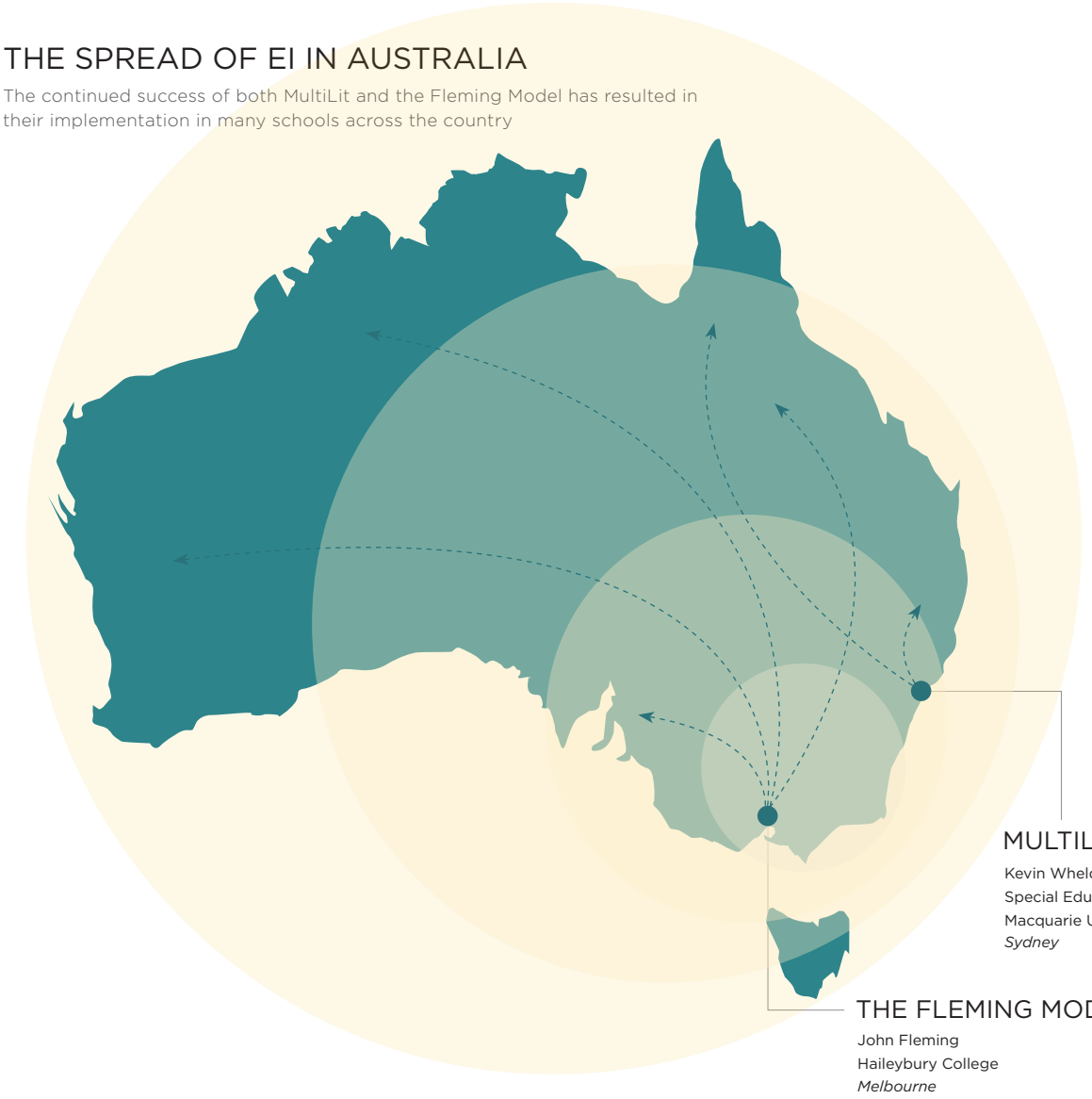
There are several structured initiatives centred on explicit instruction within Australia. Both the MultiLit Program—developed by members of Macquarie University's Special Education Centre and led by Kevin Wheldall—and the Fleming Model of Effective Teaching, developed by Victorian Principal John Fleming—are well-designed and effective explicit instruction initiatives that have led to better outcomes for many Australian students.

MultiLit—Making up for lost time in literacy—is a research-based program for low-progress readers. MultiLit has provided assistance to thousands of young readers in a variety of settings, including schools, reading centres and community-based literacy projects across Australia, New Zealand and Asia. The program is in continuous development to ensure it incorporates the latest research in instruction, but is based firmly on the principles of explicit instruction.[48] In essence, MultiLit is premised on direct and systematic instruction in phonics.

The Fleming Model of Effective Teaching, in contrast, covers a broad range of curriculum and is implemented school-wide. The model, conceived by Victorian primary school principal John Fleming, was developed and refined at a highly disadvantaged primary school in Melbourne where most students did not have English as a first language and were from single-parent households with at least one illiterate parent.[49] Over a decade, the school experienced an outstanding transformation to become one of the state's highest performing schools. The Fleming Model of Effective Teaching is based around the principles of explicit instruction but includes other elements, such as staff performance management, individual teacher coaching, an ongoing professional development program and a rigorous quality-control process.[50]

THE SPREAD OF EI IN AUSTRALIA

The continued success of both MultiLit and the Fleming Model has resulted in their implementation in many schools across the country



Explicit instruction is necessary but not sufficient—curriculum matters too

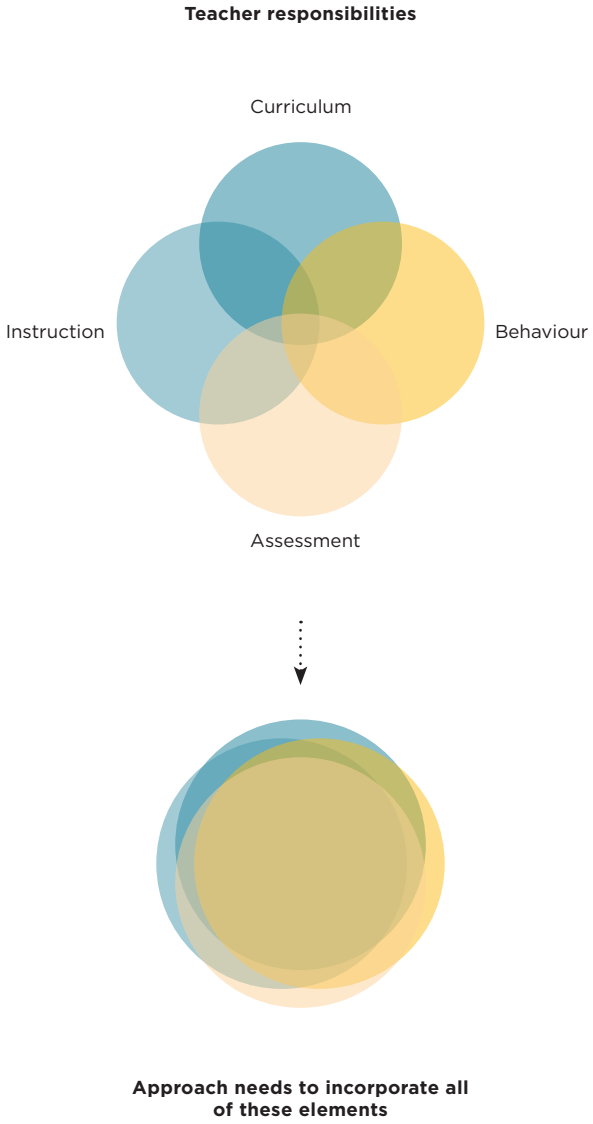
Explicit instruction is highly successful, partly because of the way that information is structured and sequenced, and because of the method employed for introducing new material. By delivering instruction in small steps, teachers can prevent cognitive overload and combat limits on students' processing and working memory.[51] The more complex concepts are broken down into smaller segments, the easier it is to master and retain them. This process of instruction must be coupled with the content of instruction—the curriculum—to ensure efficient and effective teaching.

The Australian Curriculum has been released in stages over the last few years. This curriculum describes knowledge, skills and understanding organised by learning areas, but schools are left to decide how best to deliver the curriculum, while drawing on integrated approaches where appropriate.[52] With this approach, teachers are provided with very limited guidance in how to sequence and structure material and the degree of detail to provide to students, and are expected to judge the volume of material and pace of delivery themselves.

Curriculum design is a complicated science and it is unreasonable to expect a teacher to be expert in both the delivery of highly-quality instruction and the design of curriculum. These are two entirely different skills, and both require deep experience to develop proficiency.

Even if a teacher is an expert in curriculum design—which is rare—they often do not have sufficient time to devote to lesson preparation and program design on top of their already busy contact teaching time.

The issue of expertise and the demands of teaching are compounded by other demands on teachers' time. Australian teachers often have a greater social function than teaching alone: they are often expected to play the role of quasi-social workers, counsellors and psychologists. They frequently actively participate in school life outside the classroom, and are often required to devote time to activities which do not necessarily relate directly to teaching.



Unless the issue of curriculum design is solved simultaneously with instructional technique on a state and national level, Australia is unlikely to achieve the aspiration to become one of the best school systems in the world.

> *The reformers providing teachers with theories, and no details for how to use them, are also asking teachers to create their own tools and curricula. This is like asking airplane pilots to build their own airplanes; like asking farmers to design their own tractors. When would teachers have time to do this? There's no time. Teachers have to teach all day. Engineering a highly effective instructional sequence would more than consume the teachers' private lives.*
>
> *— Dr. Bonnie Grossen, Direct Instruction implementer and program co-writer*[53]

Direct Instruction is an integrated curriculum and pedagogy

Direct Instruction is a form of explicit instruction that integrates a prescriptive curriculum.

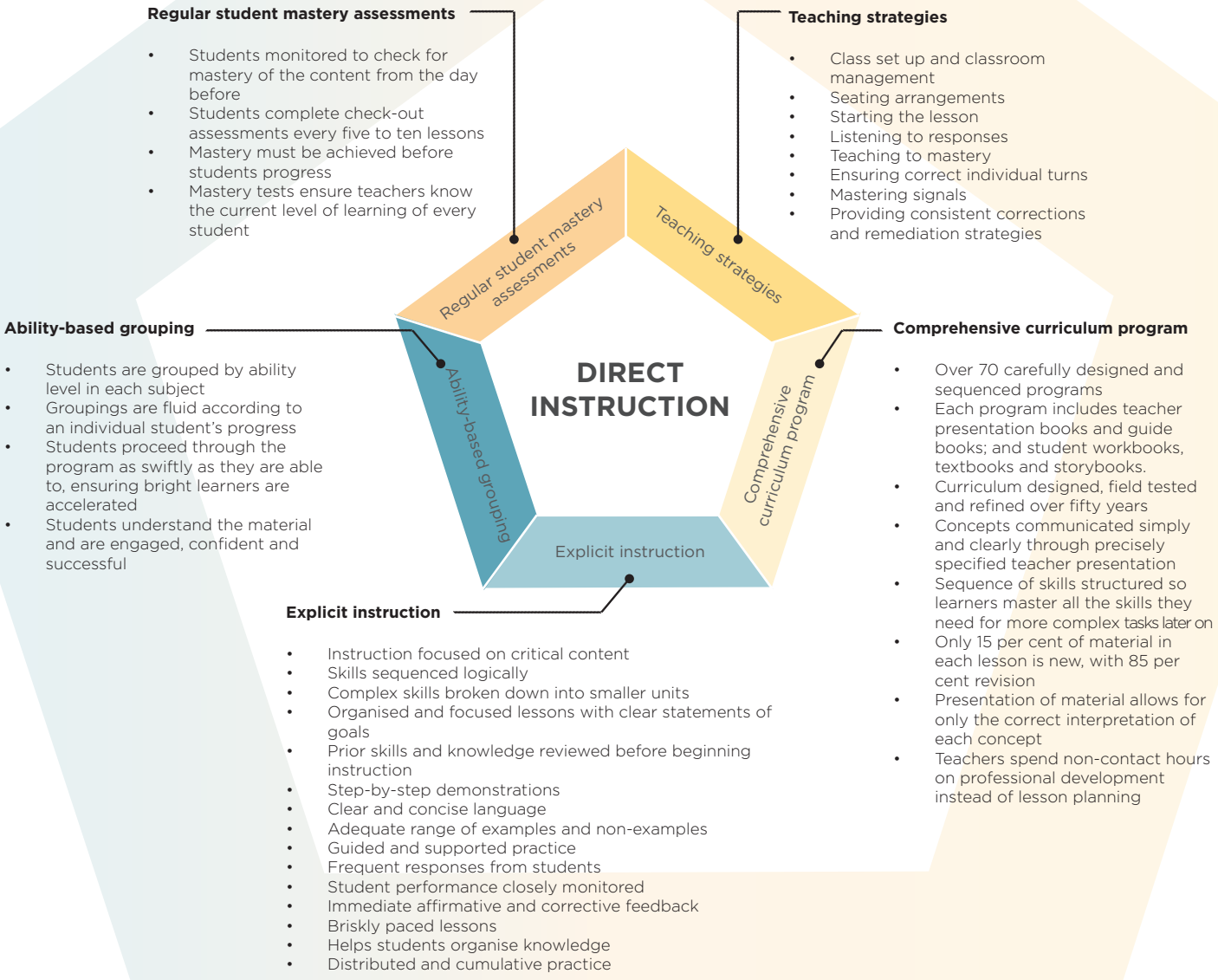
This model—developed by Siegfried Engelmann and his associates at the University of Illinois from the 1960s—was originally called Direct Instruction System for Teaching Arithmetic and Reading (DISTAR).[54] Over time as the programs have evolved, this has been shortened to 'Direct Instruction' or 'DI'.

