Report of the Evaluation of the NSW Literacy and Numeracy Action Plan 2012 - 2016

April 2017

Erebus International

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Abbreviations and Acronyms

AEDI	Australian Early Development Index
AGQTP	Australian Government Quality Teacher Program
AIS	Association of Independent Schools, NSW
ATSI	Aboriginal and Torres Strait Islander
CEC	Catholic Education Commission, NSW
CESE	Centre for Education Statistics and Evaluation
DEEWR	Australian Government Department of Education, Employment and Workplace Relations
DIBELS	Dynamic Indicators of Basic Early Literacy Skills
DoE	NSW Department of Education
EAS	Early Arithmetic Strategies
EAfS	Early Action for Success
ESB	English speaking background
ESL	English as a Second language
FTE	Full time equivalent
ICSEA	Index of Community Socio-Educational Advantage
IEP	Individual Education Plan
K	Kindergarten
LBOTE	Language background other than English
L3	Language, Learning and Literacy
LN	Literacy/Numeracy
MAGLN	Ministerial Advisory Group on Literacy and Numeracy
MiniLit	Meeting Initial Needs in Literacy
MultiLit	Making Up Lost Time in Literacy
NAPLAN	National Assessment Program - Literacy and Numeracy
NESB	Non-English speaking background
NMS	National Minimum Standards
PaTCH	Parents as Teachers and Classroom Helpers
PISA	Programme of International Student Assessment
PLAN	Planning Literacy and Numeracy
RAM	Resource Allocation Model
SES	Socio-economic status
SLSO	School Learning Support Officer
TIMSS	Trends in Mathematics and Science Study

Report of the Evaluation of the NSW Literacy and Numeracy Action Plan, 2012-2016

Executive Summary

1. Introduction

This report presents the findings of the evaluation of the NSW Literacy and Numeracy Action Plan (Action Plan). The Action Plan was implemented in targeted schools in NSW over the five-year period, 2012-2016, with an independent evaluation being conducted over this period. The evaluation reports on the extent to which student literacy and numeracy performance improved, factors that may have led to any improvement and the extent to which any improvement achieved was cost-effective.

The NSW Literacy and Numeracy Action Plan, 2012-2016

Through the Action Plan, the NSW Government progressively allocated $261 million to meet the needs of some 41,392 Kindergarten to Year 2 students in 448 targeted schools over the period 2012 to 2016 (see Table ES1).

The schools targeted were serving communities characterised by aggregated social disadvantage, and were among the lowest-achieving in NSW. Schools were selected by the government, Catholic and independent sectors, using an agreed methodology which included factors such as NAPLAN results, level of socio-educational advantage and school readiness for participation. They represent approximately 20 per cent of the total number of primary schools in NSW. In addition to targeted schools receiving support, the NSW Government supported The Exodus Foundation in its attempts to deliver targeted literacy interventions to students at risk over the period 2012-2014.

Table ES1: Number of schools and students targeted by the Action Plan in 2012-2016

	Government		Catholic		Independent		Total	
	Schools	Students	Schools	Students	Schools	Students	Schools	Students
2012	59	6,708	98	7,067	15	2,007	**172**	**15,782**
2013	92	9,751	98	9,366	29	1,922	**219**	**21,039**
2014	199	17,829	109	10,834	29	1,853	**337**	**30,516**
2015	310	21,620	109	10,486	29	1,899	**448**	**34,856**
2016	310	28,527	109	10,651	29	1,930	**448**	**41,392**

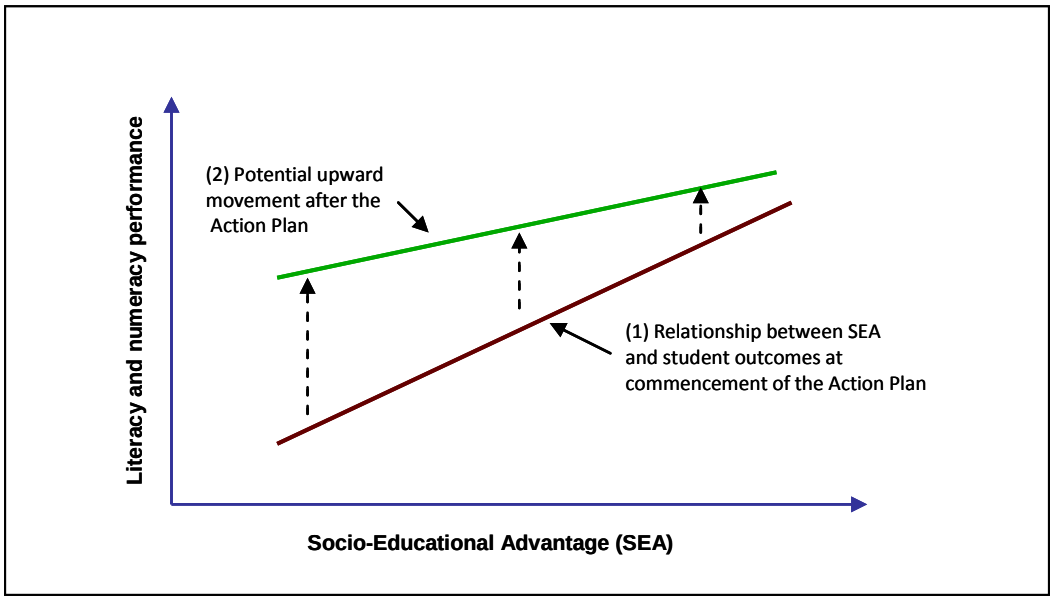
Source: Sector Annual Reports 2013-2016.

Targeted schools were provided resourcing to:

- support the explicit assessment of the learning needs of students especially on entry into Kindergarten
- provide classroom-based professional development for teachers in personalised learning and diagnostic assessment
- adopt the use of a three-tiered response to interventions for those children who need special attention
- focus on whole school instructional leadership, including the appointment of Instructional Leaders, Literacy and Numeracy, within the government school system, and equivalent positions in the Catholic school sector.

The Action Plan, as represented in Figure ES1 aimed to increase the literacy and numeracy outcomes for students in the targeted schools, and to reduce the influence of socio-economic status as a key determinant of students' academic performance. This aim is in accordance with an important goal of Australian education: that educational achievement should be a function of the ability and application of the student, rather than a function of inequalities of opportunity arising from that student's background. It should be noted that Figure ES1 is a conceptual representation and is not intended to necessarily reflect a linear relationship between student outcomes and socio-educational advantage over the period of the Action Plan. Similarly, no time scales are specified within the Figure relating to the time required to be taken by schools to enhance student achievement outcomes, irrespective of their socio-educational advantage score.

Figure ES1: Conceptual representation of the goals of the Action Plan



The concept of the Action Plan, as represented in Figure ES1, was to attempt to move the red line (1) closer in slope to that of the green line (2). The red line, reflecting the *status quo* before the Action Plan, is sometimes referred to as the socio-educational gradient.

2. Evaluation Design

Objective of the evaluation

The evaluation was informed by an Evaluation Plan, initially developed in 2013, and revised annually to take account of emerging issues and associated data needs. The objective of the evaluation was to provide comprehensive responses to three key questions:

1. *To what extent has student literacy and numeracy performance improved?*
2. *What specific factors led to the outcomes achieved?*
3. *To what extent were the outcomes achieved cost-effective?*

In seeking answers to these three questions, the conduct of the evaluation was guided by a series of nine contributing questions:

1. *How has the Literacy and Numeracy Action Plan been implemented?*

2. *In what ways have the sectors and schools interpreted and acted on each of the key elements of the Literacy and Numeracy Action Plan: personalised learning; diagnostic assessment; tiered interventions; instructional leadership; teacher professional learning?*
3. *What improvements in literacy and numeracy outcomes are being achieved for students in the targeted schools? How are they measured? If improvements are being made, to what extent can they be attributed to different approaches to literacy and numeracy teaching in the context of changing student and school characteristics?*
4. *What literacy and numeracy interventions have been chosen for implementation by schools? Why? Which interventions (or combinations) are effective in lifting literacy and numeracy outcomes of students? Why?*
5. *What operational arrangements and policies are being put in place to support improved student outcomes in literacy and numeracy? How effective is implementation at school/system/sector level/s, both in terms of organisational arrangements and on student performance in literacy and numeracy? What plans are in place to continue support for the improvement of literacy and numeracy outcomes at a school, sector or system level?*
6. *What are the costs associated with implementation? How cost-effective is the implementation?*
7. *What role are instructional leaders playing in all targeted schools? Is the appointment of instructional leaders an effective strategy? Why or why not? (Government schools only)*
8. *In what ways and to what extent has the capacity of teachers increased to meet the needs of low performing students? Has the quality of instruction in literacy and numeracy teaching been improved? How is this measured?*
9. *What other factors have impacted on the implementation of the Literacy and Numeracy Action Plan?*

Data gathering methods

Data gathering for the evaluation included annual document analyses of school and sectoral data, annual key stakeholder interviews with key representatives from each of the three sectors and Exodus Foundation and Macquarie University staff co-ordinating the administration of Multilit in schools. Six longitudinal case studies were visited annually from 2012 to 2016, with in-school interviews and focus groups being conducted in 66 different schools across the three sectors from 2013 to 2016. Online surveys with 1,005 responses from instructional leaders and 1,159 responses from principals were conducted. Analyses of Kindergarten to Year 2 performance data for Reading (Aspects of Text), Comprehension, Writing and Numeracy, as measured by teacher benchmarking against the NSW Literacy and Numeracy Continua were undertaken. Year 3 NAPLAN Reading, Writing and Numeracy data are also reported as a lagging indicator of student learning outcomes. In addition, 10,791 responses were received from online student attitude surveys, conducted from 2013-2016.

Limitations of sources of data

Each of the forms of data gathering used in this evaluation had potential for limitations and sources of error. The evaluation mitigated against the potential limitations by using a process of triangulation when interpreting the significance of findings from the data sources.

A number of limitations were identified in relation to the design and metrics of the Literacy and Numeracy Continua used by teachers for reporting K- 2 literacy and numeracy data. In addition,

teachers in the Catholic and Independent sectors had limited or no previous experience in using the Continua for reporting purposes. The 2015 and 2016 data may have had greater consistency and reliability, as teachers in all sectors had developed greater expertise with the use of the Continua to enable more consistent teacher judgments. Interpretation of changes over time, and differences between cohorts should be made with reference to standard statistical procedures for establishing significance, as raw results may be impacted by differences in sample size, as well as measurement error.

In relation to the principal, Instructional Leader, and student survey data, the responses were the product of self-reporting by participants. As with any survey, the basis on which respondents made their judgments may not be equivalent.

A further caveat on interpretation of survey data arose from potential differences in the cohorts of respondents each year. Cohorts of principals and instructional leaders (and students) were not equivalent each year, reflecting the additional schools joining the Action Plan in 2013, 2014 and 2015. Therefore, tabular and graphic data may reflect compositional effects as well as program effects.

The schools nominated for school site visits and for longitudinal case study visits could also potentially have given rise to skewed perceptions of what "typical" implementation of the Action Plan looks like in practice. Schools nominated by systems/sectors were broadly representative in terms of location, school size, and student composition. They were not a random sample of all schools from which statistically valid quantification of practices could be derived.

3. To what extent has there been an improvement in student learning outcomes 2012-2016?

Impact on student learning outcomes

This section of the report responds to the key contributing question *"What improvements in literacy and numeracy outcomes are being achieved for students in the targeted schools? How are they measured?"*

The data on student outcomes gathered during the course of the evaluation provided a mixed view of the impact of the Action Plan on student learning outcomes. On the one hand, the K-2 assessment data showed incontrovertibly across all three sectors that a substantially greater proportion of students involved were reaching the expected end of year standards in targeted schools in 2016 than at the commencement of the Action Plan (see Table ES2). In the government sector, where reliable data are available since 2013, the percentage of students at or above the expected end of year standard has increased in Reading by 24 percentage points in Kindergarten, 27 percentage points in Year 1 and 20 percentage points at Year 2 level between 2013 and 2016. A similar rate of improvement was observed in the non-government sector. While these results are encouraging, the data was not able to be compared against data from non-Action Plan schools.

Likewise, the observations of principals and instructional leaders reflected their beliefs that the Action Plan has contributed to growth in students' engagement in learning, enjoyment of learning and positive attitudes towards literacy and numeracy. The vast majority of principals also reported that they have observed measured growth in students' literacy (94% great or moderate improvement) and numeracy (87% great or moderate improvement), basing these observations not only on the K-2 Continua data but also against a range of standardised tests and school based assessments. The great majority (94%) of instructional leaders also believed the Action Plan had brought about positive changes in K-2 literacy and numeracy teaching and learning in their school in 2016.

The importance of the increase in student engagement should not be under-estimated as a precursor for later improvement in learning outcomes. Indeed, as several recent Australian Council for Educational Research (ACER 2016) reports illustrate, poor student engagement appears to be a significant factor contributing to the declining performance of Australian students in international assessment programs. Student engagement has improved in many Action Plan schools because of the more appropriate learning tasks that are now provided to individual students that has resulted from the professional learning provided by instructional leaders. Engagement has also improved in many instances because of the stronger emphasis on scaffolding learning so that students better understand the purpose of their learning and the specific reasons why they are undertaking particular activities. It has also improved as a function of the closer support given to students by more appropriate deployment of paraprofessional staff and other learning support teachers.

Table ES2: Change in the percentage of students at or above Continua standards 2014-2016

	Reading (Texts)			Writing			Numeracy		
	K	Yr 1	Yr2	K	Yr 1	Yr2	K	Yr 1	Yr2
Change between 2014-2016 (percentage point difference)									
Government	+4	+15	+10	+9	+15	+11	+1	+4	+5
Catholic	+13	+13	+7	+5	+7	-1	+4	+5	+10
Independent	+17	+17	+14	-1	+3	+4	0	+7	+9
Per cent of students at or above end of year standard in 2016									
Government	68	71	68	63	46	35	97	90	88
Catholic	76	74	68	64	48	36	98	89	85
Independent	53	53	56	58	37	31	99	97	94

In contrast to the results from the Literacy and Numeracy Continua, the Year 3 NAPLAN results (see Table ES3), as a lagging indicator of student outcomes, showed no significant change over time for the full cohort of participating schools, and no significant closing of the gap between targeted and non-targeted schools.

Table ES3: Summary of Year 3 NAPLAN Mean scale score results, LNAP schools vs Rest of State, 2012-2016*

	Reading		Writing		Numeracy	
	LNAP	Rest of NSW	LNAP	Rest of NSW	LNAP	Rest of NSW
2012	391	429	401	427	370	408
2013	388	428	395	425	369	407
2014	381	428	376	413	370	412
2015	385	438	391	429	363	409
2016	385	436	398	428	366	413

* This Table shows the *status* of the LNAP population in terms of NAPLAN achievement 2012-2016. Data shown is the mean score for the cohort of students present in the schools in the LNAP population each year. The number of schools and students is not the same each year. Students in the LNAP sample will therefore have been exposed to different lengths of exposure to the Action Plan

To investigate further whether the Action Plan had a measurable impact on student NAPLAN outcomes, the Centre for Education Statistics and Evaluation (CESE) conducted two analyses using multilevel mixed-effects regression models. The first of these models investigated whether the 2016 Year 3 NAPLAN outcomes for students at Action Plan schools were different from the outcomes for students at non-Action Plan schools after several important differences between the two groups had

been taken into account. The results showed that once the pre-existing differences had been taken into account, the outcomes for the students at the Action Plan schools were approximately the same as those for the students at the non-Action Plan schools. These results were observed for both reading and numeracy outcomes and are consistent with the Action Plan having no measurable impact on student NAPLAN outcomes.