Direct Instruction has been practised for almost 50 years in the United States, over which time its curriculum and teaching methods have been continually improved and refined through rigorous field testing. Its reach is remarkable: by combining explicit instruction with a comprehensive curriculum and student assessment, it stretches the most able students, while guarding against lower-performing students falling behind.

Direct Instruction is similar to explicit instruction and the overlap in teaching practices is extensive.[55] Both place emphasis upon teacher direction, presentation of information, clear outlines, step-by-step progression, prompts, lessons pacing, constant practice, and assessment and review.[56] Unlike explicit instruction, however, Direct Instruction includes curriculum and outlines how complex strategies should be broken down and taught as separate or smaller sub-skills. It is also supported by formal teacher training and scripted delivery.

Many teachers do not realise that a number of programs they are already using in their schools—such as Spelling Mastery—are a part of the Direct Instruction literacy programs, despite their wide use in Australian schools with strong results.

Direct Instruction has the potential to transform Australian schools because it can lift teaching quality far more quickly than any other approach.



Direct Instruction is carefully designed and sequenced

Direct Instruction (DI) is an education program of carefully sequenced and highly structured lessons designed around "big ideas," for example, an algebraic number family mapping strategy for solving all word problems, or "ruling out" game for hypothesis testing. DI provides clearly defined and prescribed teaching tasks, positive behavioural management strategies and continuous monitoring of student progress. Every aspect of Direct Instruction is shaped by the simple philosophy that 'if the student hasn't learned, the teacher hasn't taught.'[57] There are more than 70 DI programs—which all include a complete curriculum and individual lesson plans—spanning early reading to advanced algebra. These programs have been continuously refined through rigorous field testing over the 50 year period since the first program was developed.

The central concept in design of the Direct Instruction programs is that clear instruction can eliminate misinterpretations, and can enhance and accelerate student learning.[58] Typically, learners use rules to process and internalise new information. Issues may arise in a typical classroom because the means by which information is conveyed can allow for multiple interpretations and a learner may establish an incorrect rule about a particular concept, known as a misrule. Over time, the cumulative effect of establishing misrules can cause students significant confusion, and will often result in a considerable divergence in learning outcomes across different students. In addition, if a learner forms a misrule, it can be difficult and time consuming for it to be 'unlearnt'. If, however, the delivery of information allows for only a single interpretation, the learner will learn the correct rule. Content delivery through DI does not permit multiple interpretations, which means that only the intended rule can be learnt.

> ***The reading teacher runs an obstacle course of potential misrules. Teach with a picture book and some children will infer that words are deciphered by looking at pictures. Teach with a rhyming book and some will infer that words can always be deciphered by looking at the first letter ... Teach sounding out for too long and some kids will become confused by 'said' and 'was' because they can't be sounded out. Every subject is fraught with misrules, DI programs help teachers cope with this dilemma by specifying the precise sequence of examples, tasks and wording they need to teach their subjects clearly.***
>
> *— Shepard Barbash, education journalist and author[63]*

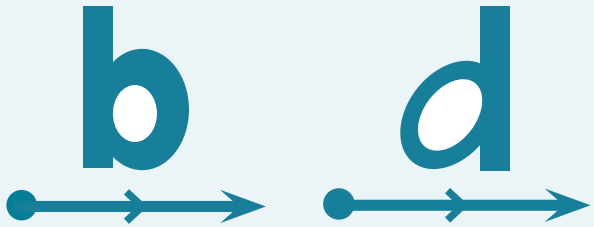
During the early days in the development of Direct Instruction, program designers discovered that teachers' phrasing was a common source of student confusion and a key origin of misrules.[59] DI therefore uses a teaching script, which removes the possibility of misunderstandings and problems in the communication between a teacher and student. The script has the further benefit of employing the most efficient method of teaching a particular concept, meaning that learning time is maximised and more can be learned and revised in a lesson. For example, field testing revealed that many teachers used the phrase 'what is the next word?' to practice new words with students, but that this sentence was time consuming and more difficult for teachers to say. For this reason, DI reading teachers now say, 'next word, what word?'. Many such small but very effective aspects of the Direct Instruction program ensure that teachers and students move through the material easily, efficiently and with clarity.[60]

This same deliberate approach applies to the DI curriculum: nothing is accidental and all content is taught in a specific manner and sequence to minimise confusion. The early reading programs, for example, deliberately separate the introduction of the letters p, q, d and b, because they are easily confused by early reading learners.

Direct Instruction focuses on concept mastery, which means that learners are taught concepts at a measured pace, lessons are carefully grouped and sequenced and students are never introduced to material that is too far beyond their current competence. More complex concepts are gradually introduced, but only after students have demonstrated mastery of pre-requisite skills.[61] Moreover, nothing is ever taught only once and concepts are covered repeatedly with new examples gradually introduced to expand students' knowledge.[62] In practice this means that in each lesson, only 15 per cent of the material is new and 85 per cent of the lesson reinforces content that has already been introduced.

PROGRAM SEQUENCING

It is common for early reading students to confuse the letters b and d. For this reason, these letters are taught 20 lessons apart in the Direct Instruction Reading Mastery program.



Very different font types for b and d are also utilised in early reading teaching to ensure students can differentiate between the letters. This detailed aspect of program design and careful sequencing of new and previously learnt concepts ensures early reading success for students.

To ensure correct initial placement of students, and to assess mastery on an ongoing basis, Direct Instruction employs a continuous testing approach. Students are tested prior to commencing any DI program and are regularly tested to ensure they are mastering concepts as they progress through the program. Information about student progress is analysed weekly on an individual and class level.

It's engineered to get results and nothing in the program is irrelevant ... the tasks build on each other and combine so that the kids can do more and more difficult things in a fairly short amount of time. In the beginning, it was like you're only learning all these itty-bitty things but over time you're doing things that just amaze the kids and the teacher.

— Dr. Bonnie Grossen, Direct Instruction implementer and program co-writer[64]

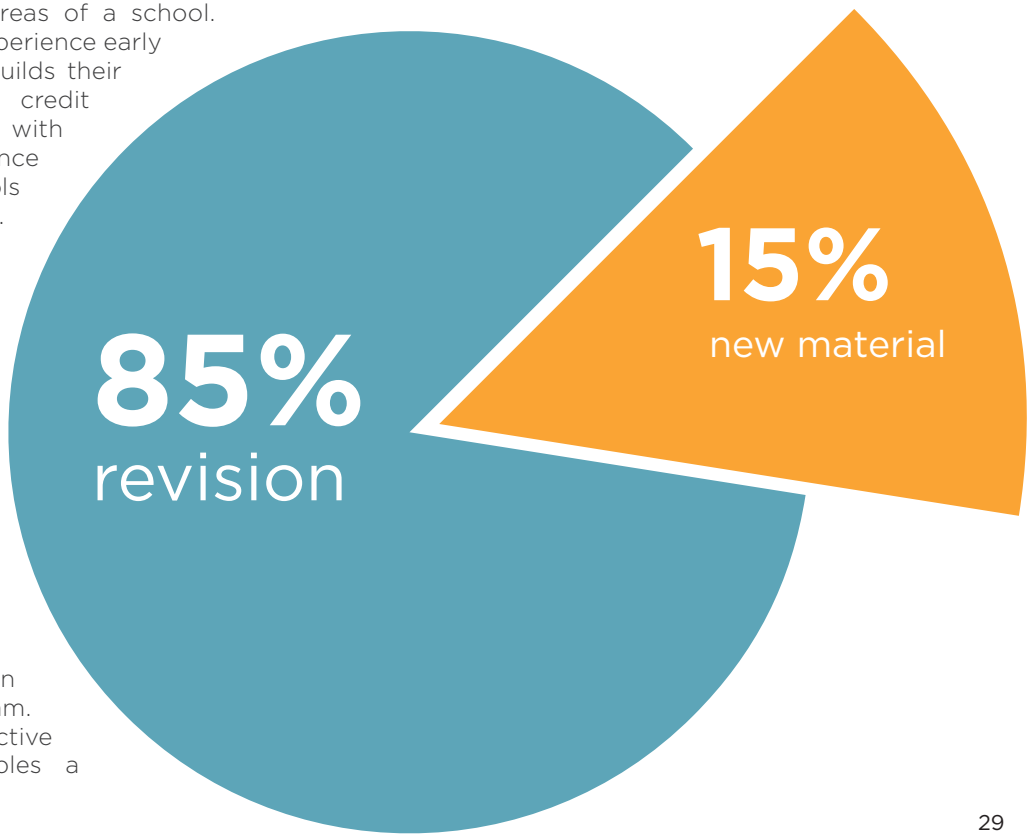
After initial and regular testing, students are grouped according to their current level of mastery in each subject. Groupings are fluid and students are often moved between groups. This ensures that students can proceed through the program as fast as they are capable of moving, ensuring bright and curious students can be accelerated, and those who need extra time to master concepts are given the opportunity to do so.

And it isn't only students who gain from using Direct Instruction—teachers in a DI classroom benefit from rigorous continuous professional development and are offered support on everything from practising their lesson delivery and how to set appropriate independent work, to learning positive behavioural management techniques.

Direct Instruction should not be seen as simply a solution for improving literacy and numeracy. Rather, it is approach which can deliver whole school reform. There is a tendency to incorrectly perceive DI as a remedial program, appropriate only for those learners who have fallen behind. However to paint DI in this light is to grossly underestimate its potential as a stabilising factor in many areas of a school. The success that students experience early on in the program quickly builds their confidence, many teachers credit this increased engagement with an improvement in attendance which is common in schools with DI implementations. The brisk pace of Direct Instruction classes ensures students remain completely focused, which contributes to positive behavioural outcomes in the classroom. As the teaching materials are so comprehensive, DI also ensures the delivery of high-quality instruction to all students is embedded; this is especially powerful in schools which have a high teacher turnover and would normally struggle to sustain a rigorous academic program. Put simply, this highly effective educational approach enables a poor-performing school to place itself on a trajectory to becoming a great school. It breaks the cycle of low performance by addressing many of the issues which keep schools mired in failure.

MATERIAL COVERED IN EACH LESSON

Nothing is ever taught only once and concepts are covered repeatedly with new examples gradually introduced.



The evidence base for Direct Instruction is comprehensive

Direct Instruction's rigorous approach to pedagogy and curriculum has been shown—over almost fifty years and through many hundreds of studies—to deliver significant and sustained gains in student outcomes. It is one of the most effective forms of instruction for literacy and numeracy, for learners with diverse skills and from a range of backgrounds. As with any approach studied so comprehensively, a small number of research papers have not replicated such highly favourable results, yet the overwhelming academic evidence confirms the efficacy and consistency of Direct Instruction on student outcomes.

One of the largest collections of research ever undertaken was collated over a 15-year period by John Hattie, a Professor of Education and Director of the Melbourne Education Research Institute at the University of Melbourne. In 2009, Hattie published an internationally acclaimed synthesis of research on 'what actually works in schools to improve learning', covering over 800 meta-analyses and millions of students.[65] The study used effect size, a simple measure for quantifying the difference between two groups or the same group over time, to assess the relative effectiveness of a range of approaches, interventions and actions on student outcomes. Hattie determined that, 'for students moving from one year to the next, the average effect size across all students is 0.40.' With an effect size of 0.59, the Direct Instruction program was considered to progress students one-and-a-half times faster than an average intervention and hence was shown to be one of the most effective instructional methods of the 130 influences studied.

> ***Citing an individual study to prove that Direct Instruction isn't effective is like citing a rainstorm to prove that the Sahara isn't a desert.***
>
> *—Joe Kirby, British Educationalist*[66]

VISIBLE LEARNING BY THE NUMBERS

200 MILLION +
NUMBER OF STUDENTS STUDIED

130
NUMBER OF INFLUENCES STUDIED

in **7**
CATEGORIES

Student, home, school, curricula, teacher, teaching strategies

A SYNTHESIS OF **800+**
META-ANALYSES

OVER **50,000**
STUDIES

0.4
AVERAGE EFFECT SIZE

Fifteen
YEARS OF RESEARCH

EFFECT SIZE

An effect size provides a common expression of the magnitude of outcomes for student achievement.

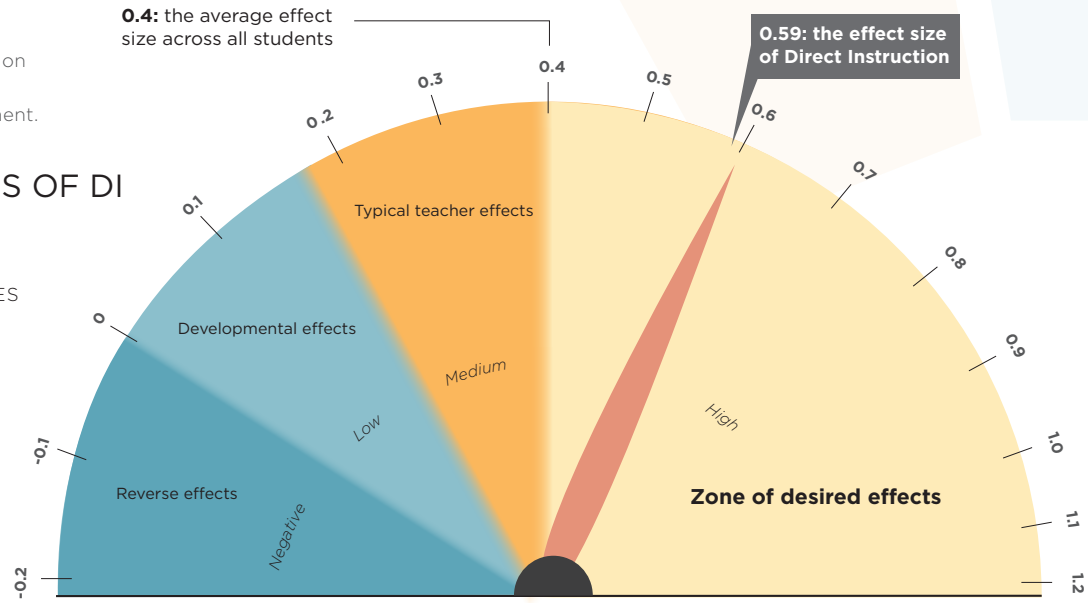
HATTIE'S ANALYSIS OF DI

4
NUMBER OF META-ANALYSES

304
NUMBER OF STUDIES

597
NUMBER OF EFFECTS

42,618
NUMBER OF PEOPLE



Another large study adding to the wealth of Direct Instruction evidence was undertaken in 2009. The study, 'Evaluating the core' assessed 30,000 early primary school students in Florida for oral reading fluency, and found students who were taught using the DI Reading Mastery program had greater oral reading fluency. These children also exceeded the grade-level benchmark more frequently than their peers.[67]

Although Direct Instruction is most often associated with the teaching of literacy, it also includes a number of highly successful maths courses, with similarly compelling evidence of effectiveness. For example, a four-year study of 170 students in six Baltimore schools concluded that Direct Instruction increased student achievement in mathematics. Students completing Direct Instruction programs, moved, on average, from the 16th percentile of student achievement at the end of first grade to the 48th percentile by the end of third grade. These students overtook their non-DI peers, who ended first grade on the 27th percentile, but had reached only the 36th percentile two years later.[68]

One of the common criticisms is that Direct Instruction works only with very low-level or specific skills, and with lower-ability and the youngest students. These are not the findings of the meta-analyses.

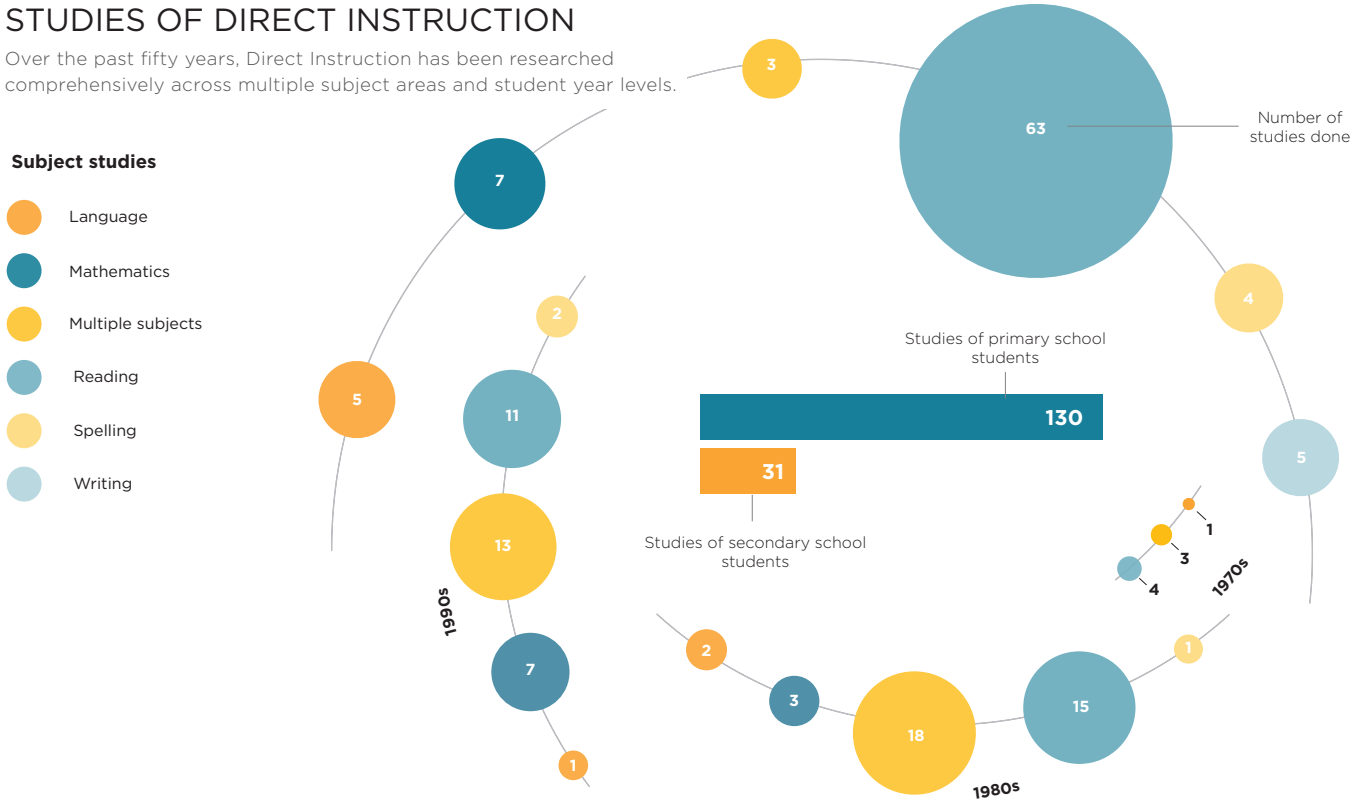
—John Hattie, Visible Learning, 2009[71]

While most Direct Instruction programs are not specifically designed for use by special needs students, there are also a number of studies which show the program's efficacy in teaching students with learning difficulties. Scruggs conducted a meta-analysis of 70 studies, covering more than 2,400 students, on instruction for children with disabilities and found that the Direct Instruction program had the greatest effect on student achievement.[69]

The empirical evidence base for Direct Instruction is comprehensive. Accumulated findings of decades of studies have showed that students studying with Direct Instruction have higher achievement scores and stronger growth rates than students studying with other curricula. These results have appeared with reading and maths; in urban, rural and suburban settings; with middle class high-achieving students; with high-risk students, general education students and special education students; and with children from pre-school age through to middle school. The strong positive results appear in studies examining state test scores, curriculum-based measures and norm-referenced tests; in Australia, the United States as well as in other countries and with randomised control trials as well as quasi-experimental designs.[70]

STUDIES OF DIRECT INSTRUCTION

Over the past fifty years, Direct Instruction has been researched comprehensively across multiple subject areas and student year levels.



Direct Instruction myths are unfounded

Myth
Direct Instruction only works for low-performers and children from low SES backgrounds

'To me, one of the great things about Direct Instruction is that it's applicable across the board, it's not a remedial program. In fact Direct Instruction can be one of the best devices to accelerate high learners.'

Primary School Principal

Myth
Direct Instruction is rote learning, and does not teach higher order skills

'Direct Instruction can come across as rote, but it's not. You ask a question and they answer it until they understand it, but all the time they are learning to apply their knowledge outside the classroom.'

K-3 Teacher Aide and DI Trainer

Myth
Direct Instruction is boring to teach

'If anyone asks me how's school I say I love school, I love Direct Instruction. Since we started using Direct Instruction it has made me more passionate as a teacher, because we can see the kids' progress.'

Middle School Teacher

Myth
Direct Instruction de-skills teachers

'All the teachers are really benefitting because they get so much professional development. You're not restricted in your teaching at all, it reinforces what you do in the classroom.'

Former School Principal

Myth
Direct Instruction's methods destroy a student's love of learning

'The kids are excited to come to class, it's not hard, they want to succeed because we are setting them up to succeed, not to fail.'

Middle School Teacher

Myth
Direct Instruction ignores individual differences among students

'We ensure students are placed so their ability level is matched but they will still be challenged lesson by lesson.'

Primary School Principal


mastery learning
progress confidence
professional development maths
every child
reading achievement
success acceleration
engaging ability grouping
whole school reform

The world's largest educational experiment supports Direct Instruction

The most effective program

As outlined, there is comprehensive evidence supporting the efficacy of Direct Instruction, including from the largest educational experiment in history, Project Follow Through.

Project Follow Through—an American experiment involving 200,000 children and 22 instructional approaches (including affective, cognitive and basic skills models)—is the largest longitudinal education experiment ever conducted, over 10 years in 51 school districts.

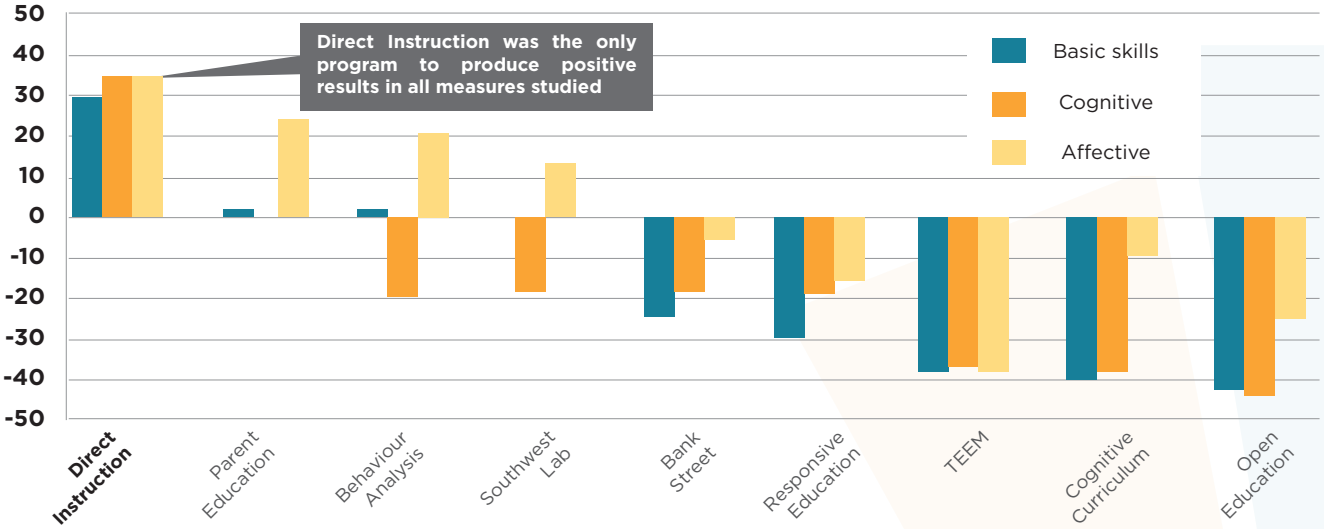
The study found Direct Instruction to be the most effective method of instruction: it achieved the best results in maths, spelling and language and was the only approach to improve higher-order skills. In fact, the program had the most positive effect of all the models studied on students' basic skills, cognitive behaviour and affective behaviour.[72]

At the conclusion of the major review of findings, a committee was established to distribute information regarding the models identified as the most effective. Despite the final results supporting Direct Instruction as the most effective model, it did not receive any prominence in the dissemination process. In fact, perversely the models that were found to be less effective during Project Follow Through were allocated additional funding in an attempt to improve their outcomes.[73]

Project Follow Through did not lead many educationalists to confront the truth about the effectiveness of explicit teaching. The results were largely dismissed, discarding a very real opportunity to reform education in the United States. The story of Project Follow Through in the United States echoes the experience in Australia, that all too often empirically verified educational practices are overlooked in favour of methods based on ideology.

Although the Direct Instruction did not gain the national recognition it deserved through Project Follow Through, the research was clear: across all dimensions, DI was the top-ranked program out of all the models evaluated and in all areas.

ACHIEVEMENT OUTCOMES



PROJECT FOLLOW-THROUGH TIMELINE

BACKGROUND

War on Poverty announced

Prompted by President Lyndon B. Johnson's 'War on Poverty', US congress passes the *Economic Opportunity Act* and initiates a range of programs intended to fight poverty.

1964

Head Start begins

'Head Start' a summer school designed to remedy the deficit in learning opportunities for children from families living in poverty begins.

1965

Project Follow Through conceived

The success of Head Start leads President Johnson to request that Congress establish a program to 'follow through' on Head Start. Originally designed as a service program similar to Head Start, it was expected to receive funding of $120 million.[74]

1967

RESEARCH EXPERIMENT

Project Follow Through begins

Funding cuts mean that Project Follow Through is redesigned as a research and development program aimed at discovering teaching effective methods. Project Follow Through would become the largest longitudinal education experiment in history.