The second model investigated whether the performance gap in NAPLAN achievement between Action Plan and non-Action Plan schools was smaller in 2016 than in 2014. While the results showed that the performance gap had closed somewhat in 2016, the difference was quite small and was not statistically significant. These results were observed for both Year 3 NAPLAN reading and numeracy.

The Year 3 NAPLAN results were by no means a perfect reflection of the Action Plan's impact, and it must be remembered that more than one-third of the targeted schools in 2016 did not commence until 2015, and therefore had only limited exposure to the Action Plan. However, the multilevel mixed-effects model showed no significant differences between the 2016 outcomes for students at schools that started the Action Plan in 2012/13 and the outcomes for student at non-LNAP schools once the pre-existing differences between the two groups had been taken into account. This suggests that the Year 3 literacy and numeracy outcomes for the schools that were in the Action Plan the longest were approximately the same as those for the schools that had never been in the Action Plan, all else being equal. Similar findings were observed for the schools that started the Action Plan in 2014 or 2015, suggesting that length of exposure to the Action Plan was not a contributing factor to the null findings.

The apparent disparity between the improving K-2 results and the static NAPLAN results requires further consideration in the implementation of the *Literacy and Numeracy Strategy, 2017 – 2020*.

Schools visited during the evaluation posited several explanations as to why their NAPLAN results had not improved in line with their K-2 results. Some attribute it to a high degree of student anxiety about the NAPLAN tests themselves, unfamiliarity with the test genre, and changes in the school demographic composition. None of these factors would appear to be an adequate explanation at a cohort level.

One possible explanation is that NAPLAN and the Continua measure different concepts in different ways, particularly in relation to Numeracy. The Numeracy strand reflecting Place Value of the Numeracy Continuum may be more closely aligned to the demands of the Year 3 NAPLAN test than the Early Arithmetic Strategies strand that was used as the measure of Numeracy performance in Action Plan (2012-2016).

The more likely explanation is contained in deeper analyses of the Continua results thus far. In 2016 there was still more than one third of the student cohort behind the Reading (Aspects of text) Year 2 end of year standard, nearly 40 per cent below the Reading Comprehension standard, and two-thirds of the cohort not achieving the Year 2 Writing standard. While a significant number of students in targeted schools have improved in literacy and numeracy across K-2, there is still a significant number who are "below average" in K-2, and who remain below average in terms of Year NAPLAN results. The proportion of students who were more than one cluster behind the expected standard has decreased. For example, 26% of Kindergarten students in government schools were at risk in 2013, reduced to 11% in 2016. At Year 2 level in 2013, 52% of students were more than one cluster behind expectations, and this was reduced to 17% in 2016. This suggests that that more students are acquiring the basic skills of phonics and phonemic awareness than in previous years. However, there has not been a corresponding sustained increase in the percentage of students rated as above expectations in the same time period.

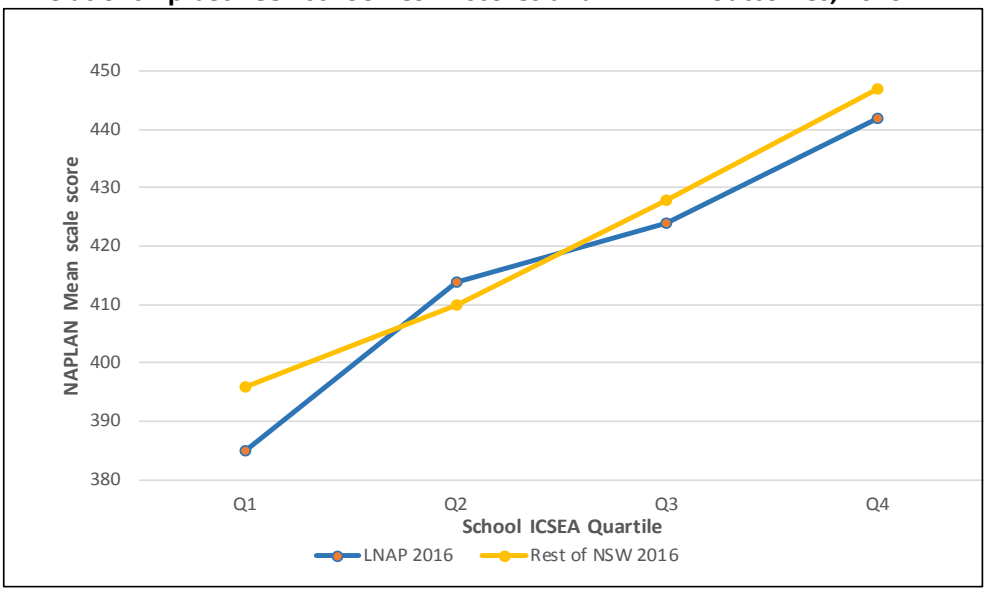
Examination of what those achieving below expectations cannot do suggests that it was the more difficult skills, requiring application of contextual knowledge, inference, and critical and analytical skills that they had not yet acquired. The same issue is seen when examining the change in distribution of students NAPLAN scores over time. There has been a tendency, although not statistically significant, for fewer students in targeted schools to score in the very bottom percentile bands of NAPLAN in targeted schools, but at the same time, there has been a decrease in the percentage of students scoring in the top three percentile bands. This trend is particularly evident in relation to Writing and Numeracy, and is easily overlooked if only mean scores are considered.

It is also possible that two other factors have impacted on the results. First, while teachers believe they were differentiating instruction for all their students, in reality they may be focussing more of their attention and resources on students at the lowest performance levels. Second, because there tended to be few students at the higher end of the performance spectrum in targeted schools, teacher expectations of what "strong" performance looks like may in fact have been lower than that accepted as "normal" in more advantaged areas. In either case, continuance of the status quo will not be likely to lead to vastly improved student learning outcomes. There needs to be a conscious effort and an explicit focus on the development of the kinds of higher-order skills not currently exhibited by significant numbers of students in the targeted schools, as well as a continuing effort to build the basic foundational skills represented in the early clusters of the learning Continua.

The definition and measurement of socio-economic status, and indeed, socio-educational advantage and disadvantage are open to debate. In fact, different models are used within the NSW education systems and sectors to operationalise the concept as well by various researchers. This evaluation had available to it, three different indicators commonly used as proxy measures of socio-economic status: parent occupation, parent education, and a measure of school-level SES based on community characteristics (Index of Community Socio-Educational Advantage or ICSEA).

Regardless of which indicator is used, a clear relationship between socio-economic status and Year 3 NAPLAN performance exists, both across NSW as a whole and within Action Plan schools. The Action Plan has not yet had sufficient time to impact on NAPLAN results as it has taken some time for the intervention model to become embedded. More than half of the cohort have only had one year of exposure to the enhanced pedagogy made possible by the Action Plan. As an illustration of this point, Figure ES2 compares the relationship between Year 3 NAPLAN results and school ICSEA scores, Students from schools in the lowest ICSEA national quartile perform significantly lower than those in the highest ICSEA quartile. The same pattern is seen no matter what measures of socio-economic status are considered, at either school or student level.

Figure ES2: Relationship between school ICSEA scores and NAPLAN outcomes, 2016*



The performance of the students in the very bottom ICSEA quartile in Action Plan schools improved in Reading on average by 19 scale points between 2012 and 2016, compared to an 8-point improvement by the same cohort in non-targeted schools. The results for students in the highest ICSEA quartiles in Action Plan schools were better on average than those for students in the lowest quartiles in non-targeted schools, indicating that the effects of SES are pervasive across NSW and remain a significant contributor to students' NAPLAN performance.

The same patterns were also evident in relation to Year 3 NAPLAN Writing and Numeracy. The aim of the Action Plan, to flatten the socio-educational gradient reflected in Figure ES1, will take time to be realised. The continuing strong relationship between school average socio-economic status and student outcomes, and the strong additional effects of concentrations of disadvantage suggests that the initial targeting of schools for participation in the Action Plan was appropriate and addressed an area of genuine need. It also shows that continuing effort and investment are necessary in not only more effectively providing students with the opportunities to acquire literacy and numeracy skills, but also to address issues of attitudes towards learning, motivation and expectations that are associated with higher achievement. This is a continuing challenge that concerns all schools, not only those targeted by the Action Plan to date.

4. What specific factors led to the outcomes achieved?

Implementation of the NSW Literacy and Numeracy Action Plan 2012-2016

This section addressed the key research question "How has the Literacy and Numeracy Action Plan been implemented?" In considering the answers to this question, it should be noted that over the period of the Action Plan 2012-2016, a number of initiatives designed to enhance literacy and numeracy have been implemented at system/sector and local levels, in non-targeted schools. Some of these initiatives have themselves been inspired by the perceived impact of the Action Plan in targeted schools. This situation further complicates interpretation of improvements in teaching and learning in targeted schools.

Implementation of the Action Plan over the period 2012-2016 in targeted schools was guided by sectoral advice regarding focus areas and priorities of the Action Plan. Sectoral support was a critical

ingredient in facilitating the implementation of the Action Plan in participating schools. Each sector approached the task in a way that reflected its own context, resources and background experiences.

How sectors have supported the implementation of the Action Plan

Sectoral authorities have different characteristics and contexts, with each having played a critical role in supporting the Action Plan. Sectors have had an important role to play in providing professional learning support for school staff and instructional leaders. They also have established accountability processes to monitor the achievement of targeted schools and provide ongoing feedback and advice. The various sectoral authorities have also supported the targeted schools financially, and have an ongoing role in relation to the support of intervention programs and personnel. A number of schools visited posited that high turnover rates of teachers and school leaders in targeted schools contributed to the results achieved from the Action Plan. Sectoral authorities have a critical role to play in addressing the factors that contribute to rates of high turnover of teachers and school leaders in targeted schools.

The Government Sector

The *Early Action for Success* strategy was the means by which the Action Plan was implemented in the government school sector. Within this strategy, the appointment of an Instructional Leader to targeted schools (or small cluster of schools) was a key element.

The nature and extent of support provided by the government sector over the course of the Action Plan 2012-2016 was shaped by both wider government and departmental reforms including *Local Schools, Local Decisions,* and departmental restructuring.

The Department of Education established a small management team operating from State Office in mid-2013 to provide overall coordination of the Early Action for Success program and support for participating schools. Principals and Instructional Leaders, in both survey responses and interviews, identified the professional learning provided by this team, through face to face visits, regional and state workshops, regular webinars, and phone calls and emails to individuals, with making a major contribution to building the capacity of Instructional Leaders and school executive over the course of the Action Plan.

The role of the State Office team in placing strong demands for accountability on schools for students' literacy and numeracy results was a key ingredient in the implementation of the government sector model, providing the mixture of pressure and support, which is seen in the research literature to be critical for achieving lasting school improvement. The use of the Literacy and Numeracy Continua as the vehicle for accountability had an even more beneficial effect on ensuring that schools developed a stronger understanding of the data analysis process and strengthened schools' use of evidence-based planning and programming. The Department's PLAN software greatly facilitated the sector's ability to provide five weekly specific feedback, targeted to address student growth including those students who required specialist assistance.

In addition to the small team of expert personnel in State Office, across the state, thirteen literacy and numeracy trainers, regularly provided Early Action for Success schools with on-going access to departmental K-2 intervention initiatives including Targeted Early Numeracy (TEN) and Language, Learning and Literacy (L3).

The Catholic sector

Over the period of implementation of the Action Plan, the nature and intensity of support intensified in all participating Dioceses. The decision was made by several diocesan leaders that all schools within

their Diocese, rather than just the Action Plan schools, would begin to follow the key principles underpinning the Action Plan for teaching literacy and numeracy. In 2016 the pervasive impact of this decision became evident in more extensive use of the Literacy and Numeracy Continua not just by targeted schools but by the majority of schools within particular Dioceses.

The diocesan consultants supported schools in a wide range of ways, including:

- at the elbow support of classroom teachers,
- development of case management approaches (and similar high yield strategies) to address student learning needs,
- diocesan developed provision of a wide range of targeted resources and tools (e.g., Writing) designed to assist teachers in their pedagogy in identifying students' needs and providing appropriate ideas to address those needs,
- provision by diocesan staff of targeted professional learning experiences for instructional leaders as well as classroom teachers in areas of identified need.

The Independent sector

The approach adopted by the Association of Independent Schools evolved from their initial emphasis on *Principals as Literacy Leaders* (PALL) in 2012, to a broader-based effort focussed on Action Plan priorities in both literacy and numeracy. In 2016, schools received ongoing support from AIS consultants providing professional learning opportunities for teachers to analyse data and information from diagnostic school-based assessments designed to track student progress. This was supplemented by a range of activities designed to enhance the reliability of teacher judgments in making use of the Literacy and Numeracy Continua.

Changes in teaching and learning of literacy and numeracy resulting from the Action Plan

The data collected in 2016, clearly demonstrated the many changes in the approach towards teaching and learning of literacy and numeracy that occurred in targeted schools. Instructional leaders reported that in 2016 teachers' participation in the Action Plan has resulted in a very positive change (over 95 per cent of schools, based on "great extent") in their approach towards teaching literacy and numeracy in the early years. This change focused, in particular, on teachers' more systematic use of data for tailoring teaching and learning opportunities for students. In the vast majority of schools, teachers' classroom pedagogy was clearly challenged in a range of ways, from how they used data to their overall organisation of students in the classroom to tailor the teaching and learning process, according to student needs.

Over time, principals in more than 70 per cent of schools have broadened the focus of the Action Plan from K-2 to K-6. Practices encouraged in schools included "learning walks", classroom observations and lesson study. As a consequence of the perceived success of the Action Plan approach, in 2016, it was also increasingly common for principals in larger government schools to use part of their own Resource Allocation Model (RAM) funds to employ an executive, similar to their existing Instructional Leader to ensure continuity of the changes happening in K-2 to Years 3-6.

Changes in principal practices in implementing the Action Plan

As principals' understanding of the purpose of the Action Plan developed, their leadership has become increasingly underpinned by an emerging set of values. A sense of "moral imperative" pervaded the leadership approach adopted by principals in many schools across the three sectors. This leadership style was characterised by what some principals referred to as a "no excuses policy" regarding learning

for all students. Such a statement reflected the belief that, irrespective of the students' background and learning challenges, they not only had the *right to learn* but it was also the school's responsibility to ensure that every student had the *opportunity to learn*.

In the schools visited, principals understood that building high expectations for student learning involved more than setting higher targets for achievement or exhorting teachers and students to work harder. It was a matter of changing both mindsets and ways of working and an agreed understanding about the expectations for student learning.

Table ES4 highlights some of the ways in which principal leadership behaviour was enhanced as a consequence of the Action Plan.

Table ES4: Impact on principal leadership as a result of participation in the Action Plan

	2013 Baseline (%)	End 2013 (%)	End 2014 (%)	End 2015 (%)	End 2016 (%)
More collaborative in decision making	51	62	59	65	70
Adopted a whole school approach	60	72	59	81	80
Developed greater understanding of the uses for Literacy and Numeracy data	65	83	81	86	85
Developed more specific targets and goals	69	71	70	75	73
Built a stronger culture of evidence-based decision making	75	83	79	88	87
Increased leadership empowerment	66	79	67	63	66
N=	**83**	**117**	**212**	**224**	**420**

Not only have principals had the opportunity to directly impact on the implementation of the Action Plan through their leadership, they also benefited directly from their participation in the Action Plan.

Changing use of paraprofessionals

The "look" and "feel" of classrooms in Action Plan schools in 2016 was typically very different from that initially observed in 2013. Planning and reorganisation of classrooms and the use of resources were seen to be more appropriate for addressing individual student learning needs. A key aspect of the reorganisation of the learning context for teachers has been the way that they have made use of additional adults in the classroom, including paraprofessionals, support teachers and parents trained for the task. During literacy and numeracy blocks paraprofessionals played a key role in assisting students' learning, in both small group and individual locations within the classroom while the classroom teacher engaged in more intensive instruction with those requiring the greatest assistance. The impact of the paraprofessionals' role was also recognised by principals in many participating government schools, who had made use of both the Innovation Grant and their own Resource Allocation Model (RAM) funds to increase the number of paraprofessionals assisting teachers in classrooms.

The contribution of target setting for literacy and numeracy

The frequency with which principals set specific targets in implementing the Action Plan increased by 24 percentage points during the implementation of the Action Plan, from around 67 per cent in 2013 to around 91 per cent in 2016. Furthermore, the consistently high percentage of schools setting specific targets over the last two years of the Action Plan also reflected their commitment to improving

literacy and numeracy and being prepared to have progress in implementing the Action Plan directly measured.

Increased teacher collaborative planning

Since commencing implementation of the Action Plan, many principals and instructional leaders worked to build and nurture a culture of trust and mutual respect among the teaching staff within the school. Whether this transition took the form of "instructional walks" or "one-off lesson observations" with a specific purpose, the consequence of increasing the transparency of teaching has been a significant contributor to the openness and collaboration that was evident in 2016 among many teaching groups in participating schools.

Key Elements of the NSW Literacy and Numeracy Action Plan

Section 4 addresses the key evaluation question: In what ways have the sectors and schools interpreted and acted on each of the key elements of the Literacy and Numeracy Action Plan: personalised learning; diagnostic assessment; tiered interventions; instructional leadership; teacher professional learning?

Use of diagnostic assessment

Prior to the commencement of the Action Plan, there was no systemic measurement tool in common use in K-2 classrooms across New South Wales. Through the Action Plan, targeted schools have been required to use the Literacy and Numeracy Continua to both monitor and report on student achievement, and as a key tool in diagnosing student progress. Teachers' use of student data represents a significant change in their practice since the commencement of the Action Plan. Table ES5 highlights the increasing frequency with which principals perceived that teachers were using data for tailoring teaching more directly to student needs.

Table ES5: Principals' perceptions of how data are used by K-2 teachers (great extent) 2013-2016, all sectors

	2013 Baseline	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Use of data for tailoring teaching and learning for individual students	65	75	78	80	82
Identifying students at risk	70	78	82	80	81
Informing planning and programming	62	64	70	76	83
N=	84	114	208	188	346

Towards the end of 2013 and in 2014, teachers' familiarity with the process of moderated judgments about the extent to which student work samples matched the Continua cluster standards had improved. Increasingly, the school-based professional learning provided by instructional leaders began to focus on the development of teachers' capacity to more accurately identify students' specific learning needs. The Continua and accompanying data walls provided a vehicle for staff in many schools to contribute collaboratively to conversations about students' learning needs in literacy and numeracy. These developments represent a fundamental shift in teacher practice and a major achievement of the Action Plan.

Across all sectors, the use of standardised tests and other classroom based assessments have continued to be used as a means of further informing teacher judgments and providing diagnostic information. In 2016 there was abundant evidence in both the government and Catholic sectors of the use of student data, essentially derived from the Continua, for appropriately planning student learning

needs based on what appears to be systematic collection and comprehensive analysis of student data. The variations in practice observed in 2016 school visits demonstrated that not all teachers and schools were as yet capable of the same depth of analysis. This was both a function of experience and training. This is an area that will need to be further addressed in future. Cultural change in the use and analysis of data on such a wide scale must be deliberately planned and supported. The Action Plan has demonstrated that such change is possible and that enhanced instructional leadership is a vital component of this process.

Evidence based decision making

No discussion of the teacher use of diagnostic data is complete without referring to the growing use of evidence as a source of informed decisions by both leaders and teachers. One of the most important learnings by school leaders and teachers during the Action Plan was that the term "evidence-based", when applied to their own practice, referred principally to the evidence that they collected and used in relation to the impact of their activities. In the past, many principals and teachers believed that particular programs or approaches were "evidence-based" because they had been recommended or advocated for by particular "experts" or researchers.

The steady growth of an evidence-based approach is evident over the past five years from the responses provided by instructional leaders (or their equivalents), relating to the extent to which instructional leaders built a stronger culture of evidence-based decision making as part of teachers' pedagogy. There was evidence that the principal and the leadership team were increasingly employing evidence-based strategies in making whole school decisions about school priorities and the most effective strategies for achieving them. In fact, the growing use of evidence by teachers to inform decision-making about teaching, has been a key outcome of the implementation of the Action Plan.

Implementation of personalised learning (and differentiated teaching)

As shown in Table ES6, teachers' understanding of the importance of targeted teaching and differentiating lessons to cater for the varied needs of students in their classes increased considerably during the Action Plan. This has been an outcome of the explicit focus of professional learning provided by instructional leaders. Providing differentiated teaching and learning was perceived to occur in 99 per cent of schools in 2016, compared to only 62 per cent of schools in 2013, an increase of 37 percentage points.

Table ES6: Extent to which principals believe K-2 teachers are demonstrating application of the following strategies since commencement of the Action Plan, 2013-2016 (great extent and some extent combined)

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Providing differentiated teaching and learning	62	67	93	99
Hands-on learning activities	59	71	95	95
Encouraging student ownership of their work	43	56	91	95
Teaching explicitly and systematically	70	80	98	99
More appropriate use of other specialist staff and services	50	46	88	91
N=	**114**	**214**	**188**	**346**

These developments in teacher pedagogy occurred as a direct result of greater recognition of the need for teachers to more effectively address students' diverse learning needs, if results were to improve. The role of the Instructional Leader or equivalent has been pivotal in supporting staff to organise classrooms in a manner that facilitates the differentiation of their teaching to maximise learning opportunities for all students in the classroom.

The link with explicit teaching

The Action Plan has facilitated greater uptake of the concepts of differentiated teaching and personalised learning. The evaluation found that important aspects of a more explicit approach to teaching literacy and numeracy were being adopted in 2016 by an increasing majority of teachers in schools across the three sectors. Explicit teaching requires every lesson to have a clear goal that is understood by both teacher and students. More frequent opportunities were being provided for students to practise key concepts or skills and to receive direct feedback on their results towards the incremental achievement of their goals. Teachers consistently reported that this approach is having a positive impact on student engagement during learning. In 2015 and 2016, classroom observations provided examples of students using language that demonstrated their experience of personalised learning in a wide range of settings at all grade levels. In relation to literacy and numeracy, it was increasingly common for teachers to specifically articulate the "learning intention" of a particular lesson, or series of lessons, and to ensure that the students also understood the criteria by which they could measure their mastery of the key concepts or skills involved. Increasingly in 2016, technology in the form of iPads were providing a useful vehicle for students to capture not only their learning goal but evidence that the goal was progressively being achieved.

Effectiveness of implementation of tiered interventions

The evaluation investigated the processes that schools used to implement intervention programs for students. The evaluation was not designed to investigate the effectiveness of particular intervention programs. A key priority of the Action Plan was for schools to more effectively implement the *Response to Intervention* model (RTI) as the framework for conceptualising and organising school's provision of learning opportunities in a more systematic way. Throughout the period of the implementation of the Action Plan, the implementation of tiered interventions has grown in momentum as the focus on the importance of differentiated teaching and personalised learning has similarly grown. The adoption of a tiered approach to interventions has become a fundamental strategy in targeted schools, directly influencing student outcomes in both literacy and numeracy.

In 2016 the delivery of Tier 1 lessons most commonly involved whole class, small group or individual activities, depending on the nature of the lesson and the timing of the lesson, but generally occurring simultaneously within a block period of about one and a half hours. Tier 1 teaching was regarded as having more clearly identified learning intentions, to be appropriately assessed, and more varied in the activities undertaken. This development has continued to occur as teachers' capacity has increased over the period of their participation in the Action Plan. Table ES7 highlights most common modes of delivery that were being employed for Tier 1 delivery in 2016.

Table ES7: Frequency of mode of delivery employed for the implementation of Tier 1 interventions across participating schools in the three sectors (drawn from case study discussions and survey responses, 2016)

	Number of responses		
Mode of delivery	**Government schools**	**Catholic schools**	**Independent schools**
Whole class, team teaching, small groups	35	39	3
Whole class, small groups	29	29	6
Whole class	26	14	8
Whole class, team teaching	22	31	6
Intervention teacher working across all groups	14	1	0

Tier 2 interventions were most commonly implemented by the class teacher in combination with the Intervention teacher in government schools (funded by the Action Plan), or a range of other specialist and support teachers, paraprofessionals and parent trained for the purpose. The situation is similar in the Catholic sector. The resources employed to deliver Tier 2 are detailed in Table ES8.

In 2016 Tier 3 intervention support continued in a generally similar manner to 2015 for students experiencing severe learning difficulties and requiring one-on-one assistance. However, in 2016 the nature of the delivery of this support varied in accordance with expertise residing in the school as well as the available resources to be tapped. Most commonly, Tier 3 intervention support occurred outside the conventional classroom and was delivered by a specialist teacher on a regular and consistent basis generally over a limited period before re-assessment of student need occurred. Specialists included Interventionists (in the government sector), SLSOs, support teachers, Reading Recovery teachers, speech therapists and occupational therapists. The relevant programs for these students were negotiated by the classroom teachers with the direct assistance of the relevant specialist.

Table ES8: Frequency of reported use of Tier 2 interventions across participating schools in the three sectors (drawn from survey responses and confirmed by case study discussions), 2016

	Number of responses
Program/resource	**Schools across the three sectors**
School developed response	246
TEN (Numeracy)	242
L3, L2	202
Reading Recovery	146
MultiLit	98
MiniLit, PreLit	67
Number of responding schools	**309**

*Other programs used by individual schools include Write On, Spelling Mastery, Reading Naturally Fluency, Number Worlds, Maths Blast, Reading Tutor program.

As with Tier 2 interventions, the most common form of Tier 3 interventions was a school developed approach, commonly combined with additional intervention programs such as MiniLit, Reading Recovery, speech therapy or occupational therapy.

Even though the language of tiered interventions became integral to the pedagogy of classroom teachers in targeted schools, there can be no guarantee that this will result in enhanced student learning outcomes in both literacy and numeracy. However, as many principals and teachers have attested, the application of a tiered intervention approach to teaching has ensured that teachers were more consistently addressing the learning needs of students in both literacy and numeracy in a way that was uncommon prior to the targeted schools' participation in the Action Plan.

While such a targeted approach to addressing students' needs cannot ensure enhanced learning, the potential for improved outcomes is certainly enhanced. Given the importance of sectoral support for schools' choice of specific intervention programs, there is a need for schools and sectors to ensure that the effectiveness of such intervention programs has been independently evaluated and have proven effectiveness in NSW school settings. It is also important that school choice of supported programs is based on the best available evidence.

The role of the Instructional Leader in targeted schools

Enhancing instructional leadership was a key strategy through which the Action Plan sought to improve the quality of teaching and learning, and ultimately to impact on student learning outcomes. While each sector took a different approach as to how they enhanced instructional leadership, the evaluation found that overall, the various approaches had contributed to improvements in teachers' pedagogical capacity. As discussed below, the scope and scale of change observed in teaching and learning, as well as school management, would not have occurred without this investment in enhanced instructional leadership. While the principle of enhanced instructional leadership has demonstrated continuing relevance, the quality of the leadership provided and the identified personnel themselves (in terms of their expert knowledge and interpersonal capacity) remain a crucial determinant of the extent to which successful outcomes will be achieved.

Role of the Instructional Leader in the implementation of the Action Plan

In the government sector, Instructional Leaders were generally appointed at deputy principal level, with major responsibilities to build confidence and competence of classroom teachers in teaching literacy and numeracy ultimately to enhance student learning outcomes. To ensure their focus on this task, they were relieved of other operational responsibilities normally expected of other senior executive in the school.

Within the Catholic sector the initial approach involved appointment of classroom teachers identified as having particular expertise or experience in Literacy or Numeracy to work with teachers in classrooms to model and provide feedback on aspects of teachers' classroom practices that would ultimately improve learning outcomes. These appointments were typically made from within the schools' existing staff. Such teachers were most commonly referred to initially as facilitators or coordinators by their Diocese and in-school colleagues. The initial emphasis on provision of additional intervention support by "instructional leader equivalent" positions changed over time to include a greater level of responsibility for providing professional learning to other teachers.

In the independent sector, the in-school role was initially undertaken through the funded *Principals as Literacy Leaders* (PALL) initiative, supplemented by the targeted support provided by consultants in literacy and numeracy from the AIS. When this initiative concluded, principals, or their delegate (most commonly senior school executive) adopted the in-school role of mentor or coach. The ongoing targeted assistance of consultants from the AIS continued throughout the implementation of the Action Plan and remained a pillar of support for participating schools.

Irrespective of the specific organisational structure or appointment process for the instructional leader, the quality of relationship established between the instructional leader and the principal, and with classroom teachers, was a key ingredient in facilitating uptake of enhanced teaching and learning practices. Considerable time was required to establish these relationships in many schools. The responsibilities of instructional leaders have evolved over time and are shown in Table ES9.