1968

Data analysis begins[75]

1969

Models continue to join

10 additional models are added to the program, making 22 sponsors in total.[76]

1971

First data is published[77]

1975

PROJECT FOLLOW-THROUGH BY THE NUMBERS

ONE BILLION DOLLARS

TOTAL PROJECT COST

$30MILLION
FINAL EVALUATION COST

$120M
ORIGINAL PROPOSED BUDGET

3
CATEGORIES OF MODELS
(Affective, Cognitive and Basic skills)

NINE
YEARS OF DATA COLLECTED
(from 1968 - 1977)

22
MODELS AVAILABLE

IN
178
COMMUNITIES

ACROSS
Fifty-one
SCHOOL DISTRICTS

200,000
CHILDREN STUDIED

EVALUATION

1977 — Final report is realeased

Final report with data and analysis on Project Follow Through is released.[78] Direct Instruction performs highest in each of the skills evaluation criteria, and subject areas. Parent Education and Behaviour Analysis were the next highest performing sponsors.

1978 — Data and analysis critiqued

Ernest House publishes a controversial paper in the Harvard Educational Review, that is highly critical of operational and design problems, and the authors are dissatisfied with the conclusion that the basic skills models outperformed the other models.[79]

1981 — Data reanalysed

Bereiter and Kurland reanalyse the Project Follow Through data and conclude that only Direct Instruction and one other model had positive effects, but that Direct Instruction is vastly superior.[80]

SERVICE PROGRAM

1982 — Ineffective programs are funded[81]

1986 — Congress approves program continuation[82]

1995 — Service program

Project Follow Through continues as a service program until funding is cut in 1995.[83]

There is a committed Direct Instruction community

There now exists a small but growing Direct Instruction community that is passionate about positive educational outcomes for all, and who recognise the strength of the Direct Instruction program and its ability to effect sustainable whole school reform. This community spans a number of countries around the world—including the United States, Canada, the United Kingdom and Australia—and is slowly growing as teachers and educationalists seek evidence-based approaches to what actually works in the classroom.

In order to promote research-validated instructional methods that lead to outstanding education for all students, the Association for Direct Instruction was launched in Eugene, Oregon in 1981. The Association is the largest provider of workshops and conferences on Direct Instruction and also publishes a regular Direct Instruction newsletter—DI News—along with the Journal of Direct Instruction. The Association's vision is to ensure an excellent education for every student; the education every child deserves.[84]

Another independent organisation—the National Institute for Direct Instruction (NIFDI)—leads the implementation of DI in schools across the United States and beyond. Based in Oregon, NIFDI has its roots in the University of Oregon Direct Instruction Follow Through model. Since its establishment in 1997, NIFDI has supported DI implementations in 18 states (California, Georgia, Hawaii, Illinois, Kansas, Louisiana, Maryland, Michigan, Minnesota, Nebraska, New Jersey, Oregon, Pennsylvania, Texas, Utah, Virginia, Washington, and Wisconsin), the territory of Guam and Cape York, Australia.[85]

NIFDI has a comprehensive support model to ensure successful, high-fidelity implementation of Direct Instruction into schools, including providing continuous administrative and curricular support to schools and districts as they implement DI programs. NIFDI also conducts, promotes and publicises high-quality research on the outcome of DI implementation in schools. The organisation is uniquely qualified for these tasks as its founding members—including Siegfried Engelmann—are the creators of the Direct Instruction program. Its implementation support consultants are experienced teachers with advanced degrees, and between five and 25 years' teaching experience in Direct Instruction. Many of the senior consultants are also co-authors of the DI programs.

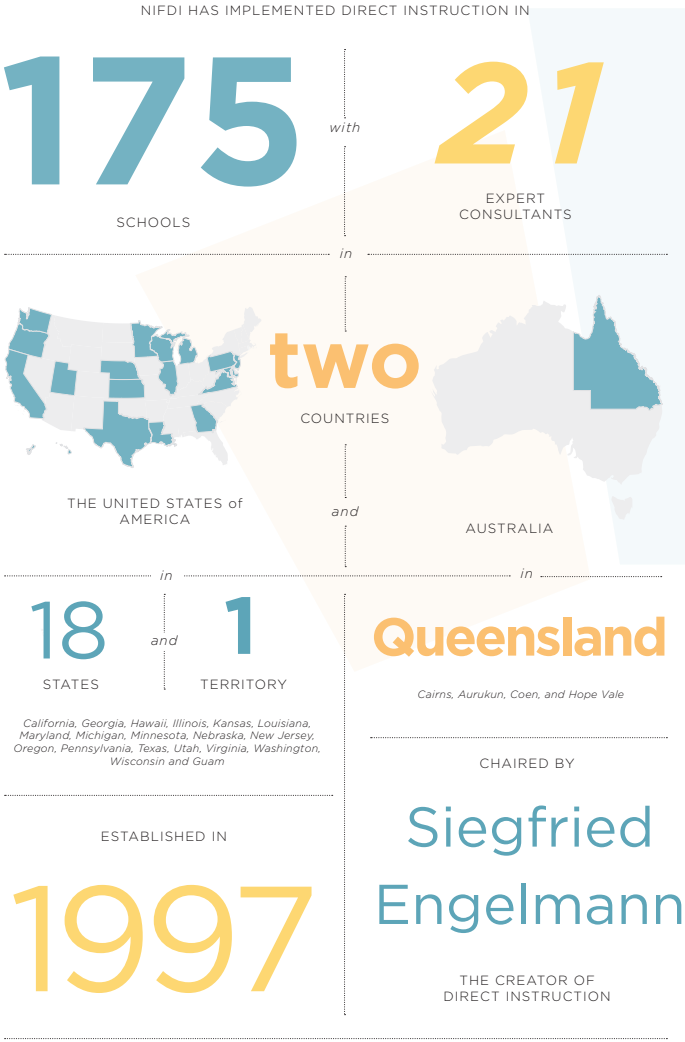
In addition to these organisations, there are a number of independent consultants who can assist schools in implementing Direct Instruction, as well as a large number of individual teachers, principals and educationalists involved in all aspects of education, that follow and support the Direct Instruction program. As the community grows, so too does the number of students around the world who benefit from effective, evidence-based teaching.

GERING SCHOOL DISTRICT: A NIFDI SUCCESS STORY

In 2004, testing data showed schools in the Gering District in western Nebraska were failing in literacy and numeracy. Less than 30 per cent of children in the elementary schools were at grade level, with children from low socio-economic households and minority ethnicities especially underperforming.

The district applied for a federal grant to implement Direct Instruction with the support of NIFDI. The results were extremely positive: in 2005 the percentage of students scoring as proficient on the fourth grade state-wide writing assessment was just 57 per cent, by 2008, this number had risen to 95 per cent.[86] This is one of many Direct Instruction success stories from NIFDI.

NIFDI: A SNAPSHOT



Effective Instruction is the central organising principle

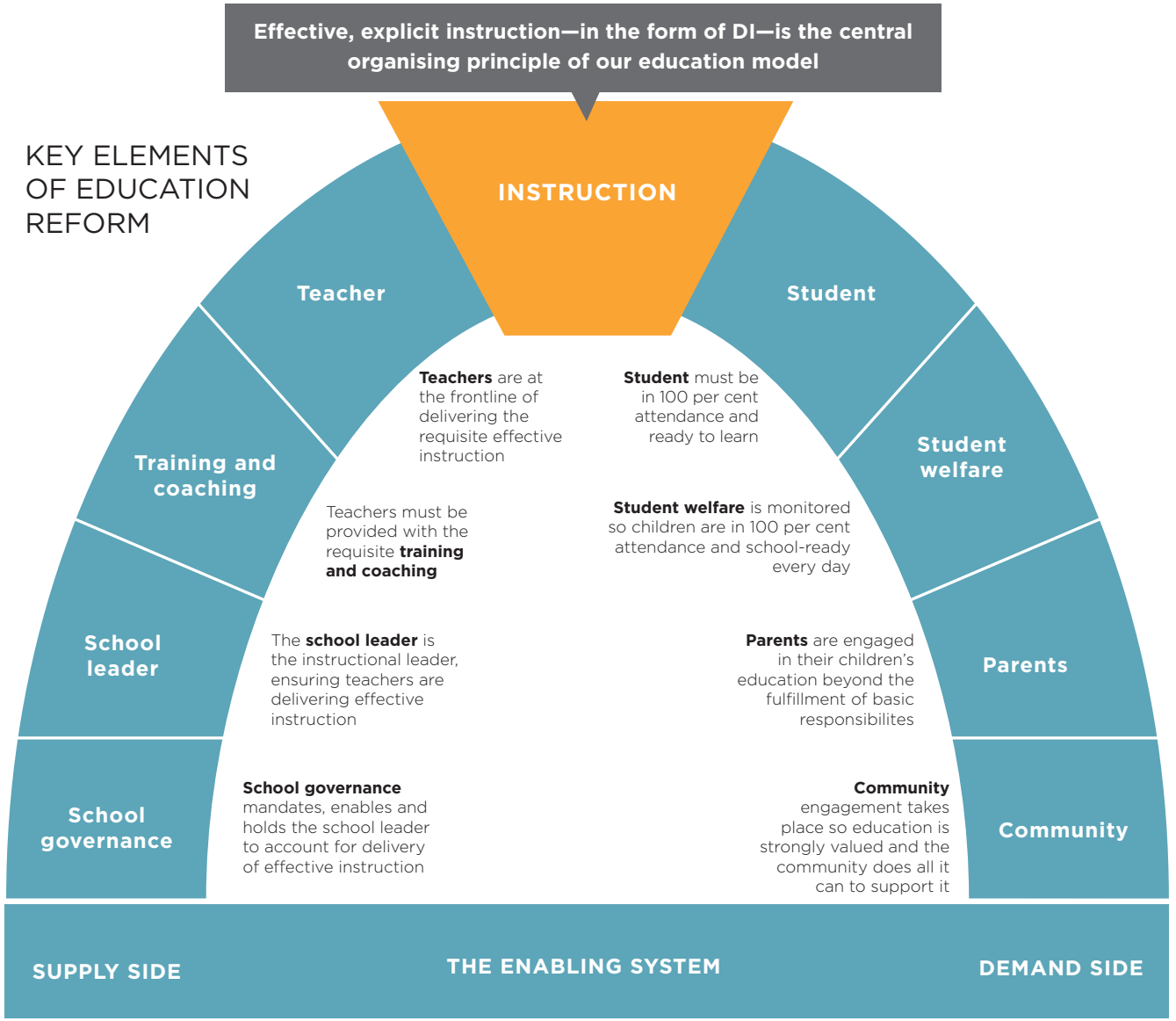
Education is one of the four core streams of the ongoing Cape York Welfare Reform Trial and the Cape York Group (CYG) has an ambitious education agenda for primary and secondary education. As a part of this agenda, the implementation of Direct Instruction has been responsible for delivering remarkable improvements in the literacy and numeracy of Indigenous children in three remote North Queensland primary schools (Aurukun, Coen and Hope Vale) and Djarragun College in Cairns.

In January 2009, the Cape York Group commenced development of a new business model for school reform, informed by eight years of work in education and Welfare Reform. In January 2010, the group established a subsidiary, the Cape York Aboriginal Australian Academy (CYAAA), a not-for-profit education organisation with an independent board led by Noel Pearson. CYAAA was established to deliver a 'best of both worlds' education to Indigenous students, and aims to close the academic achievement gap between Indigenous and mainstream students while supporting Cape York childrens' bicultural identity.

In 2010, CYAAA formed a unique partnership with Education Queensland to administer and operate the primary schools in Aurukun and Coen. In January 2011, CYAAA expanded to Hope Vale State School under a similar arrangement. In 2011, the Cape York Group took over the management of Djarragun College, an independent Prep to Year 12 Indigenous boarding school in Cairns.

Effective instruction is the central organising principle of CYAAA's educational model, within a whole school approach. CYAAA chose to include Direct Instruction as an element of its whole-of-school model because of the compelling evidence that Direct Instruction can prevent students from falling behind and accelerate those who are already behind.

The program is also especially suited to the CYAAA schools because it overcomes instructional and curriculum continuity issues which are commonly associated with remote schools with a high teacher turnover.



Cape York reforms are achieving encouraging results

While sustainable education reform is a slow process, across the three campuses—Aurukun, Hope Vale and Coen—there has already been encouraging progress made in literacy and numeracy achievements using Direct Instruction. Proof of this progress is evidenced through both internal and external measures, including Australia's NAPLAN tests,[87] and international standardised measures such as DIBELS.[88]

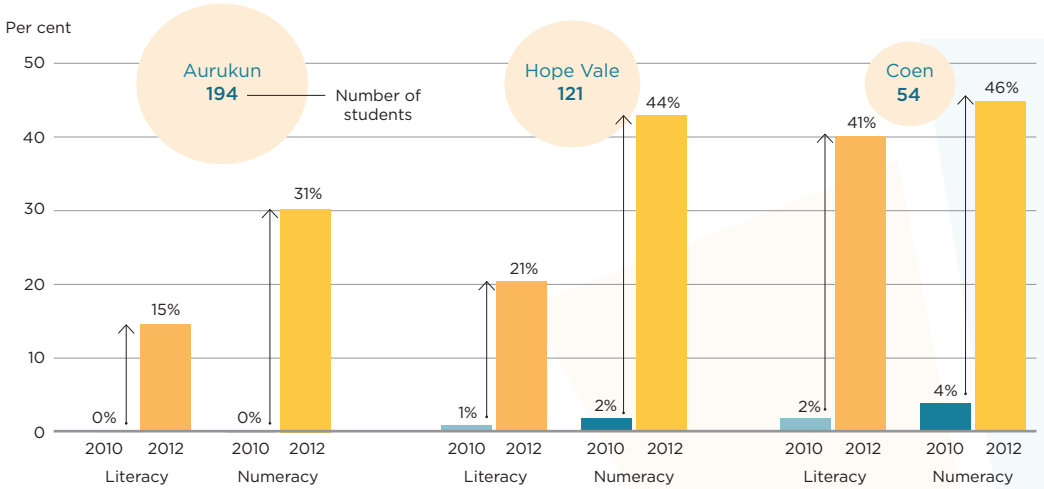
> ***One little girl ... went to a mainstream school in Cairns and those teachers there were asking 'where did she come from?', because her reading ability and knowledge of sounds was very far ahead of the rest of the class.***
>
> *—Coen Primary School Teacher*

The progress at Coen, in particular, is remarkable. The Year 5 Coen class is already above the national average in spelling, grammar and punctuation, and is quickly catching up to the national averages in the other measures tested as part of NAPLAN.[89] In fact, the rate of progression revealed in NAPLAN results from 2010 to 2012 show a significant improvement in Coen students during this time period. These students have experienced accelerated achievement progression compared with the national mean in all of the five NAPLAN measures—reading, writing, spelling, grammar and punctuation and numeracy.[90]

Internal data regularly collected by the schools also indicates that all CYAAA schools have significantly increased the total number and percentage of students at year level for literacy and numeracy. These students—initially at some of the poorest and underperforming schools in Australia—are progressing faster and are learning more than ever before each and every day in the classroom. Direct Instruction is at the centre of these improvements.

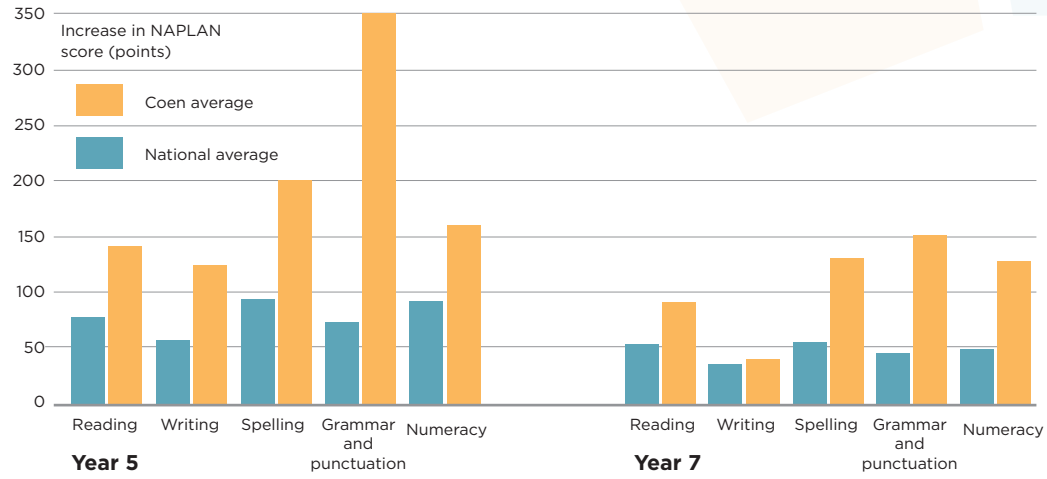
PERCENTAGE OF STUDENTS AT YEAR LEVEL

Every school has seen a significant improvement in literacy and numeracy results. At the start, there were almost no students at year level in any school, but after only two-and-a-half years, more than a third of students are now at or above their year level for numeracy.



NAPLAN SCORE PROGRESS 2010-2012: COEN

Students at Coen are moving much faster than the national average and have even overtaken the national average in a number of measures. Coen and all CYAAA schools aspire to be the beacons that challenge expectations of what Indigenous children can achieve in Australia.



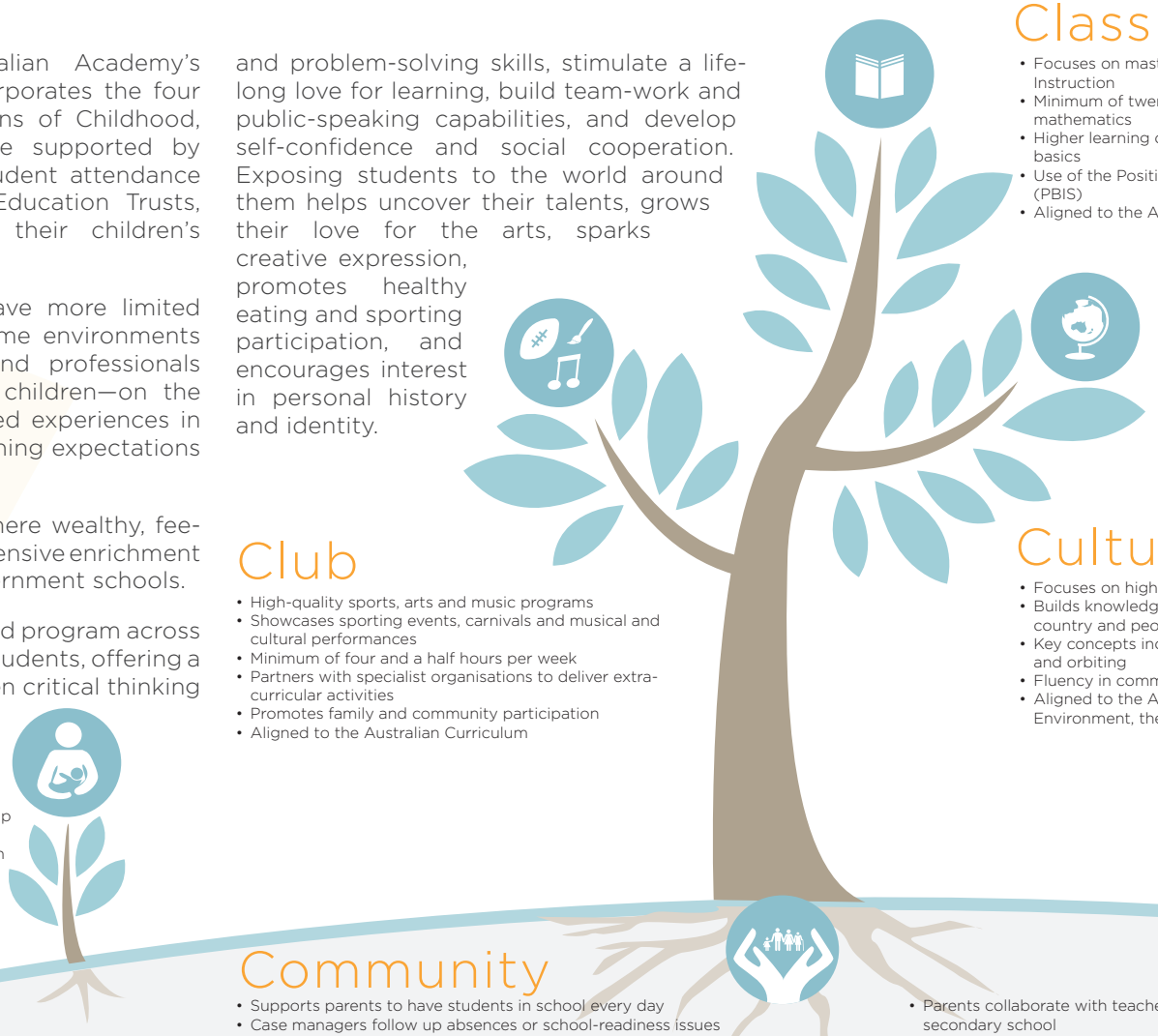
Cape York has developed a comprehensive school model

The Cape York Aboriginal Australian Academy's comprehensive school program incorporates the four distinct, but related, learning domains of Childhood, Class, Club and Culture. These are supported by Community initiatives to support student attendance and well-being, including Student Education Trusts, which help families to save for their children's educational needs.

Disadvantaged children generally have more limited language skills, less learning-rich home environments and less interaction with adults and professionals outside their families. Middle class children—on the other hand—often have more enriched experiences in the arts, sport or travel and have learning expectations by parents and families.[91]

This gap is exacerbated at school where wealthy, fee-paying schools typically offer more extensive enrichment activities and opportunities than government schools.

One solution is to introduce an enriched program across schools that educate disadvantaged students, offering a range of activities which aim to deepen critical thinking and problem-solving skills, stimulate a life-long love for learning, build team-work and public-speaking capabilities, and develop self-confidence and social cooperation. Exposing students to the world around them helps uncover their talents, grows their love for the arts, sparks creative expression, promotes healthy eating and sporting participation, and encourages interest in personal history and identity.



Childhood

- Focuses on closing the early childhood development gap
- Covers early childhood from antenatal to 3 years
- Includes support programs for maternal and child health
- Uses an explicit instruction academic program
- Families supported to engage with the school

Class

- Focuses on mastery of literacy and numeracy using Direct Instruction
- Minimum of twenty hours per week of reading, writing and mathematics
- Higher learning curriculum for students who have mastered the basics
- Use of the Positive Behavioural Interventions and Supports System (PBIS)
- Aligned to the Australian Curriculum

Club

- High-quality sports, arts and music programs
- Showcases sporting events, carnivals and musical and cultural performances
- Minimum of four and a half hours per week
- Partners with specialist organisations to deliver extra-curricular activities
- Promotes family and community participation
- Aligned to the Australian Curriculum

Culture

- Focuses on higher order skills and project activities
- Builds knowledge about cultures and history of family, community, country and people
- Key concepts include mode switching, identity, inter-contectedness, and orbiting
- Fluency in communicating through digital media
- Aligned to the Australian Curriculum in Science, Society and Environment, the Arts, Technology, and Language

Community

- Supports parents to have students in school every day
- Case managers follow up absences or school-readiness issues
- Medical officers collaborate to address student health and wellbeing
- Parents set up Student Education Trusts (SET) to save for their child's education needs
- Parents collaborate with teachers to ensure students successfully transition to secondary school
- Food Club provides school meals that parents pay for
- Parents supported to create education friendly spaces in their homes

Closing the early childhood development gap

The Childhood domain focuses on closing the early childhood development gap. The development gap between advantaged and disadvantaged children opens up in the earliest childhood, so that by the time disadvantaged children start their formal schooling they are more than likely to be behind their advantaged peers. This developmental gap then turns into an academic achievement gap, which is very hard to close once formal schooling begins. These children are behind in the race from before they start.

In Visible Learning John Hattie identifies that the largest determinant of a student's educational success is what the student brings to the table.[92]

What the student brings is not just their God-given intellectual aptitude and intelligence however. There are factors in the social and economic background of the student, which have either supported or impaired his or her development. Poverty, lack of education in the family, broken families, absence of books – a whole range of factors that are common to disadvantaged families – mean that many children are never given the chance to develop to their full potential.

The list of factors that differentiate the life chances of advantaged and disadvantaged children is long and challenging for those who believe that all children should have opportunity in life.

Education researchers Betty Hart and Todd Risley showed the enormous vocabulary exposure gap between children growing up in welfare class, working class and middle class families – in early childhood. [93]

Sociologist Annette Lareau showed the gulf between two predominant forms of parenting and child-rearing in the United States: lower-class children are brought up in a 'natural parenting' style where children spend their non-schooling hours playing by themselves without any planned program, and middle-class children are brought up under what Lareau labelled a 'concerted cultivation' model. Middle-class families have heavy schedules of music, performance, sport and other extra-curricular development opportunities for their children out of school hours. These children are brought up with a sense of entitlement about their future and are well-placed to succeed in schooling. [94]

According to Noel Pearson,

"The anomalous trajectories of children from advantaged and disadvantaged backgrounds lead some to argue that in a bell curve, of intelligence and academic aptitude there are those who will inevitably comprise the lower half of the achievement curve. The insidious implication is that this is the result of innate intelligence and genetic inheritance. But when entire groups of Indigenous children and children from disadvantaged backgrounds are situated disproportionately at the lower end of the spectrum – this view is rejected as class and racial pre-destiny. This policy concedes no ground to this kind of argument. Yes there are intellectual variations within groups and classes, and indeed within families, but when there is wide-scale educational under-achievement then this is a policy failure – not a failure on the part of the children who have been denied proper opportunity.

However if we are to meet the challenge of providing every child with the opportunity to develop to their full potential, then we must focus on early childhood: from antenatal to three years."

Baby College
It takes a village to raise a child

BABY COLLEGE: SUPPORTING PARENTS IN CAPE YORK

Baby College, an initiative of Cape York Partnership, was inspired by a project of the same name run by the Harlem Children's Zone. Baby College builds on the existing capabilities of parents. It provides a 'college' for impending parents to socialise and learn while they travel on the journey to parenthood with support from experienced aunties, uncles and grandparents in the community and from baby health and parenting professionals. It supports parents to prepare for the birth of their child with an emphasis on ante-natal and post-natal health. Parents are given the skills to lay the foundations for the positive early development of their children.