Table ES9: Major responsibilities of Instructional Leaders, Government and Catholic schools, 2013-16

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Leading all aspects of Action Plan	66	75	81	79
Provide/facilitate staff professional learning	86	93	83	86
Build an evidence based culture within the school	78	87	82	86
Challenge and refined existing classroom pedagogy	91	89	87	89
Monitor and report on student progress in K-2 Literacy/Numeracy	91	94	87	90
Contribute to the development of plans in both Literacy and Numeracy that focus on student performance	51	62	46	82
Facilitate/share effective practice in Literacy and Numeracy	90	92	84	87
Mentor and coach staff	82	87	93	91
N=	**82**	**202**	**283**	**304**

Contribution of different models of instructional leadership to Action Plan implementation

Over the past two years of the implementation of the Action Plan, data was specifically sought in relation to the model(s) of instructional leadership being employed in schools. The choice of the model of instructional leadership employed in schools was influenced by a variety of factors including the following:

- the particular perspective of instructional leadership held by the local school principal
- the identified roles and responsibilities of the Instructional Leader
- decisions concerning the most efficient way to use the available resources to maximise the impact of the role of Instructional Leader on one school site or several school sites
- school enrolment
- the geographic location of the school
- skill set of the instructional leaders.

While a variety of models of deployment of instructional leaders was initially adopted in the government sector, a clear preference emerged for appointment of a single Instructional Leader to individual schools, although it is acknowledged that this was not always possible for small schools. Not only did this model enable a deeper and more consistent engagement over time between Instructional Leader and teacher, but more importantly, allowed trusting professional relationships to be established and nurtured, enabling the teacher to have added confidence to adopt the range of different reforms of advice being provided by the Instructional Leader. Continuous employment of a dedicated instructional leader also assisted maintenance of the momentum of change over time. Principals in schools visited for the evaluation suggested that three key determinants ultimately influenced the success of the Instructional Leader:

- general experience in schools with a particular focus on leadership
- deep understanding of classroom pedagogy and whole school cultural change and
- the ability to build trusting reciprocal relationships with colleagues.

The evidence continued to be clear that it was this latter set of factors that had the most positive potential impact on teacher capacity building and ultimately student learning outcomes, rather than the model by which the instructional leaders were employed.

Impact of instructional leaders

Irrespective of the model employed, the Instructional Leader in schools played a direct role in impacting on the teaching/learning process during the implementation of the Action Plan. The positive working relationship between instructional leaders and principals, has been singularly powerful in driving the cultural change process in schools, where leadership roles were most commonly complementary, yet still designed to achieve the common goal of enhanced instructional leadership in the school. After five years of participation, in the vast majority of schools, both principals and instructional leaders believed that the impact has built momentum and culminated not only in changed teacher practice but also impacted on student learning outcomes, especially in K-2.

Table ES10 highlights the range of impacts on teachers that have occurred due to the actions of instructional leaders since 2013.

Table ES10: Extent to which instructional leaders believe they have assisted teachers to undertake the following activities 2013-2016 (Great extent only)

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Use data for tailoring learning experiences for individual students	65	76	78	79
Use data for tailoring learning experiences for whole class programming and planning	62	64	71	75
Provide opportunities for sharing of ideas with other teachers	53	60	66	69
Undertake peer observation and reflection	31	28	32	42
Engage parents in the learning process	5	6	8	14
Personalise learning for individual students	64	64	69	65
Identify interventions for teacher to implement	51	62	95	66
N=	**101**	**195**	**274**	**306**

Principals in the vast majority of targeted schools believed that the appointment of instructional leader and equivalent positions had been effective in building teacher capacity, challenging existing teachers' pedagogy and facilitating staff to make the transition towards evidence-based decision-making in their planning and practice.

Was the appointment of instructional leaders an effective strategy?

The evidence suggests that the Action Plan's focus on enhancing instructional leadership was appropriate, and that the appointment of instructional leaders was an effective strategy in facilitating the implementation of the Action Plan's priorities. While the effectiveness of individual instructional leaders may have varied, the importance of system/sector support to ensure ongoing quality of delivery is paramount. The fact that in 2016 government schools continued to use their RAM to appoint internally their own Instructional Leader for Years 3 to 6 reinforced the importance and influence of this role in the early years of schooling and the motivation of many government school principals to extend their positive influence into the primary school years.

Instructional leaders have driven the uptake of the processes by which the regular analysis of individual student achievement can be monitored, resulting in ongoing changes by teachers in focus and direction. The personal style or manner adopted by Instructional Leaders is an important determinant of their success. Instructional Leaders need to clearly understand their role as a change

agent, not just as an expert teacher of literacy and numeracy. They need to be strongly supported by their principal and system/sectors as a valued and legitimate resource in the school.

Instructional Leaders have also been pivotal in the provision of targeted professional learning opportunities for both school executive and classroom teachers through a wide range of approaches including peer observation, structured feedback on lesson observation one-on-one mentoring and coaching in specific aspects of pedagogy including the use of data for planning targeted learning experiences for students. They need, therefore, to have in-depth theoretical knowledge of the pedagogical principles underpinning the Action Plan as well as the ability to translate these principles into practice within their schools' contexts. Systems and sectors have an important role to play in ensuring the ongoing professional development of instructional leaders.

Building the capacity of teachers and school executives to meet the needs of low performing students

The Action Plan has had a direct impact on the capacity of principals, instructional leaders and particularly teachers to more effectively meet the diverse needs of schools with low performing students.

The way that professional learning is targeted, provided and accessed by teachers

The Action Plan recognised as one of its key pillars that improving student learning was dependent on the quality of teaching they received, which in turn depended on the teacher's capacity to consistently deliver high quality lessons targeted at students' individual learning needs. Building teachers' capacity was, therefore, a fundamental focus of the Action Plan. Teachers consistently reported that the professional learning provided by the Action Plan equipped them with the knowledge and skills to more effectively address the literacy and numeracy needs of students in their care. Principals across all sectors reported that the scope and scale of professional learning enabled by Action Plan funding would not have otherwise occurred and would not have been possible within their existing resources.

Importantly, across all sectors, there has been a substantial shift in the locus of delivery of professional learning. In the 2014 the evaluation noted that attendance by teachers at one-off professional learning programs away from the school was becoming less frequent than in 2013 when baseline data were collected. In 2015 and 2016 this has continued to be the case, and in 2016 the vast majority of professional learning undertaken in targeted schools related directly to priorities identified within an overall school plan, with the aim of directly equipping teachers to address the immediate learning needs of students.

These learning needs have been identified through the enhanced use of diagnostic assessment and student evidence samples as the basis of informed decision making about teaching and student learning. The process by which these needs are now identified and in turn become the focus of teacher professional learning may be one of the most profound legacies of the Action Plan. In Action Plan schools, it has become standard practice for teachers to meet on a regular basis with their Instructional Leader and executive as a stage or grade group to consider data about their students' learning on a regular basis (often using the Continua and data walls as a tool to focus discussion), and to identify strategies for addressing the students' needs.

Throughout the life of the Action Plan, instructional leaders and system/sector consultants have taken a lead role in providing "point of need" professional learning to improve teachers' classroom practice. This professional learning has taken a variety of forms, including, for example, modelling or demonstrating a particular strategy in a team-teaching situation, providing feedback following a lesson observation, or directing teachers towards a particular resource.

The role of the instructional leader remains at the heart of the implementation of the Action Plan. Instructional leaders have been instrumental in guiding the cultural change process in schools as well as directly influencing professional development of teachers in participating schools. Their in-school leadership is demonstrably a key influential factor in enhancing teacher capacity and ultimately increasing student learning outcomes.

Other factors impacting on the implementation of the Literacy and Numeracy Action Plan

Two other factors have impacted on the implementation of the Action Plan. First, increased parent engagement was anticipated to be a key outcome of the Action Plan. The second focus relates to the sustainability of the impact of the implementation of the Action Plan.

Impact of the Action Plan on parent and community engagement in participating schools

Throughout the period of the Action Plan evaluation, it was evident among principals and executives that the majority understood the importance of engaging with parents as a means of facilitating students' acquisition of Literacy and Numeracy skills in the early years of schooling. About 40 per cent of principals surveyed each year 2013-2016 said that increased engagement of parents was one of the measures by which they judged the success of their implementation of the Action Plan. Each year, more than half of the principals and instructional leaders interviewed also indicated that increasing the engagement of parents had been a lower priority for them than building teacher and executive capacity and changing classroom pedagogy.

While the priority given to substantially altering the way that the school engaged with parents and the community may not have been high in Action Plan schools generally, some notable exceptions were observed among the schools visited, particularly in schools that had large Aboriginal student enrolments including some Connected Communities schools. In these schools, principals had initiated some specific activities to involve parents more fully in the life of the school. These included hosting barbeques and picnics as a way of attracting parents to the school during which some aspects of learning were discussed informally, strategies for increasing attendance at parent/teacher meetings in which the students gave a presentation on their learning rather than traditional teacher-led dialogue, and more widespread employment of Aboriginal people as paraprofessionals (SLSOs in government schools).

The kinds of "new" strategies reported each year have tended to be similar over time, with the percentage of schools adopting such strategies also remaining similar. The most frequently used strategies included the following:

- introducing strategies to support home Literacy and Numeracy practices,
- providing training workshops in Literacy or Numeracy for parents and community members,
- conducting information sessions, including guest speakers,
- introducing innovative communication strategies,
- introducing new opportunities for parents to assist delivery of literacy interventions and numeracy interventions, and
- increasing opportunities for parents to participate in classroom observations.

Another avenue by which schools were attempting to engage with parents and the community was through enhanced transition-to-school programs and outreach to local pre-school programs. The motivation for this enhancement was only partially related to enhancing literacy and numeracy skills of students, and was as often motivated by the schools' need to secure enrolments, but did provide a means by which teachers knew the needs of incoming students more fully than in the past.

A small number of the schools visited had established more structured on-site school familiarisation programs using Action Plan funds in a quasi-pre-school environment in unused classrooms, which were reported to be mutually beneficial for students and teachers. Likewise, a small number of schools had used some Action Plan funds to extend existing community outreach programs. Parents who had accessed these programs spoke positively about them, but the numbers of such parents were small and not necessarily representative of all parents. From 2014, several government schools have implemented the *Parents as Teachers and Classroom Helpers* (PaTCH) program which attempts to not only engage parents in classrooms in Literacy and Numeracy but to concurrently provide them with a range of skills that enhanced their contribution in classrooms and enabled them to develop qualifications through TAFE.

The overall conclusion to be drawn was that while some progress had been made in enhancing parent engagement in their children's learning, there was scope for further development in this area. It was evident that increasing parent engagement remained an area with which many schools found challenging, and in which traditional approaches may no longer be relevant. There may also be opportunities for sectors to identify examples of good practice in parent engagement and disseminate these more widely. It was noted that the Department of Education's "Class Movies" resource already provided some examples of how this has been achieved.

Sustainability of the impact of the Action Plan post-2016

The focus on whole-school cultural change has been an important characteristic of Action Plan implementation. Changing school culture was a long-term process that required explicit planning. By 2016, the majority of principals reported that either comprehensive strategies or some strategies fostering sustainability were in place in their school. The percentage of schools with sustainability strategies in place has increased substantially since 2014, indicating that the need to sustain impact was an increasingly important aspect of schools' implementation of their Action Plan strategy.

The vast majority of schools identified building teacher and school executive capacity as a key strategy for sustaining impact. Case management meetings, lesson study and other classroom observations, once formerly led by the instructional leaders were similarly more frequently led by class teachers or executive in 2016. A further strategy used in an increasing number of schools to sustain (and extend) the Action Plan has been the appointment of additional instructional leaders (with a variety of titles) from the school's own funds (and in several Catholic Dioceses, additional pedagogical leadership positions have been funded by the Diocese). Usually these additional instructional leaders focussed on Years 3-6 or whole school improvement rather than K-2, which remained the particular focus of the Action Plan.

It should be noted that since the commencement of the Action Plan, government schools involved in the Action Plan received additional funding through the RAM, which was calculated on the extent to which the school community experienced socio-economic disadvantage. These RAM funds have most frequently been the source from which the school-based Instructional Leaders have been employed. Further, in schools visited whose RAM funding was of a size that could support independent employment of an Instructional Leader, the majority of principals indicated that they would seek to continue to employ an Instructional Leader should external funding cease.

The experience of participation in the Action Plan has helped many principals to become more aware of the need to link their expenditure to educational outcomes. Action Plan implementation has therefore increased principals' capacity for strategic budgeting and evaluative thinking, however, as

this style of management was relatively new for many, additional support in this area may continue to be needed for some time.

Ultimately, changing school culture to become more focussed on student needs has been the result of a combination of factors, each of which needs to be present in any future change strategies. The Action Plan experience has highlighted the importance of ensuring a multi-faceted approach to implementation. The combined impact of effective school leadership, with high quality instructional leadership, targeted teacher capacity building and explicit strategies for addressing individual student learning needs through evidence based decision making, cannot be underestimated.

5. To what extent were the outcomes achieved cost-effective?

Costs associated with implementation of the Action Plan

The actual allocation and expenditure of Action Plan funds, as reported by each of the three sectors in their Annual Reports is shown in Table ES11.

Table ES11: Action Plan allocations and expenditure by sector (2012-2016) and Average Annual per Student Cost across three sectors

	Government	Catholic*	Independent	NSW
Total budget allocation	$204.252m	$38.782m	$15.557m	$258.591m
Total funds allocated to schools	$196.390m	$37.593m	$11.540m	$245.523m
Per cent of funds allocated to schools	96%	97%	74%	95%
No. of schools	310	109	29	448
Average allocation per school (2012-2016)	$633,516	$344,890	$397,931	$548,042
Number of students (2012-2016)	84,719	48,337	8,216	141,272**
Average per student expenditure	$2,472	$815	$1,924	$1,830
Average annual per student expenditure across NSW Action Plan schools	**$1,737**			

*Average per student expenditure is calculated as the total expenditure 2012-2016 divided by total number of K-2 students for that period advised by sectors. Students may receive more than one year of funding.

There were considerable differences in the average per student expenditure between sectors. Part of the explanation of the differences between sectors arose from the ways in which funds were allocated within sectors. In the government sector, the individual school grants earmarked separate allocations for professional learning and innovations, as well as instructional leader salaries. Catholic schools were provided funds solely for employment of instructional leader equivalent positions. Within the Independent Sector schools had to allocate funding across the four priorities to be eligible to receive the funds. Funds not allocated to schools were spent on instructional leadership in the form of AISNSW consultants. Across all sectors, the per-student costs, based on K-2 student enrolments, is an over-estimation of the true per-student cost, as the Action Plan impacted on students in Years 3-6 as well as K-2.

How schools have used funding from the Action Plan

The most frequent uses of Action Plan funds across the three sectors have been hiring of additional staff, purchase of resources, and implementing specific programs. While expenditure on staffing and release days has remained relatively constant across 2013-2016, other areas of expenditure showed no clear trends. Purchase of classroom resources was less frequent in 2016 than in previous years. Relatively fewer schools have used Action Plan funds for community engagement activities or purchasing services from non-government agencies in all years.

There were some specific differences in how principals in the various sectors reported they were using Action Plan funds. The number of schools in the Government sector reporting use of Action Plan funds to hire additional staff (usually for intervention support and teacher release time) has increased. This was over and above the appointment of Instructional Leaders. In the same period, the percentage of Catholic principals reporting that they had purchased additional staff declined from 96 per cent in 2013 to 66 per cent in 2016. The explanation for this decline is not obvious, as instructional leader equivalent positions continued to be funded by the Action Plan. In the Independent sector, there continued to be a relatively strong reliance on the purchase of specific programs and expertise as the key methodology for addressing quality teaching and learning issues (96% of Independent schools compared to 39% of Government schools).