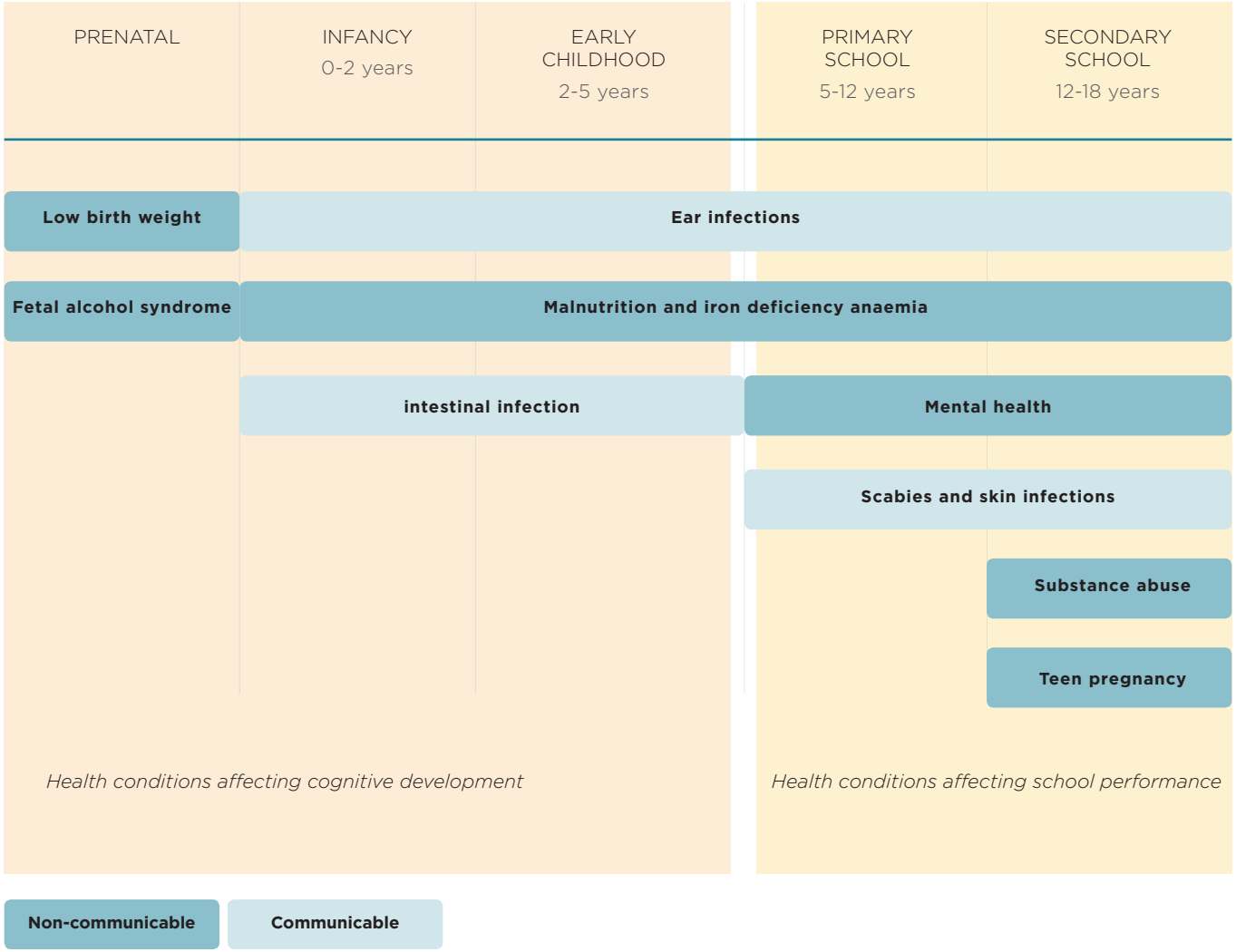
There is today a vast consensus in the research literature on brain development that the prospects of children in later life are very much determined by what happens in the first three years of their development, both in respect of their mother's health and the child's health and physical, mental and emotional development.

Professor Fiona Stanley's research in particular has highlighted the crucial importance of focusing on early brain development.[95] There are interventions that can support children in their most formative years, and the Childhood domain of the Good to Great Schools Australia program aims to ensure that the developmental gap that disadvantaged children are highly susceptible to, is ameliorated and avoided.

Challis Early Education Centre, [96] part of an independent public school in Armadale, Perth, led by Principal Lee Musumeci, is Australia's most exciting early childhood initiative – and shows what is possible in terms of supporting disadvantaged families and their children in early childhood, and preparing them for academic success in later schooling.

Musumeci and her team did two things to turn around the poor performance of their students, notwithstanding their concerted efforts in the past. With the support of The Australian Children's Trust she put in place a full range of support programs for the children and their families, so that maternal and child health and development – as well as engagement in the Challis school – was fully provided for. Secondly she replaced the play-based learning program with a fully explicit instruction program, aimed at closing the gap in academic readiness of her students for primary schooling. Between 2009 and 2013 Challis has shown how to turn around the deficit for disadvantaged students, so that they in fact start primary schooling ahead of the peers in the advantaged mainstream.

A RANGE OF HEALTH CONDITIONS ADVERSELY IMPACT EDUCATIONAL OUTCOMES



The importance of textbooks

Top performing school systems use good quality, standardised learning materials

Quality standardised learning materials ensure students are exposed to the full range of content and relieve teachers of the burden of being expert curriculum designers, feeing them to be master instructors instead.

Teachers in the high performing countries of Finland, Singapore and Hong Kong use subject—and grade specific—textbooks that link to their state standards. In Finland for example, teachers use prescribed textbooks and believe it unrealistic to develop their own teaching plans and learning materials. Employing textbooks allows teachers to grow their instructional practice and spend more time collaborating with colleagues.

While textbooks come in many forms, the most effective often include a student textbook, student workbook and teacher's guide.

In Australia, most states have moved away from textbooks in the past few decades. Responsibility for what is taught and how, is devolved to schools and teachers, who create their own learning materials to support curriculum delivery.

Australian teachers are required to map their teaching program to the state guidelines in addition to preparing their own lesson plans. A less competent teacher could easily omit large areas of core knowledge, or create lesson plans that are confusing.

In high performing Australian schools, long-serving principals lead school-wide instructional planning and curriculum development, which is refined over many years. But in disadvantaged schools, where high principal turnover is routine, teachers are rarely supported to plan and their work is seldom evaluated.

Direct Instruction texts are designed for universal application across cultures. These include specific content presented with set sequences and testing at key points to ensure mastery. Each lesson is thoroughly field tested by experienced professionals, and continuously refined with feedback from classrooms.

A text book alone does not guarantee quality instructional delivery. Direct Instruction offers one unique and additional feature to enhance teacher quality. Teacher guides provide lessons that are scripted to define exactly how each lesson must be delivered. Teachers who use the program credit it with the acquisition of effective teaching techniques. The reduced amount of lesson planning allows teachers to devote more time to improving their instructional practice and attending to students needs.

Teachers, especially those new to the profession, are best placed to deliver effective instruction if they use an integrated set of resources including components such as prescriptive curriculum and scripted delivery, like those provided in Direct Instruction.

THE TYPES OF TEACHING MATERIALS

Prescriptive curricula and scripted lessons
Critical for lower performing schools

Standardised textbooks
Used by the best school systems in the world

Autonomous lesson plans
Appropriate only in schools with expert teachers and strong school-wide curriculum development

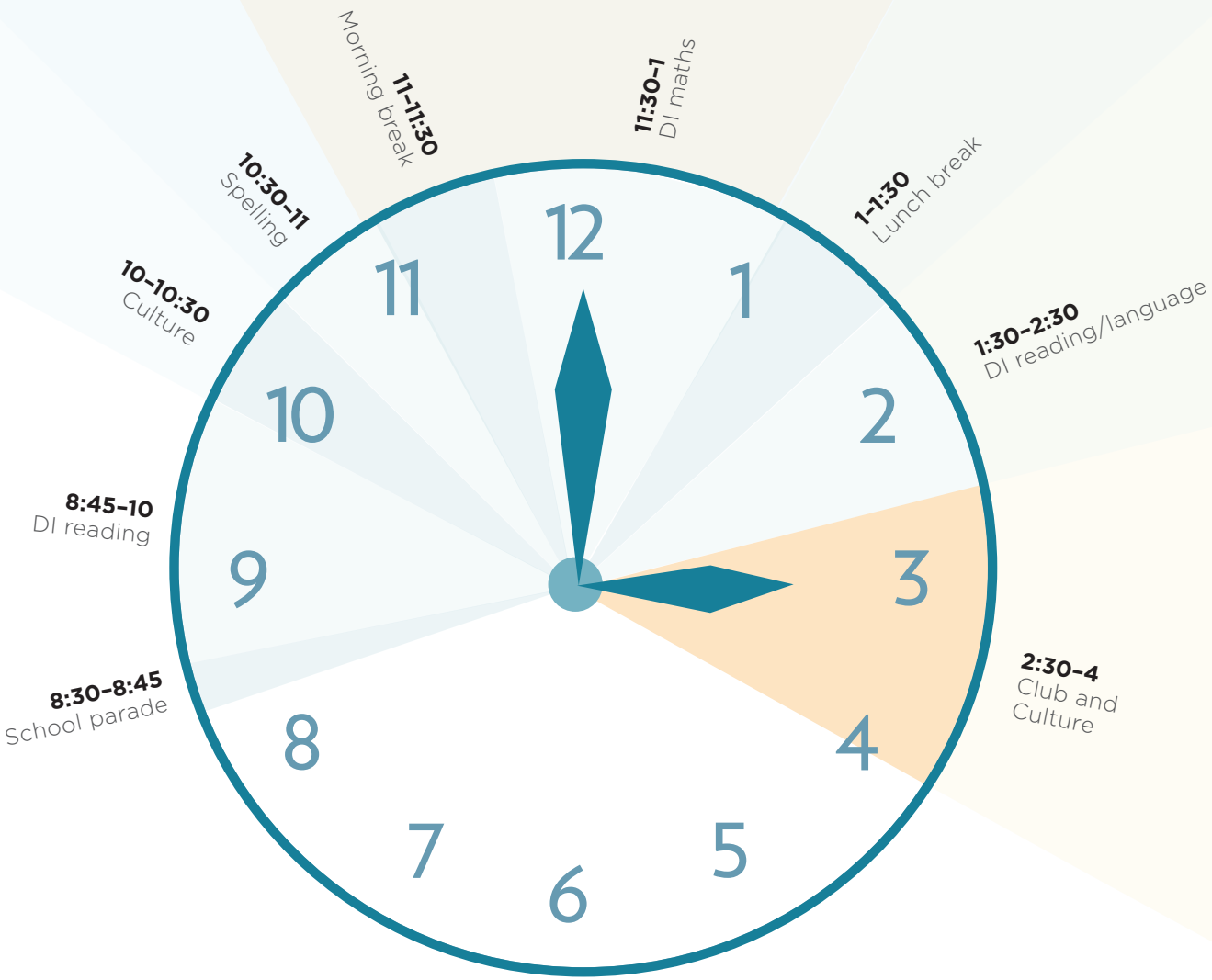
The value of an extended school day

An important aspect of the CYAAA model is an extended school day, which allows students more time for high-quality teaching in a rich learning environment. A longer school day can help to close the education gap for disadvantaged students, and deliver extra-curricular activities that students may otherwise be unable to access. Students from disadvantaged backgrounds are typically less-prepared for school when they commence and less likely to engage in enriching educational activities while they are there. An extended school day provides more time for instruction that bridges the education gap and opportunities for participation in diverse activities, such as music, art and sport. Involvement in these sorts of activities has been related to a variety of positive outcomes for students, including pro-social behaviours, engagement with school and related activities, and constructive academic performance.[97] It is important, however, to ensure that extra-curricular activities do not encroach on primary instruction in literacy and numeracy; an extended school day ensures regular school hours are reserved for this.

The impact of additional school time on Cape York reflects similar outcomes internationally. An extended school day has been extremely successful in charter schools across the United States.[98] The experience of these charter schools, and our own experience in Cape York suggest that implementing an extended school day ensures children are in a structured activity with adult supervision, and not left to their own devices. This supports research from the United States which suggests that one of the positive effects of an extended school day is reduced adolescent crime.[99]

There are resources across all three tiers of government for the provision of sport, artistic and recreational activity for children that could be redirected towards supporting an extended school day. Low performing schools would benefit most; typically including remote schools, Indigenous schools and low SES schools. Extending the school day is a further lever to improve education outcomes for Australian students and would complement other reform measures.

A TYPICAL EXTENDED DAY AT A CYAAA SCHOOL



Reform principles

We can achieve a high-performing, highly equitable education system in Australia.

There is no silver bullet. If Australia is to lift student outcomes across the board, particularly in the long tail of underperformance, it will require a scalable model of comprehensive and lasting school reform.

It is clear from successful school systems, and our experience in Cape York, that effective instruction is the keystone of achieving sustained and widespread improvement.

By implementing specific reform measures that are based on sound principles, we can achieve lasting nation-wide school reform and propel Australia into the top tier of schooling systems.

Principles

1. Embed sustainable school reform within a system reform context.

2. Ensure effective instruction is the keystone of whole school reform.

3. High-performing school systems get three elements right:

a. get the right people to become teachers

b. develop them into effective instructors

c. ensure the system is able to deliver the best possible instruction for each student.

4.Stage autonomy according to school performance.