What area of expenditure has had the greatest impact on students?

Principals believed that enhanced staffing, including the employment of specialist intervention support staff, and the more appropriate deployment of staffing resources to better address the identified learning needs of students had provided the greatest benefit for students. Also important was the greater capacity of staff to deliver quality pedagogy, reflecting the considerable expenditure in this area over the life of Phase 1 of Action Plan implementation.

Principals in Government schools were asked in the 2016 survey if, in retrospect, they would have used their Early Action for Success funds differently. Overwhelmingly, the response was "No", with 94 per cent of the 246 principals who responded to this question indicating that they believed their expenditure decisions were justified. Of the 6 per cent of principals who indicated they would use their funds differently, the most frequent comments concerned earlier or increased employment of specialist interventions (including Speech Therapists). Individual principals mentioned employing a dedicated rather than shared Instructional Leader, increased parent engagement, and earlier transformation of learning spaces.

Cost Effectiveness of the Action Plan

Very few educational studies are able to report on the cost effectiveness of an educational program or initiative, and those that do have significant limitations. To address the key evaluation objective in relation to the cost-effectiveness of the Action Plan, this evaluation has proposed a methodology for testing the cost effectiveness of the Action Plan, using the approach adopted by the Center for Benefit-Cost Studies of Education, Teachers College, Columbia University as a guide.

Most cost-effectiveness studies attempt to quantify the individual costs of each of the "ingredients" necessary to implement the program in question. In 2015, the evaluation tested the feasibility of gathering data about the true cost of implementing the initiative in the 31 schools visited and at the system/sector level. The results revealed that across the three sectors, implementation of the Action Plan did not necessitate major additional expenditure in the schools concerned. Those that did identify additional expenditure from their own funds recorded sums between $1,000 and $30,000. The smaller amounts cited were generally used to purchase reading or numeracy resources, while the larger amounts were used most commonly to increase a part-time intervention or support teacher's time to a full-time position.

The discussions with schools and sectors demonstrated the difficulties in attributing costs to a particular source in circumstances where funds from multiple sources (e.g., schools' recurrent and equity funding) were combined as a global budget to address students' targeted learning needs. Schools for example, may have chosen to purchase additional reading resources from general funds rather than Action Plan funds, even though this may have been possible for reasons other than

necessity. Indeed, there were numerous examples where principals purchased resources using school funds, where Action Plan funds could have been used, and vice versa. The reasons for this appeared to be idiosyncratic.

At the sector level, the templates completed by the sectors in 2015 reflected similar issues to those identified at the school level. First, in the government school sector no expenditure above those allocated in the Action Plan budget was identified. In other words, all systemic expenditure had been accommodated from within DoE share of the Action Plan budget allocation. In contrast, the Independent sector reported additional expenditure at sector level of $193,056.50 and additional time of 250.7 hours. This equated to the equivalent of 1.65 FTE per annum. In the Catholic sector, Dioceses may have interpreted the request for data in different ways. The raw data indicated additional expenditure incurred by Dioceses in supporting the Action Plan in a range between $17,650 and $1,638,000. In their 2016 Annual Report to the Minister on Action Plan implementation, the Catholic sector identified $4.6 million of additional in-kind funding to support the Action Plan.

These data also highlighted another important issue, which would ordinarily not be captured in a cost effectiveness calculation; that was the issue of how the Action Plan has leveraged change (and therefore expenditure) on a wider scale. For example, as a result of the Action Plan experience, Catholic Dioceses developed a range of resources initially for Action Plan schools, but which have now been made available to other schools in Dioceses and beyond. Another example concerned the fundamental changes to the way in which professional learning was offered and supported to all schools in at least one Diocese in line with the Action Plan model. In another Diocese, an established approach for teaching Literacy and Numeracy has been implemented in all schools, including relevant training for principals. In yet another example, some Dioceses have mandated the Action Plan model for all schools in the Diocese, supporting this from within their recurrent budgets. Each of these examples illustrated the far-reaching benefits that have accrued from Action Plan implementation but were not accurately and comprehensively reflected in current costing data.

While the validity of some systems' estimates of additional expenditure necessitated by the Action Plan might, in some cases, have been questionable, the totality of system and sector expenditure was still small relative to the totality of funding. The additional costs invested by systems and sectors estimated in the quantitative calculation can be accommodated by the same method as for schools' contributions, that is, by estimating the costs within a band of +/- 5% of the funds allocated to the Action Plan.

Using the data from Table ES11, the cost of the Action Plan, expressed as an average annual per student cost (the metric used in Levin *et a*l., 2013) resulted in an amount of $1,737 per student, and the "true" cost being in the range of $1,650 to $1,823. Using the categorisation provided by the *Australian Teaching and Learning Toolkit (2016) Technical Appendix* as a guide, the Action Plan would be described as a moderate to high cost approach.

The second part of the cost-effectiveness equation required a measure of effectiveness. The effectiveness of complex initiatives like the Action Plan was difficult to distil as a single numeric value. In the model for calculation of educational cost effectiveness proposed by Levin and colleagues, effectiveness was defined as "change in students' learning outcomes relative to that of a control or comparison group, usually expressed in terms of an effect size".

The Australian Teaching and Learning Toolkit converted these effect sizes into a measure of "month's growth" in expected student learning. The toolkit provided one of the few sources relevant to Australian education that provided data on the cost and effectiveness that were usable as a source of

comparison for the NSW Action Plan. Both the calculation of costs and effectiveness in the toolkit were estimations and the ratings given to various approaches were open to debate (given the wide variance acknowledged within approaches considered). The toolkit itself discussed a number of caveats, including the risk of under-estimation of the effects of large scale initiatives like the Action Plan.

For the purpose of this exercise, change in student outcomes was defined in terms of students' growth against the Literacy Continuum. The literacy score was calculated as the average growth on the Aspects of Text Reading scale, averaged for Kindergarten, Year 1 and Year 2 students in the government schools with longest exposure to the Action Plan (non-government schools were not included because of concerns about the accuracy of their early K-2 data). The control group has been defined as the "expected" growth within a particular year. The definition of the expected cluster level for each grade level was based on the Continua developer's expert view of the syllabus outcomes that could be reasonably expected to have been achieved by a typical student by the end of each grade level. The expected growth by students in this sense represents the "average" growth of each grade cohort. This method was necessary as the evaluation did not have access to data about the "real" growth achieved by students in non-targeted schools across NSW.

The impact or effect of the Action Plan was calculated as the difference between achieved growth in 2013 compared to achieved growth in 2016. The Continua were not an equal interval scale, (there are more clusters at Kindergarten than Year 2 level for example), but each cluster can be roughly equated to "months growth" using weightings for each year cohort based on the difference between the defined expected mid-year standard and end of year standard. This allowed comparison to the "effectiveness" metric used in the Toolkit, as reported in Table ES12.

Table ES12: Achieved growth 2013-2016 (as a fraction of a year) in LNAP 2012 cohort Government schools

Year level	Achieved growth 2013-2016
Kinder	0.13
Year 1	0.23
Year 2	0.22
Total for K-2 cohort	**0.58**
Average per year level	**0.19 years**

This calculation suggests that the Action Plan thus contributed to an average growth in Reading (Aspects of Text) across the cohort equivalent to about 2.4 months. This positive growth suggests the Action Plan has had beneficial. Using the Table in the Australian Teaching and Learning Toolkit, this gave an equivalent effect size of between 0.10 and 0.18, which was classified as "low impact". This estimation should be treated with a great deal of caution, given the caveats above. In comparing the impact of the Action Plan with other approaches listed in the Toolkit, it must also be appreciated that the methodologies for estimating the effects of omnibus approaches like the Action Plan are very different from those that are appropriate for specific treatments, measured in controlled studies. The calculated impact of the Action Plan above may in fact significantly under-estimate its "true" impact.

Has the Action Plan provided value for money?

Cost-effectiveness as discussed above was a technical measure of efficiency, and had a meaning that was distinct from the more general question of whether an initiative or program has provided value for money. When asked why they considered the Action Plan had been value for money, the majority of principals replied that it had produced a level of change in teacher capacity that would not

otherwise have been achieved. Analysis of the survey comments revealed that more than 75 per cent of principals believed the appointment of instructional leaders had provided focus and accountability for this increase in teacher capacity. They believed that the time and expertise to build the capacity of staff provided by the appointment of instructional leaders was the primary benefit provided by the Action Plan funding.

Principals also believed that the Action Plan had provided value for money because it had been a catalyst for transforming the culture of learning in their school. A separate but important issue was the question of how the Action Plan has leveraged school funds to support Literacy and Numeracy in different ways than in the past, e.g. using RAM funding in government schools to purchase an Instructional Leader at Years 3-6 level in the government sector. This point cannot be ignored. Many principals indicated that they had become more strategic in how they were using available school funds.

6. Discussion and Conclusions

The need for the Literacy and Numeracy Action Plan

The Literacy and Numeracy Action Plan was developed to address the widespread inequalities in learning outcomes known to exist from the earliest years of schooling in NSW schools serving low socio-economic status (SES) communities. The NSW NAPLAN data, and the Basic Skills Test data before that, have demonstrated over many years the existence of wide disparities in student learning outcomes for students from different socio-economic backgrounds. The student outcomes data collected during the evaluation showed that achievement levels for Aboriginal students, those from non-metropolitan areas, and those from low socio-economic communities have continued to lag behind those of their more advantaged age-peers. There continue to be substantial gender differences in achievement as well, with boys on average achieving lower literacy outcomes than girls, but with girls performing less well than boys in numeracy.

The focus of the Action Plan on enhancing teacher capacity and on ensuring alignment of classroom pedagogy with known best practice has been a most appropriate strategy and again, consistent with the approaches adopted in countries which do perform well in the international arena. The Action Plan acknowledged that achieving the level of improvement necessary required a change in the way that the schools operate as well as change in individual teacher practice. It involved not only change in structures but a change in the way people conceptualised teaching and learning in the school to ensure that student learning was at the heart of the decision-making process. The focus of the Action Plan on creating cultural change within the targeted schools was therefore appropriate in establishing the pre-conditions for more effective learning. Addressing the root causes of under-performance, rather than applying a band-aid after it occurred, also logically provided a more appropriate long-term solution.

How successful has the Action Plan been in achieving its objectives?

Considering the totality of the evidence available to the evaluation, the success of the Action Plan in addressing its primary objective of reducing the disparities in student learning outcomes, and reducing the impact of socio-economic status on learning outcomes was mixed. The K-2 assessment data clearly showed that in all sectors, across all year levels K-2, and across all domains measured, at a cohort level, the proportion of students not reaching the expected end of year standard was substantially less than it was at the commencement of the Action Plan. This was an encouraging outcome, and has resulted largely from achievement of greater consistency and continuity of instruction across

classrooms K-2, as well as a stronger linkage between the curriculum expectations and teaching practice as a consequence of the capacity building provided by instructional leaders. The focus on early identification of student learning needs and more targeted intervention has also undoubtedly contributed to these improved student learning outcomes.

At the same time, the K-2 results, particularly at Year 2 level, also indicated that considerable further work is necessary. While more students were leaving Year 2 with a stronger foundation in Reading, in terms of Aspects of Text and in Early Arithmetic Strategies, there was still an unacceptably high number of students in targeted schools who were not achieving grade expectations, particularly in terms of comprehension and writing skills. While the overwhelming majority of students, even those who were below expectations, did achieve some progress each year, the rate of progression of those who were falling behind remains a concern. In these circumstances, it is not surprising that average Year 3 NAPLAN results have not substantially improved at a cohort level.

While there are clear differences to the general trends at individual student and individual school levels, on the whole, the pervasive influence of socio-economic factors, coming from a Aboriginal or a Torres Strait Islander background, gender differences, and other sources of inequality continue to be evident. While some small improvements are likely as further capacity is built in schools that only recently commenced participation in the Action Plan, it would seem that neither the K-2 results nor NAPLAN results will improve to the extent necessary to reduce the socio-educational gradient in results, without a specific focus on the kinds of skills represented in higher-level performance on these assessments. These skills include, for example, analysis and synthesis of information, making inferences, drawing conclusions, and solving problems.

Schools cannot continue to dismiss their NAPLAN results as an aberration, but need to become more sophisticated in analysing the causes of underachievement and more importantly, how to effectively respond to this diagnosis. The processes introduced to Action Plan schools for identifying student needs and planning a response is undoubtedly appropriate. The challenge for schools is, as it always has been, to ensure that diagnosis of student needs is accurate, and that the responses are effective.

While the improvement in student learning outcomes from the Action Plan may not have been as great as desired, this does not mean that the Action Plan did not provide a range of benefits for students, teachers and schools. Rather, when its impact on the quality of teaching and learning and school culture is considered, the evidence demonstrates widespread impact on a range of school practices, including:

- Evidence-informed practice, personalised and student-centred learning.
- Enhanced teacher capacity to tailor learning experiences according to identified student need.
- Greater sense of collective responsibility for student outcomes.
- More tailored use of interventions for students at risk.
- More appropriate use of specialist and paraprofessional staff.
- Stronger accountability for outcomes and understanding and acceptance of critical reflection on the effectiveness of practice.

The importance of these changes should not be under-estimated, nor should the difficulty in shifting entrenched school and community attitudes and expectations about what “normal” practice should be. The school visits clearly demonstrate that successful Action Plan schools look and feel very different to what they were in the past, as are relationships within the school and between staff members and the community. They have undoubtedly become places where learning is purposeful, productive and valued, something that cannot always be said to have been characteristic of all

targeted schools prior to the Action Plan. Teachers, school leaders and parents have always wanted the best from their students and for their students, but sometimes the weight of accumulated decisions and practices have become counter-productive. The Action Plan has been an effective catalyst for schools to examine their practices and adopt more appropriate ways of working.

What can be learned from the Action Plan 2012-2016?

A number of important lessons for schools and sectors can be gleaned from the initiatives undertaken by successful LNAP schools, identified over the period of the evaluation.

The importance of targeted sectoral support

The seeds for success in Action Plan schools are sown well before the schools begin to participate in the Action Plan. The chances of success are greatly enhanced when the sectoral authorities prepare the principal and staff for participation in the Action Plan by making clear what is expected of them, not only in terms of compliance with accountability requirements but also the outcomes that are intended. The role of the sectoral authority in setting the clear expectation that the participation in the Action Plan requires fundamental cultural change in the way the school operates cannot be underestimated. The sectoral authority also has a critical role in ensuring that both the principal and key staff have a sound understanding of the research base that underpins the Action Plan, including contemporary views on what constitutes best practice pedagogy in the early years of schooling. Well prepared schools have a clear understanding of the role of the instructional leaders and their place within the school's executive.

In successful Action Plan schools the commitment of the sectoral authority is reflected in the involvement of relevant senior personnel, including within the government sector, the Director, Public Schools, in the appointment of the instructional leader and other staff, in conjunction with the school principal. In successful schools, an ongoing relationship between the sectoral authority personnel and principal and key staff, through targeted professional learning opportunities and formal review processes as well as frequent and regular monitoring of progress against targets on both a formal and less formal basis can be observed. Successful Action Plan schools are underpinned by a level of sectoral authority support that effectively "closes the loop" between provision of data for accountability purposes and provides feedback that allows the school to more effectively plan for the next stage in the implementation cycle.

One of the indirect benefits of the Action Plan experience has been the increase in cross-sectoral collaboration that has occurred, particularly at the senior executive level of the three sectors. There is scope for further cross-sectoral collaboration at the operational level, for example in shared professional learning. The Action Plan has provided a valuable catalyst for future joint endeavours.

Empowering school leadership to drive cultural change

System/sector empowerment of principals to make informed staffing decisions when necessary and to redeploy resources and change existing school structures and operations are also fundamental to effecting change. Successful schools understood why they had been targeted for assistance, and why they needed to fundamentally change what they were doing to break their long-standing patterns of under-achievement. The principal has a fundamental and active role in ensuring teachers and other members of the school community clearly understand the specific goals of the Action Plan.

Successful Action Plan schools were characterised by principal leadership that was inclusive and supportive. Both qualitative and quantitative data about student achievement were used by

successful principals as irrefutable sources of evidence, providing a persuasive case for adopting new practices.

In successful Action Plan schools, principals actively championed the Action Plan, and set the expectation that changed pedagogy was a high priority for the school. These principals understood that the Action Plan was not a program or set of prescriptions to be undertaken that could be "ticked off" as complete. They understood that the implications of the theories underpinning the Action Plan required a different way of doing business, not simply adding to what their school was already doing.

Successful principals also understood the need for transparency of decision making, underpinned by evidence. They developed the notion of the school staff as a team with collective responsibility for whole school direction and achievement. They understood the importance of developing "leadership density", by devolving authority and responsibility to others rather than carrying the burden of change by themselves. They understood the importance of staff "ownership" of the change process, celebrating its successes and identifying and addressing shortcomings. At the same time, they made clear that participating in the change process is not an option for their staff, and took action when necessary to overcome active and passive resistance to change.

Successful principals understood the necessity of supporting the Action Plan implementation with strategic budgeting and personnel decisions. They understood that effective pedagogy in early literacy and numeracy learning requires different staffing models, organisational arrangements, and physical structures than had been the norm in the past.

The pivotal role of instructional leaders

Instructional leaders have been successful because they have had the time and expertise to focus solely on building capacity of both school executive and classroom teachers in early learning in literacy and numeracy, while ensuring that student data are the enduring source of evidence upon which informed decisions are made about teaching and learning.

Effective instructional leaders do not simply tell, or even show, teachers what to do; instead, they empower them to identify the most appropriate solutions by encouraging research, exploration and reflection. Instructional leaders need to be strongly supported by their principal and sectoral authority as a valued and legitimate resource in the school. Instructional leaders have also been pivotal in the provision of targeted professional learning opportunities for both school executive and classroom teachers through a wide range of approaches including peer observation, structured feedback on lesson observation one-on-one mentoring and coaching in specific aspects of pedagogy including the use of data for planning targeted learning experiences for students.

Ensuring a focus on quality teaching and learning in classrooms

Successful Action Plan schools implicitly accepted that it was the quality of teaching and learning that "makes the difference" in students' outcomes, rather than blaming poor results on the students' backgrounds. In successful schools, the executive, the instructional leader and classroom teachers worked with student achievement data honestly, openly and collaboratively.

The pervasive impact of classroom teachers on student learning achievement

Successful Action Plan schools understood that improving student learning often required a completely different way of doing business. Building teacher confidence and competence needs to remain a high priority. Teachers in successful Action Plan schools understood how to effectively differentiate lessons to address student needs. Effective teachers understood that it is their pedagogical and management skills, rather than the resources available that have the greatest impact

on students' learning. Teachers in successful Action Plan schools understood that not only did teaching need to be different from the past, but learning needed to be different as well. They appreciated the importance of students taking greater responsibility for their own learning, thereby deliberately building a culture of self-regulation among students.

A significant change that occurred in successful Action Plan schools was readily evident in the organisation of human and physical resources in classrooms. There were multiple learning spaces located throughout the room, some for small group learning opportunities, while others are for one-on-one intensive teaching. In each case, there was a variety of adults including the classroom teacher, commonly instructional leader, as well as teacher support staff, other paraprofessionals and in some cases, speech pathologists and parents supporting the teaching and learning process.

Teachers in successful Action Plan schools understood that not only did teaching need to be different from the past, but learning needed to be different as well. They appreciated the importance of students taking greater responsibility for their own learning, thereby deliberately building a culture of self-regulation among students. Teachers therefore needed to understand what explicit teaching really meant and how this could be used to empower students to develop deeper understand the purpose of their learning and the standards that are associated with and expected of successful learning at their stage of development.

Increased focus on data as the basis of planning and pedagogy

One of the strongest outcomes for teachers and school executives across all sectors has been a substantial increase of focus on data analysis as the basis for planning at whole school, grade/stage and classroom levels. Importantly, formative assessment and analysis are integrated into teachers' normal practice, rather than an add-on to it. Further, the increased focus on data analysis has increased teachers' sense of collegiality, collective responsibility for student performance, and acceptance of transparency and accountability for student learning. The emphasis on student learning data has undoubtedly helped many schools to move closer to a stage where evidence-based practice is the norm in many targeted schools. However, there is scope for further development of teachers' skills in deep analysis of student learning data. The use of the Literacy and Numeracy Continua, despite their acknowledged flaws, has led to greater emphasis on the concept of learning progressions, and prompted the commencement of work to develop new tools aligned with the Australian Curriculum, and which have stronger psychometric properties.

Conclusion

The Action Plan demonstrated that improving the quality of teaching and learning in the classroom can be achieved through enhancing teacher and school leader's capacity to implement the key priorities areas emphasised during the Action Plan, including enhanced diagnostic assessment, greater application of differentiated teaching and personalised learning, and tiered interventions when required. The focus on building teacher and executive capacity has been fundamental to the successful implementation of the Action Plan.

In this regard, the following seven points summarise the key lessons learned from the Action Plan that have relevance to future initiatives:

- School improvement requires changing school culture, not simply adding additional programs.
- Achieving enhanced teacher quality requires a different approach to teacher professional learning: it must be focussed on developing the teachers' confidence and competence to address identified student needs.

- Structured reflection on instructional practice must become routine, and not an add-on to teacher's work but an integral part of it.
- The strong focus on enhanced instructional leadership K-2 has been essential for enhancing the quality of teaching and learning in classrooms.
- The additional time given for collaborative teacher planning and the additional expertise for intervention in classrooms are necessary for successful implementation.
- The strong support and accountability provided as a result of the Action Plan have been essential for providing consistency and coherence to schools' efforts.
- The provision by sectors of tailored pressure through accountability for student results and simultaneous professional support, in accordance with school needs, continues to be a key ingredient in each school's ongoing success both in the short and mid-term.

Report of the Evaluation of the

NSW Literacy and Numeracy Action Plan, 2012-2016

1. Introduction

1.1 Background

This report presents the findings from the evaluation of the NSW Literacy and Numeracy Action Plan (Action Plan) implemented in NSW. The Literacy and Numeracy Action Plan progressively implemented over a five-year period, 2012-2016, aimed to address the literacy and numeracy performance of Kindergarten to Year 2 students in targeted Government, Catholic and Independent schools. The NSW Government provided $261 million, amounting to the equivalent of 900 full-time equivalent (FTE) teacher positions over this period to assist targeted schools in:

- explicitly assessing the learning needs of students especially on entry into Kindergarten
- providing classroom-based professional development for teachers in personalised learning and diagnostic assessment
- adopting the use of a three-tiered response to intervention model for those children who need special attention, in which increasing individualisation of instruction is provided to students at risk
- focusing on instructional leadership, including the appointment of instructional leaders, Literacy and Numeracy, within the public-school system, and equivalent positions in the Catholic school sector. In the Independent sector, the school principal was considered to be the instructional leader.

The centrepiece of the Action Plan was the provision of high quality instructional leadership with its form differing in each school sector according to the contexts of the schools, resources available, and organisational structures within the sector.

A total of 448 schools received support through the Action Plan by the end of 2016 (see Table 1.1). These schools enrolled more than 41,000 students K-2. The schools were widely distributed geographically across NSW. The Exodus Foundation (2012-2014) also received funding for the period 2012-2014.

Schools nominated for participation targeted under the Action Plan were identified by the three education sectors using an agreed methodology. This methodology targeted the lowest 25 per cent of schools in terms of their NAPLAN performance and took into consideration the following factors:

- individual school performance data including but not limited to NAPLAN and measures of student gain
- assessment of schools' suitability and readiness to participate
- Schools' characteristics
  - Enrolment size
  - Demographic data - language background; Aboriginal and Torres Strait Islander students

- degree of disadvantage, represented by Index of Socio-Educational Advantage (ICSEA) and Australian Early Development Index (AEDI)[1] data
- staff profile
- participation in Smarter School National Partnerships
- assessment of current/recently completed school improvement initiatives.

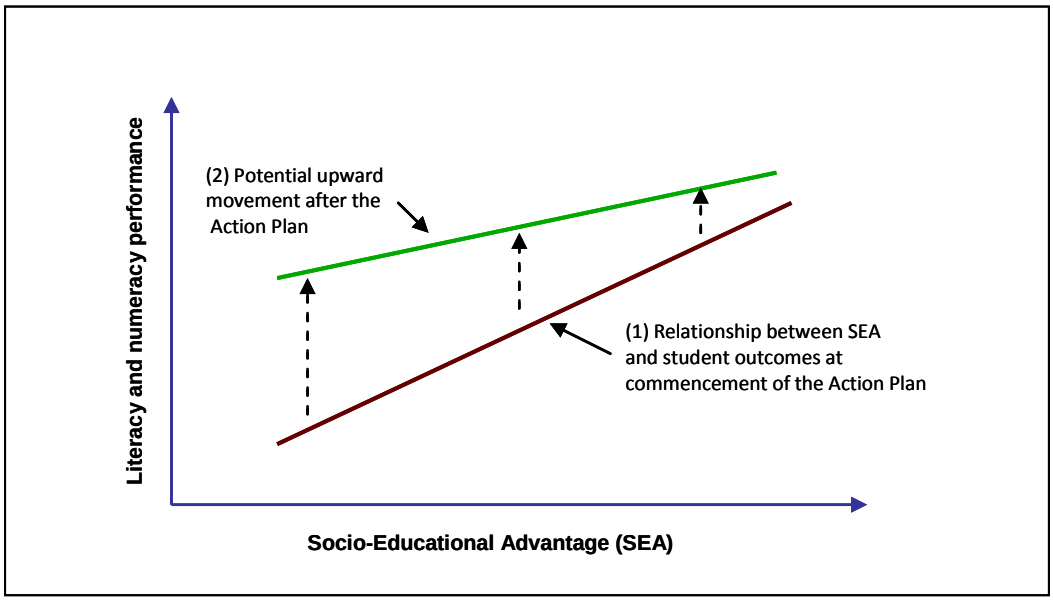
Table 1.1: Number of schools and students targeted by the Action Plan in 2012-2016

	Government		Catholic		Independent		Total	
	Schools	Students	Schools	Students	Schools	Students	Schools	Students
2012	59	6,708	98	7,067	15	2,007	**172**	**15,782**
2013	92	9,751	98	9,366	29	1,922	**219**	**21,039**
2014	199	17,829	109	10,834	29	1,853	**337**	**30,516**
2015	310	21,620	109	10,486	29	1,899	**448**	**34,856**
2016	310	28,527	109	10,651	29	1,930	**448**	**41,392**

Source: Sector Annual Reports 2013-2016. Student total for 2016 Government schools is the number of students for whom K-2 data were provided at Week 10, Term 2, 2016; 2012 student figures and 2014 Catholic figures are the number of students for whom K-2 data were provided. The 2012 reach of the Action Plan was likely to be somewhat greater than the figures cited.

The Action Plan, as represented in Figure 1.1 aimed to increase the literacy and numeracy outcomes for students in the targeted schools, and to reduce the influence of socio-economic status as the key determinant of students' academic performance.

Figure 1.1: Conceptual representation of the goals of the Action Plan



This is in accordance with an important goal of education: that educational achievement should become a function of the ability and application of the student, rather than a function of inequalities

[1] The Australian Early Development Index (AEDI) programme became known as the Australian Early Development Census (AEDC) from 1 July 2014.

of opportunity arising from that student's background. Figure 1.1 is a conceptual representation and is not intended to necessarily reflect a linear relationship between student outcomes and SES over the period of the Action Plan. Similarly, no time scales are specified within the Figure relating to the time required to be taken by schools to enhance student achievement outcomes, irrespective of their SES score.

The concept of the Action Plan, as represented in Figure 1.1 was to attempt to move the red line (1) in slope to that of the green line (2). The red line, reflecting the status quo before the Action Plan, is sometimes referred to as the socio-educational gradient.

The evaluation of the Action Plan 2012-2016 aimed to examine its impact in terms of improving student outcomes in literacy and numeracy over the five-year life of the Plan. In this regard the evaluation was designed to seek comprehensive responses to the following three key questions:

- *To what extent has student literacy and numeracy performance improved?*
- *What specific factors led to the improvement?*
- *To what extent was the improvement achieved cost-effective?*

Further details of the objectives of the evaluation are provided in Chapter 2.

1.2 Context for Action Plan implementation

In 2011 the NSW Liberals and Nationals as part of its pre-election policy launch announced it was committed to "delivering equity and excellence in education by ensuring all students received a world class education." The NSW Liberals and Nationals also indicated that it would achieve this through implementing a five-year *Literacy and Numeracy Action Plan*, upon election to Government. In March 2011, the NSW Liberals and Nationals formed Government and committed itself to implementing its *Literacy and Numeracy Action Plan*, including the establishment of a "Ministerial Working Group comprising educational experts to report annually on the performance of our Literacy and Numeracy Action Plan".

The Premier in September 2011 released a 10-year strategic plan, *NSW 2021,* setting priorities for action and associated targets. In terms of providing the best possible education to students across NSW the Government set targets to increase the proportion of NSW students in Years 3, 5, 7 and 9:

- at and above the national minimum standard for reading and numeracy
- in the top two performance bands for reading and numeracy.

To assist the Government in delivering on its commitment, the Minister for Education established the Ministerial Advisory Group on Literacy and Numeracy (hereafter referred to as MAGLN) in June 2011. MAGLN was charged with the broad responsibility of providing independent advice to the Minister on the state of early learning in literacy and numeracy in NSW schools, and recommending ways in which improvement might be achieved. MAGLN was also given the specific responsibility for developing an Action Plan which would allocate funding resources equivalent to the 900 FTE positions over five years. Details of the role, terms of reference and composition of the MAGLN are provided in Appendix 2.

Table 1.2 details the progressive allocation of resources throughout the life of the Action Plan.