5. Introduce Direct Instruction in target schools.

6. Offer extra-curricular programs in Indigenous schools.

7. Move towards use of proven teaching materials.

8. Develop instructional leaders to propagate sustainable school reform.

Embed sustainable school reform within a system reform context

AUSTRALIA'S JOURNEY TOWARDS EXCELLENCE

THE SCHOOL REFORM JOURNEY

0 YEARS	2 YEARS	3 YEARS	6 YEARS	6–10 YEARS
REFORM **IMPLEMENTATION**	REFORM BECOMES **EMBEDDED** INTO SCHOOL	EXPLICIT **TRANSFER OF OWNERSHIP** OF THE REFORM TO THE SCHOOL BEGINS	REFORM IS **STABILISED** WITHIN THE SCHOOL	REFORM GAINS MOMENTUM AND BECOMES **SUSTAINABLE AND PERMANENT** IMPROVEMENT OCCURS AS PART OF THE SCHOOL'S NORMAL PRACTICE

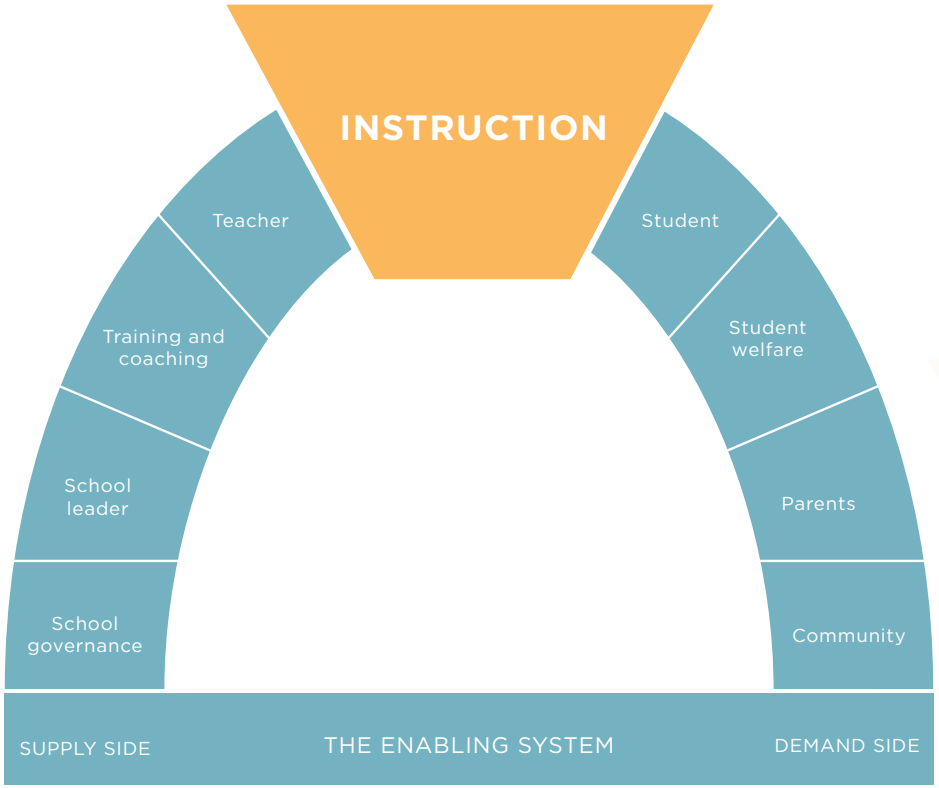
Australia's reform efforts have been many and varied, but have not positioned us in the top tier of international school systems, in either excellence or equity. Other countries, however, have achieved significant, sustained and system-wide student improvement in as little as six years. Australia can follow their example.

Reform should enable all schools in our system to improve along the journey towards excellence. As schools have a different starting point (i.e. poor, fair, good and great), it is important that system reform measures are appropriately tailored for different achievement levels. The specific intervention to move a good school to an excellent school is likely different to the intervention that moves a failing school to an adequate school.

The CYAAA example shows remarkable results are possible in the short term, but the key to continued success is to convert these results into sustainable improvements. Successful whole school reform takes time. A new approach can be embedded within a school in two years, but it is only after six years that the new approach is stable. After this period, improvement gains momentum and becomes sustainable as a part of the school's normal practice.

Sustainable school reform requires a significant long-term commitment to system reform to ensure permanent change.

Ensure effective instruction is the keystone of whole school reform



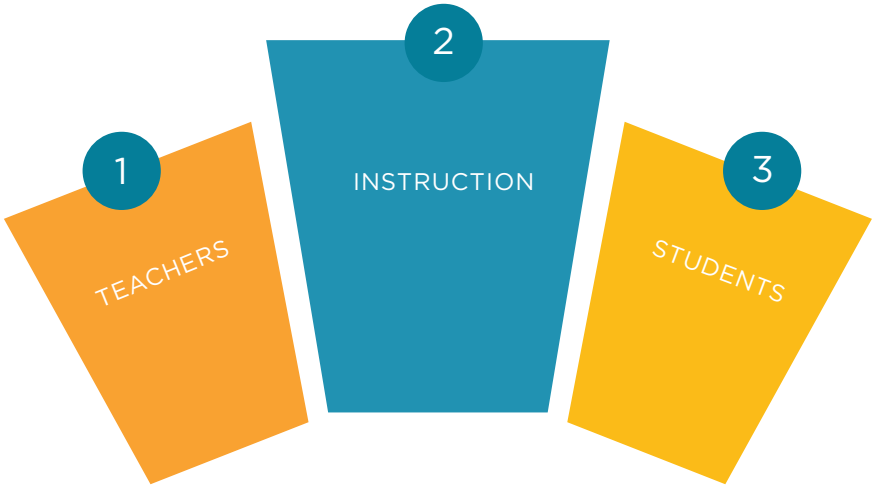
The evidence is clear – effective instruction is the keystone to successful education reform and should be the central organising principle of any school.

We advocate for a new approach to improve teacher effectiveness through high-quality and consistent instruction, and a coherent, integrated curriculum. By focusing on the method of instruction, we can improve the quality of teaching much faster than improving the stock of teachers.

Methods of explicit instruction, such as Direct Instruction have been found to deliver superior student outcomes by a number of national literacy studies. This evidence draws on over 30 years of research and demonstrated that the efficacy of explicit instruction is not limited to early literacy, nor confined to a single subset of learners.

High-performing school systems get three elements right

The experience of high-performing school systems indicates that they share three important practices



1. Get the right people to become teachers

Ensuring recruitment of high quality candidates who have the appropriate raw skills is critical for improving educational outcomes.

2. Develop them into effective instructors

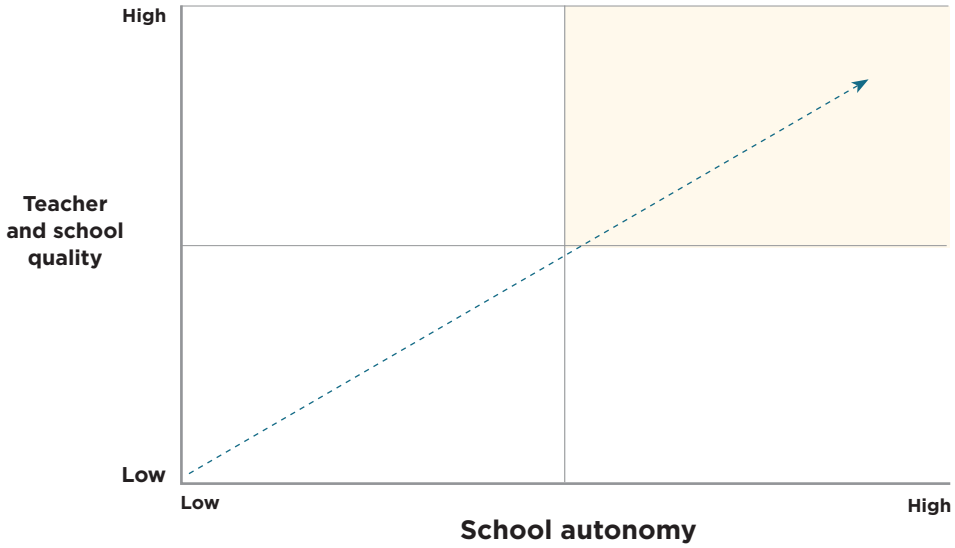
Teachers can only develop into effective instructors if they are provided with the correct training and evaluated regularly. Appropriate and timely feedback for teachers at all levels, in conjunction with the opportunity to continuously share best practice is critical in developing expert teachers who are able to deliver superior student outcome.

3. Ensure the system is able to deliver the best possible instruction for each student

The extent to which a system realises the benefits of high quality teachers who are trained to deliver effective instruction depends upon whether every student is able to access this quality education. Successful systems set high expectations for all schools and all students; study performance against expectations at the school, teacher and student level; and monitor schools across the system to guarantee fidelity.

Stage autonomy according to school performance

THE RELATIONSHIP BETWEEN SCHOOL PERFORMANCE AND SCHOOL AUTONOMY



While greater autonomy is important for high-performing teachers and schools to collaborate and make decisions that are most well-suited to their students and community, it is generally not appropriate in low-performing schools where staff turnover is high and formal professional development and institutional structures are lacking.

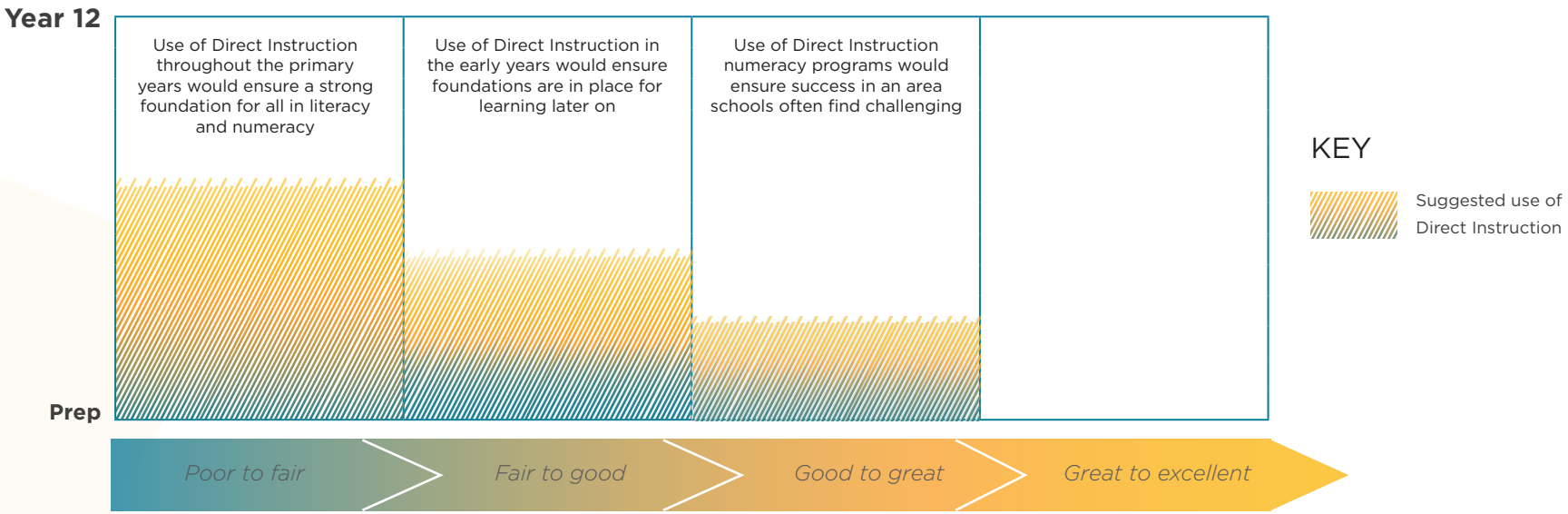
To become excellent, low-performing schools require structured support in the form of prescriptive curriculum and scripted lessons. As schools improve the need for such formal scaffolding will decline and can be replaced by greater school—or district—level autonomy.

It is, however, true that interventions could (and should) be customised to the needs of individual schools in particular circumstances. For example, a remote Indigenous school will require different interventions from an urban, low-SES school.

Put simply, as schools build their capacity and achieve positive results, prescribed support should gradually decrease and autonomy increase.

Introduce Direct Instruction in target schools

RECOMMENDED USE OF DIRECT INSTRUCTION IN AUSTRALIAN SCHOOLS



An integrated explicit instruction approach with a prescriptive curriculum dramatically lifts student outcomes in low performing schools.