Table 1.2: Literacy and Numeracy Action Plan – FTE allocation by year

Year	2012	2013	2014	2015 and 2016
FTE total	200	300	500	900
FTE by year	200	200	200	200
		100	100	100
			200	200
				400

In distributing funding resources to the three education sectors, agreement was reached to use the same formula that had been adopted by the three sectors under the National Partnership Agreement on Improving Literacy and Numeracy. Funding share across the three sectors was determined using the percentage of Year 3, 5 and 7 students in 2012 and 2011 at or below the National Minimum Standards (NMS) for reading and numeracy. Table 1.3 provides a summary of the distribution of Action Plan funds to the three education sectors over the life of the Action Plan.

Table 1.3: Proposed allocation of Action Plan funding to the three education sectors

	NSW DEC $(million)	NSW CEC $(million)	AIS NSW $(million)
2012	15.090	7.020	2.340
2013	26.420	7.020	2.340
2014	47.840	7.701	3.301
2015	73.180	11.270	4.566
2016	44.068	5.771	2.966
Sector Total	206.598	38.782	15.513
Total	**$260.893 million**		

The Department of Education allocation of resourcing included funding to meet the costs of an annual grant of $1.2 million to *The Exodus Foundation* from 2012-2014, as well as funds to meet the costs associated with the operation of MAGLN.

MAGLN recommended to the Minister that resources be targeted strategically at the areas of teaching and learning in the early years where NSW and International evidence existed of the ways in which real growth in literacy and numeracy could be achieved. MAGLN was of the view that evidence was available that it was necessary to:

- identify, on entry at Kindergarten, the level of attainment in literacy and numeracy for each child, and tailor a specific program of learning to meet that child's needs
- focus on differentiated teaching informed by diagnostic assessment against desired benchmarks of achievement
- use tiered interventions according to need, where remediation in literacy and numeracy is required
- focus on instructional leadership and school-based professional development for teachers, including the establishment of a new position of Instructional Leader within targeted public schools.

These focus areas became the core of the Action Plan with additional strategic priorities being determined by the Minister on an annual basis. To assist the Minister in reaching his determinations the Advisory Group was required to submit advice regarding possible future directions.

The implementation of the Action Plan has been dynamic, directly influenced by the annual recommendations from the evaluation as well as sector experiences in implementation. A brief outline of the evolution of the Action Plan is described below.

2012 – The first year of the Action Plan

The purpose of the Action Plan in its first year was to establish a basis on which to test whether high quality instructional leadership, combined with a focus on the needs of the individual and early remediation, could turn around the performance of students in the lowest achieving schools in New South Wales.

In targeting resources under the Action Plan, the Minister accepted the Advisory Group's advice that 50 Instructional Leaders be appointed in public schools, and that school sectors support the use of resources for instructional leadership, for assessment of literacy and numeracy attainment on entry to school, and for tiered interventions. 2012 also saw the Advisory Group commissioning a literature review of the evidence regarding the efficacy and effectiveness of the range of literacy and numeracy interventions in use in the early years of schooling (Years K-3) which was undertaken by the Australian Council for Education Research (ACER).

2013 – A year of consolidation and innovation

The Minister accepted the advice of the Advisory Group that directions identified in the first year of the Action Plan should be continued and consolidated with targeted schools being encouraged to further innovate by:

- introducing a numeracy block into all schools in K-2
- instructional leadership becoming more fully embedded in the work of all schools
- the development and trialling of a program to train and accredit volunteers to work in schools, delivering tier 2 and tier 3 interventions in numeracy
- the extension of strategies for strengthening partnerships between home and school, to support learning in literacy and numeracy.

2014 – Further consolidation and expansion

In 2014 the Minister accepted the advice of the Advisory Group that schools targeted by the sectors should continue to:

- strengthen their focus on whole school instructional leadership
- assess explicitly the learning needs of students especially on entry to Kindergarten
- focus on school-based professional development for teachers in personalised learning and diagnostic assessment
- use tiered interventions in literacy and numeracy for those children who were identified by school data as being at risk in literacy and numeracy
- extend programs that strengthen home, school and community partnerships that support literacy and numeracy, in particular programs aimed at Kindergarten to Year 2.

The Minister also announced the appointment of additional Instructional Leaders in public schools in 2014, the equivalent of 80 FTE. The year 2014 also marked the final year of funding being provided to The Exodus Foundation under the Action Plan.

2015 and 2016- Further growth and refinement

For the final two years of the Action Plan the Minister approved the allocation of resources equivalent to 400 FTE to be distributed to the three education sectors in the following manner:

- 230 FTE allocations to support whole school instructional leadership and teacher professional development, of which 215 was to be distributed to public schools
- 50 FTE allocations to support diagnostic assessment, differentiated learning and use of tiered interventions
- 120 FTE allocations to increase the focus on the teaching of mathematics.

As a result of the progressive allocation of FTE resources, schools by the end of 2016, were at differing stages of implementing strategies aimed at improving and lifting performance.

The Minister continued to recognise that 2015 and 2016 would be years in which targeted schools supported by their sectors would:

- further consolidate and strengthen existing priorities;
- advance innovative practice using the evidence on what works and is known to be effective in literacy and numeracy learning and teaching; and
- reconfigure and fine-tune practice based on evidential data and the findings of the independent evaluation of the Action Plan.

Targeted schools were required to pay increased attention to the teaching of numeracy, relatively poor literacy performance of boys in comparison with girls, teaching of writing and the performance of Aboriginal and Torres Strait Islander students, particularly in non-metropolitan areas. Each of these priorities had been identified in the *2014 Progress Report of the Independent Evaluation of the Literacy and Numeracy Action Plan*.

Principals of targeted schools in 2015 were also required to report in Term 4 to their school authority. The aggregated results were provided through sector specific Annual Reports to MAGLN and the Minister and to the independent evaluators.

The year 2016 marked the final year of implementation of the first phase of the Action Plan in schools, consolidating activities undertaken in 2015. No substantive changes to the priorities for the Action Plan were identified for 2016.

2017 and beyond

In September 2016, the Minister launched the NSW Literacy and Numeracy Strategy 2017-2020, which, in effect, represents Phase 2 of the Action Plan. This strategy commits $340 million across the three sectors for a further four years of funding for literacy and numeracy initiatives, expanding the number of targeted schools to 673 schools. The strategy has the following five key elements:

- A continued focus on intervention in the early years of schooling
- Clear guidance on explicit teaching and better, faster diagnostic assessments
- More support for literacy and numeracy in secondary schools
- Quality training for teacher education students in literacy and numeracy
- Rigorous evaluation to focus investment and effort on what works.

1.3 The broader education policy landscape

During the period of the implementation of the Action Plan, the broader education landscape has been characterised by reforms in teacher education, curriculum, resource allocation, school improvement procedures and principal autonomy that have impacted on the implementation of the Action Plan. Each of these reforms, to some extent, has challenged both schools and sectors to identify

how the benefits of the broader reforms can be leveraged while remaining faithful to the intentions of the Action Plan.

While some of these reforms have occurred at the national level others are NSW Government initiatives. Some are sector specific responses to the broader school improvement imperatives, while others are priorities identified by the evaluation. Table 1.4 below provides a summary of broader reforms in education:

Table 1.4: Key elements of the Australian education policy landscape 2012-2016

National initiatives	NSW Government initiatives	Sector specific initiatives
• Australian Curriculum (e.g. new Mathematics curriculum released 2015 • Australian Professional Development Standards • 21st Century Classrooms • Principal Autonomy • Resourcing of Schools (Gonski reforms) • Emerging STEM focus (Primary Connections and Science by Doing programs) • Students first funding (now Quality Schools, Quality Outcomes from May 2016)	• Great Teaching, Inspired Learning • BOSTES syllabus requirements and changing teacher accreditation requirements • Stronger HSC Standards • Rural and Remote Blueprint	• School Excellence Framework (DoE) • Diocesan School Improvement Plans • Communities of Practice initiatives • Partnerships in Education (AIS) • AISNSW Early Literacy Project

1.4 Organisation of the report findings

The remainder of this report is organised around the three key questions driving the evaluation.

Chapter 2 outlines the specific objectives of the evaluation, the methods for data gathering and limitations of the data gathered.

Chapter 3 discusses data in relation to the question "*To what extent has student literacy and numeracy performance improved?"* in terms of K-2 student data, NAPLAN data, on-line student attitude survey data and principal and instructional leader perceptions of impact on students.

Chapter 4 reports on "*What specific factors led to the outcomes achieved?",* drawing on data from the on-line surveys of principals and instructional leaders and the school visits, including interviews with principals, instructional leaders, teachers and parents.

Chapter 5 reports on "*To what extent were the outcomes achieved cost-effective?",* describing the methodology used to calculate cost effectiveness, the relative cost of implementation per student and how Action Plan funds were employed at system, sector and school levels.

Chapter 6 presents the conclusions of the evaluation from 2012-2016.

2. Evaluation Design

2.1 Approach to the evaluation

The conduct of the evaluation followed an Evaluation Plan, initially developed in 2013 as the first deliverable for the evaluation contract, and revised annually to take account of emerging issues and associated data needs. This evaluation has also been guided by the program logic developed for the Action Plan in 2013 (see Appendix 1).

Since the evaluation commenced in 2013, four reports have been produced:

- 2013 Baseline Report of the independent evaluation of the Literacy and Numeracy Action Plan
- 2013 Progress Report of the independent evaluation of the Literacy and Numeracy Action Plan and accompanying Case Study Supplement
- 2014 Progress Report of the independent evaluation of the Literacy and Numeracy Action Plan and accompanying Case Study Supplement
- 2015 Progress Report of the independent evaluation of the Literacy and Numeracy Action Plan; Volume 2: Data Gathering Instruments and Volume 3: Case Study Supplement.

In addition to the four reports noted above, a preliminary report (2014) and two briefing notes (2013 and 2015) were drafted for discussion of findings and recommendations with the Advisory Group. A set of recommendations was included in each of the four reports, with the Minister accepting the recommendations made in all reports.

The design and conduct of the data gathering in 2016 built on the methods used from 2013-2015, but included a specific focus on identifying common factors that have contributed or not contributed to improving student outcomes, as well as progressing the work commenced in 2015 on cost-effectiveness, models of instructional leadership and effectiveness of interventions.

2.2. Objective of the evaluation

As described above, the objective of the evaluation was to provide comprehensive responses to three key questions:

- *To what extent has student literacy and numeracy performance improved?*
- *What specific factors led to the outcomes achieved?*
- *To what extent were the outcomes achieved cost-effective?*

In addressing these three questions, the following contributing questions have guided the data gathering for this evaluation:

1. How has the Literacy and Numeracy Action Plan been implemented?
2. In what ways have the sectors and schools interpreted and acted on each of the key elements of the Literacy and Numeracy Action Plan: personalised learning; diagnostic assessment; tiered interventions; instructional leadership; teacher professional learning?
3. What improvements in literacy and numeracy outcomes are being achieved for students in the targeted schools? How are they measured? If improvements are being made, to what extent can they be attributed to different approaches to literacy and numeracy teaching in the context of changing student and school characteristics?

4. What literacy and numeracy interventions have been chosen for implementation by schools? Why? Which interventions (or combinations) are effective in lifting literacy and numeracy outcomes of students? Why?
5. What operational arrangements and policies are being put in place to support improved student outcomes in literacy and numeracy? How effective is implementation at school/system/sector level/s, both in terms of organisational arrangements and on student performance in literacy and numeracy? What plans are in place to continue support for the improvement of literacy and numeracy outcomes at a school, sector or system level?
6. What are the costs associated with implementation? How cost-effective is the implementation?
7. What role are instructional leaders playing in all targeted schools? Is the appointment of instructional leaders an effective strategy? Why or why not? (Public schools only)
8. In what ways and to what extent has the capacity of teachers increased to meet the needs of low performing students? Has the quality of instruction in literacy and numeracy teaching been improved? How is this measured?
9. What other factors have impacted on the implementation of the Literacy and Numeracy Action Plan?

These nine contributing questions have been addressed in reporting findings against the three objectives of the evaluation in Chapters 3, 4 and 5 below.

2.3 Data gathering methods

Data gathering for the evaluation included annual document analyses, key stakeholder interviews, longitudinal case studies, in-school interviews and focus groups in a sample of schools, online surveys of instructional leaders and principals and an analysis of Kindergarten to Year 2 and Year 3 NAPLAN Literacy and Numeracy outcomes data. In addition, online student attitude surveys were conducted from 2013-2015. Each of the data gathering methods is described in more detail below. Appendix 14 provides the instruments used to capture data.

2.3.1 Key Stakeholder interviews

Interviews were completed with key representatives of all three sectors, including at least one representative from each of the eleven Dioceses in the Catholic sector, in each year of the evaluation. Semi-structured interview schedules were used to guide each of the interviews. In 2015 and 2016, templates were provided to facilitate written responses in relation to the three areas for specific investigation, namely models of instructional leadership, tiered interventions and costings. In 2013 and 2014, interviews were also conducted with members of the Macquarie University MultiLit team and The Exodus Foundation, also using semi-structured interview schedules. (See Appendix 14.1)

2.3.2 Longitudinal Case studies

Case study visits were conducted in the same six schools nominated in 2013 for study over the life of the Action Plan. Schools accepting nomination for participation in the case study were required to commit to participating over the life of the evaluation. Table 2.1 details the location and enrolment size of the case study schools.

In each school, a series of interviews with school leaders, other executives and the instructional leader (or equivalent) and teachers was conducted, based around the key evaluation questions. A semi-structured interview schedule was used to guide the interviews and was provided to the school prior to participation in the discussion. (See Appendix 14.2)

The emphasis of the interviews conducted post-2013 was on changes that had occurred since the previous visit. In 2015 and 2016, specific data were collected from the schools in written responses on templates provided, in relation to Action Plan implementation including the models of instructional leadership being implemented, the approach being employed towards tiered interventions and the costs associated with implementing the Action Plan.

Table 2.1: Longitudinal case study schools, 2013-2016

School	Location	Cohorts	Enrolment*
School A	Regional	P-6	236
School B	Metropolitan	K-6	183
School C	Metropolitan	K-6	314
School D	Metropolitan	K-6	156
School E	Rural	K-6	41
School F	Metropolitan	K-12	277

* 2016 My School Data

Each year, the case study schools were requested to provide any documentation relevant to their circumstances, including their most recent NAPLAN results, K-2 Assessment data, and school plans and annual reports. During the school visits, other documents including teaching programs, lesson plans, and samples of student work were made available to the evaluation team to illustrate the comments provided by teachers. In some instances, the evaluation team were also invited to visit classrooms to observe lessons in progress, and changes that had occurred in classroom layout that had resulted from the implementation of the Action Plan. The interview questions were provided to the longitudinal case study representatives prior to the case study meeting.

An analysis of the information gleaned from the interviews was provided as a case study report as a separate volume appended to each evaluation Progress Report 2013-2015. The draft case study reports were provided to the principal of each of the schools involved to be reviewed and refined for purposes of accuracy of reporting. A short summary of each of the longitudinal case study schools' experience of the Action Plan is included as Appendix 13 of this report.