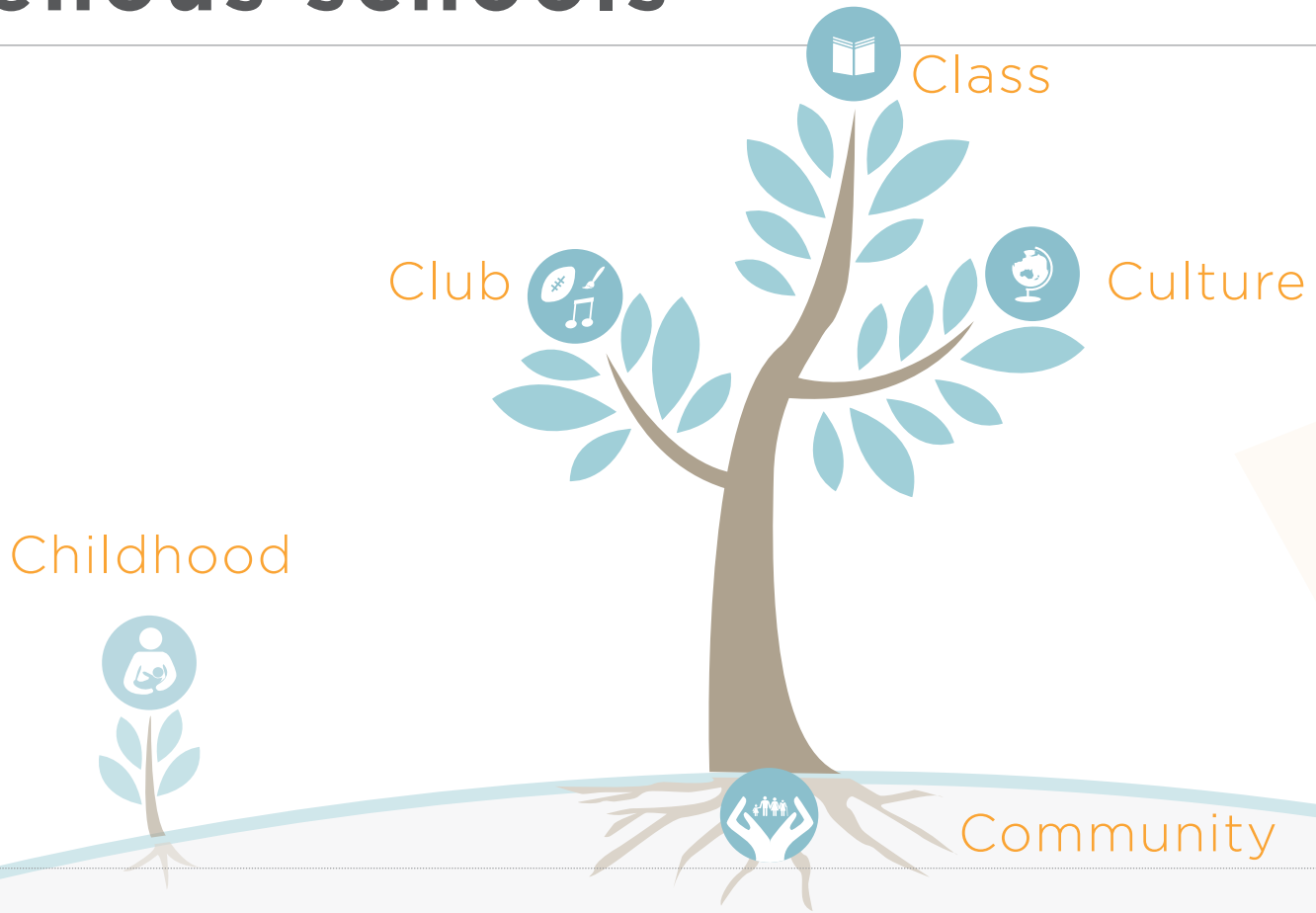
Results from implementing Direct Instruction in both Cape York and the United States can be replicated in Australia's worst performing schools.

Typically, these are schools with one or all of these characteristics:

- a significant portion of Indigenous students;
- a significant portion of children from low socio-economic households;
- a significant portion of children with English as a second language (or limited English in the home); or
- a remote area location (including low performing schools in non-metropolitan areas).

It is not only the poor performing schools in Australia who could reap enormous benefits from Direct Instruction. A fair school which is keen to progress to being a good school, could implement Direct Instruction numeracy and literacy programs in the early years to provide students with a strong educational foundation on which to build. A good school wishing to progress to a great school could implement the highly effective Direct Instruction numeracy programs, as this is an area where better schools sometimes struggle to meet benchmarks. Direct Instruction is an excellent solution for a range of schools looking to implement a program which effects whole school reform.

Offer extra-curricular programs in Indigenous schools

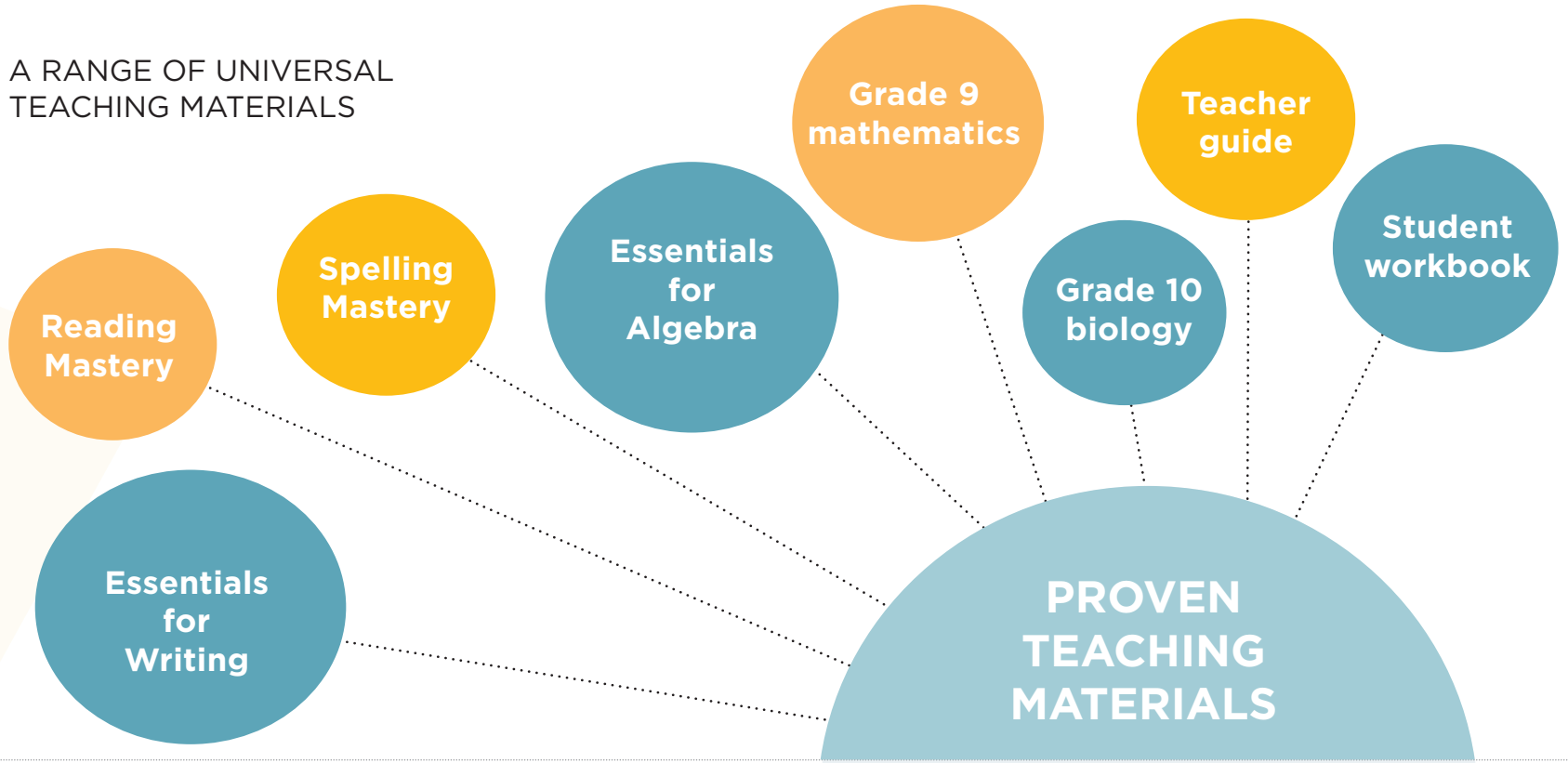


Children need varied educational experiences, including extra-curricular activities such as music, art and sport, to succeed at school and later in life. Unfortunately many Indigenous children cannot access these enjoyable and rewarding activities.

Programs such as CYAAA's Class, Club and Culture learning domains ensure that Indigenous children can participate in and benefit from a full spectrum of educational opportunities.

Obviously, any benefits of this approach depend on students actually attending school and being adequately prepared for the school day. Parent and community engagement is enormously important in addressing these factors which contribute to disadvantage across poorly performing Australian schools. The Community engagement program CYAAA has designed includes Student Case Management to address attendance and school readiness issues, and Student Education Trusts to engage families in saving for their child's educational future. This program is designed to be customised according to the needs of an individual school.

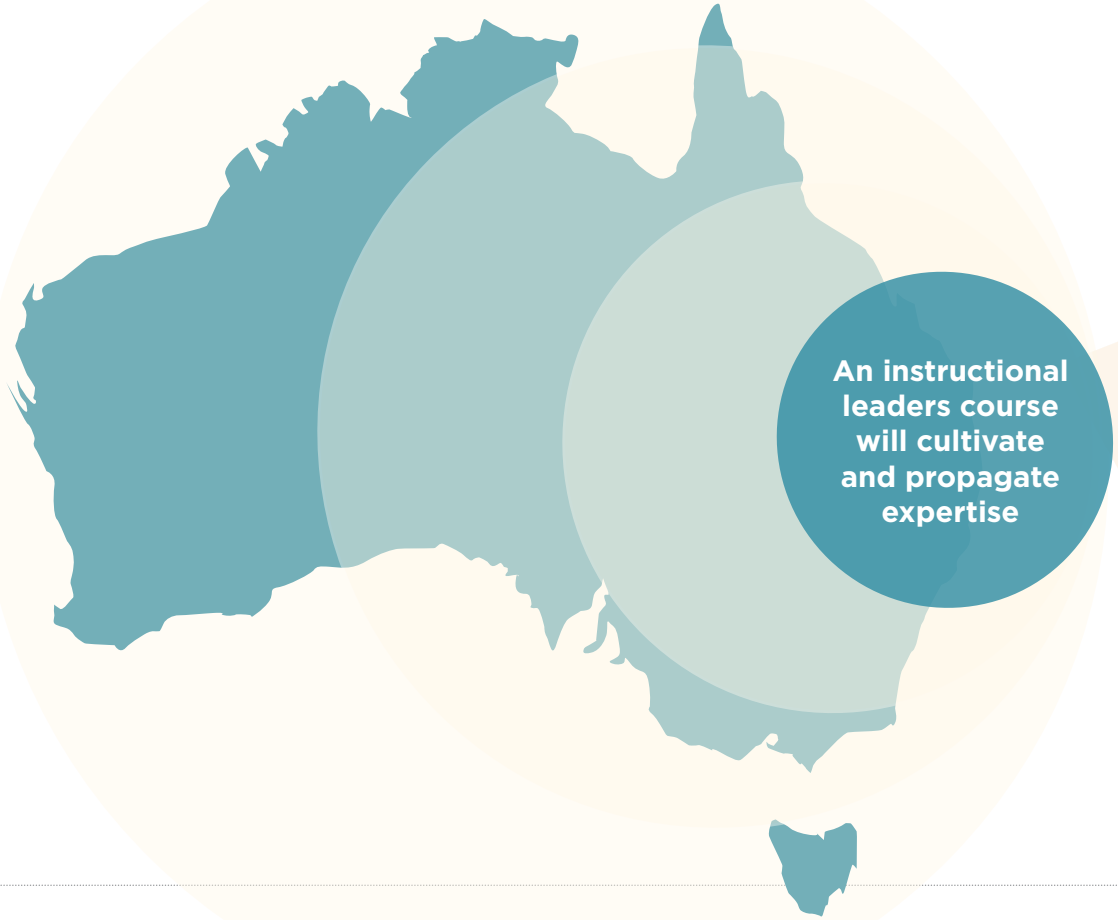
Move towards use of proven teaching materials



Standardised learning materials for all grade levels are used across the world's best schooling systems. In Australia, we need to stop expecting teachers to be master instructors as well as master curriculum designers who need to develop bespoke lessons for every hour of classroom time. To emulate highly successful school systems, we should focus on developing teachers' instructional skills and enabling collaboration between professional colleagues.

To ensure high-quality teaching we need a concerted effort to develop effective Australian resources, aligned to structured curriculum, centred on explicit instruction, and reintroduce them as the standard learning tool across poor performing schools.

Develop instructional leaders to propagate sustainable school reform



In order to develop the capacity to deliver Direct Instruction in low-performing schools across Australia and ensure improvements in teaching quality are sustainable, it is necessary to establish an instructional leader program to cultivate and propagate expertise.

Establishing a program of this kind will ensure effective and consistent delivery of the Direct Instruction model throughout Australia and ensure we have appropriately trained teachers and expertise in Australia. Teaching hubs, working schools which are equipped to train instructional leaders in a live Direct Instruction environment, should be established as a part of this initiative.

The reason that Direct Instruction produces such impressive results—demonstrated in the CYAAA schools, other DI schools in the United States and a large body of academic research—is because it delivers effective instruction to every student.

Direct Instruction provides the highest standard of instruction to all learners, without compromising quality or continuity. The proven curriculum and carefully-designed lessons ensure each child receives a consistent, rigorous education. The continuous progress monitoring means any issues experienced by individual students are swiftly identified and rectified, ensuring no student ever falls irrevocably behind their peers. The coaching, mentoring and data analysis support offered to teachers guarantees they are adequately prepared to deliver high-quality Direct Instruction every day.

Direct Instruction provides the tools to ensure effective instruction is the keystone of all schools. It is an approach that can lift the quality of classroom teaching far quicker than any reform could lift the quality of individual teachers. Reforms to teacher attraction, training and retention could take a generation to noticeably improve student outcomes. Properly implemented Direct Instruction has a marked impact in a single year: it provides a genuine opportunity to close the country's educational achievement gap, and return Australia to the top tier of global schooling systems within a decade.

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