2.3.3 In-school interviews and focus groups

To provide a comprehensive picture of the ways in which schools across the three sectors were implementing the Action Plan, 15 schools were visited in each of 2013 and 2014, 25 schools were identified to be visited in 2015, and 12 schools in 2016. System/sector advice was sought for nominations for these schools each year to reflect a broad coverage overall of metropolitan and rural schools, schools with a high LBOTE enrolment, schools situated in low SES background communities and large and small schools. As the evaluation progressed each year, a different sample of schools participated in these in-school data gathering interviews.

Schools were provided with general questions to be used to guide discussion during the visits. (See Appendix 14.2). In addition, specific questions were provided to enable information to be gathered in relation to the three areas of specific investigation in 2015 and 2016, namely, models of instructional leadership, effectiveness of tiered interventions implemented by schools and costs associated with implementation of the Action Plan. Templates and guidelines were provided to schools to facilitate their preparation for the data gathering process prior to the school being visited. Written answers to the questions were required in 2016. Templates were provided to assist schools draft their responses.

The distribution of school visits is shown in Table 2.2 below.

Table 2.2: Distribution of 2013-2016 schools visited

	Metro	Non-Metro	Large	Medium	Small
Government	18	18	13	19	4
Catholic	9	12	9	8	4
Independent	3	6	2	5	2
Total	**30**	**36**	**24**	**32**	**10**

In 2016 an additional analysis was conducted using the information gathered from the longitudinal case study and school visit data, including results from interviews and written responses, using a methodology similar to that of Louden (2015). The analysis attempts to identify common features of schools with higher and lower levels of students' outcomes. A summary of the analysis is shown in Appendix 12, Tables A83-90. Data from 16 of the 18 schools visited in 2016 are shown (two schools were excluded because of the small number of students). The results of the analysis have been used in this report to inform the conclusions about practices implemented by successful LNAP schools and to triangulate responses provided through survey and other data.

2.3.4 Year 3 student attitude survey

From 2013 to 2015, an annual online survey of students' attitudes towards literacy and numeracy learning was conducted. Over the period for which these data were gathered, nearly 10,800 student responses were gathered and analysed. Annual response rates to the survey are shown in Table 2.3 below.

Table 2.3: Summary of responses to Year 3 Student Survey

	2013 (May baseline)	2013 (Dec)	Dec 2014	Dec 2015
No. responses*	1,336	1,538	3,769	4,148
No. Schools	74	94	199	245
Per cent responding schools	45%	58%	59%	55%

* An additional 214 students did not record a school name on their response in 2015

Year 3 was chosen for participation in the survey because by this stage, students are generally comfortable responding to online surveys of this type. In some schools, teachers supported students by providing an overall explanation and demonstrating how to use the software. Of those students who commenced the survey online, 95 per cent completed all questions. Data from these surveys was intended to provide a "lag indicator" of the medium-term impact of the enhanced teaching in K-2 on student perceptions of engagement with and enjoyment of Literacy and Numeracy.

Data aggregated from schools across all three sectors are shown in Appendix 9, Tables A79-A81, and a summary of findings included in the body of this report at Section 3.

The survey was discontinued in 2016 as it appeared to not have the ability to detect any changes over time. Student responses to the survey were uniformly positive, regardless of the length of exposure to the Action Plan. The tendency for students to give what they believed were socially acceptable or expected answers may have contributed to a positive response bias.

2.3.5 Surveys of principals and instructional leaders

Online surveys were administered to principals and instructional leaders in targeted schools in the government and Catholic sectors and to principals in the Independent sector in Term 3 each year of

the Action Plan 2013-2016 (also in May of 2013 as a baseline survey). Response rates are shown in the Table 2.4. See Appendix 14.3 includes questions administered by the online survey in 2016. Response rates are based on the number of surveys effectively delivered, which is slightly less than the total number of schools funded by the Action Plan. This is the result of some positions being vacant at the time of the survey administration, others on extended leave, or some being unable to be contacted. Appendix 3, Tables A2-A6 provide a breakdown of response rates for principals and instructional leaders by length of experience in current schools, by school location and by school enrolment.

Table 2.4: Principal and instructional leader Survey Response Rates, 2013-2016

		Government		Catholic		Independ.
	Response Rate	Instructional Leaders	School Principals	Instructional Leaders	Principals	Principals
May-2013	No.	48	35	41	64	7
	Rate	92%	60%	46%	66%	88%
2013	No.	51	37	63	84	16
	Rate	98%	64%	71%	87%	100%
2014	No.	120	125	79	57	26
	Rate	86%	63%	80%	81%	90%
2015	No.	194	188	96	88	22
	Rate	85%	61%	71%	81%	76%
2016	No.	225	283	88	99	28
	Rate	97%	91%	93%	91%	97%

2.3.6 Literacy and Numeracy outcome data analysis

An analysis of aggregated teacher judgments for students in Kindergarten to Year 2 in targeted schools using selected aspects of the *Literacy and Numeracy Continua* has been undertaken from 2013-2016 and is reported in Section 3 of this Report. –Aspects reported on in relation to the *Literacy Continuum* are Reading Texts, Comprehensions and Aspects of Writing. In relation to the *Numeracy Continuum,* data are reported in relation to *Counting as a problem-solving process: Early Arithmetic Strategies*. The data reported are in the form of the percentages of students in a "cluster" or having attained (at or above) a designated level for their year—the "grade standard". In interpreting the cluster data, small differences over time or between groups should be treated with caution.

The K-2 data for each sector presented in the body of this report shows the results for all students participating in the Action Plan in that particular year, regardless of when each student actually commenced enrolment in the school. These are referred to as "unmatched" students, i.e., all students in the relevant grades at the time of the assessment, unless indicated otherwise. Not all students may be present in the same school for the whole year or the whole of their K-2 schooling. This turnover of students may impact on the school's results. The term "matched" students is used to describe students who have been enrolled continuously in the same school since Kindergarten and for whom a complete data record is available. Later analyses in this report examine whether there is a difference in the outcomes for matched and unmatched students.

All data in this report described as "end-of-year" refers to data reported in Week 35. This is generally the last opportunity to collect data at a common point in time across the three sectors. Government schools can update their results until Week 38. While the data are reported in Week 35, the assessment of students represented in that reporting may have been undertaken prior to Week 35.

Estimates of standard errors for the change in percentage results in the K-2 Continua results are different each year in the Government sector due to changes in the number of students each year. Estimates for have been based on adjusting the standard errors for percentages in a simple random sample using design effect factors for a clustered design based on interclass correlation coefficients from the Progress in International Reading Literacy Study (ACER, 2016).

Estimates for Government schools are as follows:

2012: The standard error = 2.6 which corresponds to a confidence interval of +/- 5.2%.

2013: The standard error = 2.2 which corresponds to a confidence interval of +/- 4.4%.

2014: The standard error = 1.5 which corresponds to a confidence interval of +/- 3.0%.

2015: The standard error = 1.2 which corresponds to a confidence interval of +/- 2.4%.

2016: The standard error = 1.2 which corresponds to a confidence interval of +/- 2.4%.

For Catholic schools, the standard error was around 2.0 with a confidence interval of +/- 4.0% each year. For independent schools the standard error was 4.0 with a confidence intervals of +/- 8.0%.

In addition to the analysis of K-2 assessment results, an analysis of Year 3 NAPLAN results over the period 2010 to 2016 has also been undertaken. In this report the term "significant change" is used when the differences in mean scores are greater than the associated margins for error attached to the differences in NAPLAN test scores (a conservative value of ±6 scale points has been adopted as the criterion for reporting when applied to large cohorts Advice from ACARA indicates that for Year 3 Reading differences greater than ±5.5 scale points are significant at the state level and for Numeracy differences greater than ±5 points are significant. The standard error of the mean score is influenced by the sample size (i.e. the Year 3 enrolment size)) and the sample design especially the extent of clustering of students in schools within the sample. The error associated with differences between small groups will be larger (other things being equal). Where change has occurred that has educational significance, but not necessarily statistical significance, the word "substantial" is used to describe this change.

Data in all Tables in this report have been rounded to the nearest whole number. Tables showing data expressed as percentages may therefore not always add to 100 per cent due to rounding errors.

2.3.7 Limitations of sources of data

Each of the forms of data gathering used in this evaluation has potential limitations and sources of error, especially when the data are viewed on a stand-alone basis. The evaluation has mitigated against the potential limitations by using a process of triangulation when interpreting the significance of findings from the data sources.

In relation to the K-2 data 2012-2016, for example, interpretation of trends over time in K-2 and comparison between sectors need to be undertaken with caution. The Catholic and Independent sectors have reported the percentage of students at, above and below the expected end of year standard specified in the relevant Literacy or Numeracy Continua since 2014 as well as percentages of students at each cluster level. In the Catholic and Independent sectors, the basis on which individual schools have identified data may not have been consistent over time. The 2015 and 2016 data may have greater consistency and reliability, as teachers in these sectors have needed time and experience with the Continua to enable more consistent teacher judgments.

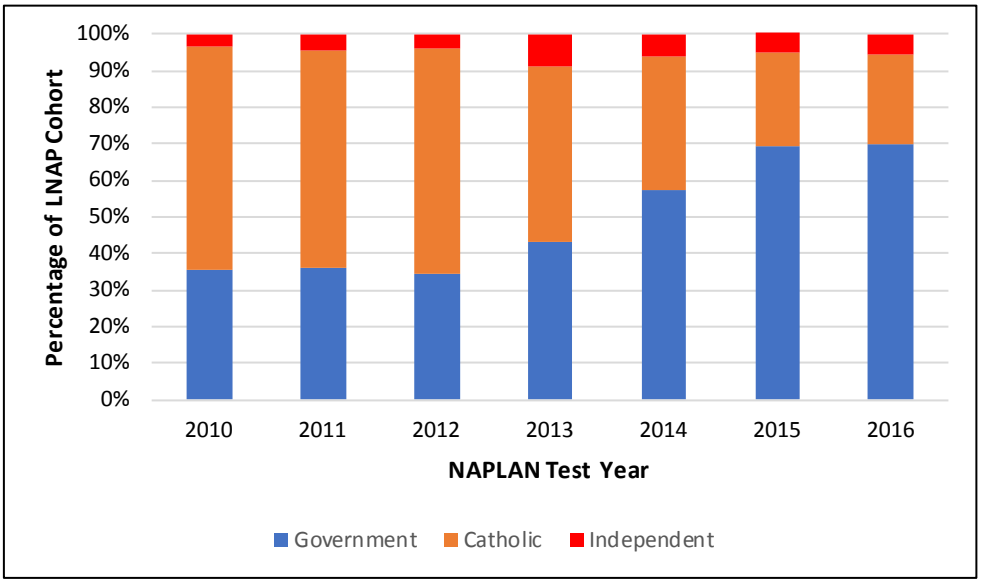
In addition, it should also be noted that the Continua do not constitute equal interval scales for Literacy and Numeracy, and achievement of Clusters becomes progressively more difficult for

students in successive clusters. There have been no published studies into the validity or reliability that can be attached to teacher ratings using the Continua as the basis for their judgments. The methodology relies upon teachers developing a common understanding of the standards implicit in the statements in each cluster, and ratings being applied in a consistent way for students within and across schools. It is noted that in 2014 and 2015 considerable effort was devoted to assisting teachers in all sectors to develop this common understanding through, for example, moderation of work samples reflective of performance at different cluster levels.

An additional complication in interpretation of the K-2 Continua results is caused by variation in the timing of collection of the data. The results were intended to represent the achievements of schools at the "end of the year", but in 2013 the results reflected student data recorded in September. A standard protocol asking sectors to report data collected in Week 5, Term 4 was introduced in 2015, but reports from sectors indicate that many schools were reporting on teacher judgments made in Week 3 or earlier in order for the data to be collated in time for the reporting deadline. The likely effect of these practices is to under-estimate the true "end-of-year" performance level, but in a non-systematic way between schools and between sectors.

In interpreting the Year 3 NAPLAN results, care needs to be taken in interpreting annual mean score results for the NAPLAN cohort, as these are influenced by the composition of the cohort. This cohort varied from year to year, due to the addition of new schools and removal of others from the sample. The major change was the addition of 111 new schools in the government sector in 2015. The effect on the Action Plan population of these changes is seen in Figure 2.1 below, which shows the composition of the Year 3 NAPLAN cohort by sector. Similar trends are also present in the Writing and Numeracy cohorts. Government schools constituted 35.5 per cent of the entire Action Plan student cohort in 2010 but in 2016 this had grown to 69.7 per cent. The unweighted aggregate trends for the entire Action Plan cohort therefore have been more strongly influenced by the performance of Government schools in the later years. It must also be remembered that in 2015 and 2016, the Action Plan Year 3 cohort included a substantial number of students who had only limited exposure to the Action Plan at the time they sat the NAPLAN tests.

Figure 2.1 Composition of the Year 3 NAPLAN cohort in Action Plan schools by sector, Reading, 2010-2016



In relation to the principal, instructional leader, and student survey data, the responses are based on self-reporting by participants, and are necessarily subjective. As with any survey, the basis on which respondents make their judgments may not be equivalent. What one principal considers a "great extent" to mean may not be the same as others.

Over the period of the implementation of the Action Plan, many principals and instructional leaders have witnessed first-hand visible changes in teacher pedagogy in classrooms and very different approaches to teacher planning and the associated uses of data. While these outcomes are highly desirable results of school participation, they can also influence principals' and instructional leaders' judgments in a way that can embellish the changes being described. This possibility, known as the "halo effect", may have coloured participants' judgments, giving a more positive influence to the results achieved.

Likewise, not all respondents may interpret the intent of the questions in the same way. When asked about the extent of certain practices occurring in their school, principals may have different levels of direct experience of the phenomenon being considered or base their conclusions on direct evidence to the same degree. The likelihood of individual misinterpretations or inaccuracies in the self-reports by individual respondents is mitigated by the large number of responses and the use of triangulation of data by the evaluation in the drawing of conclusions from the data.

In relation to the school site visits and longitudinal case studies, the schools nominated for visit may also potentially give rise to skewed perceptions of what "typical" implementation of the Action Plan look like in practice. Schools nominated by systems/sectors were broadly representative of the sample of schools participating in the Action Plan (i.e., by location, size, student composition). They were explicitly not intended to be representative of "best" practice schools. Nor were they a random sample of all schools from which statistically valid quantification of practices can be derived. The value added by the case studies and school visits derives largely from the evaluators' capacity to draw out recurring themes and issues from school to school and constantly test and validate observations over time. The structure of the longitudinal case studies likewise build on the relationships established between the evaluators and school stakeholders to allow the development of a rich understanding of the implementation of the Action Plan in different contexts.

A further caveat on interpretation of survey data arises from potential differences in the cohorts of respondents each year. Cohorts of principals and instructional leaders (and students) are not equal each year, reflecting the additional schools joining the Action Plan in 2013, 2014 and 2015. Therefore, tabular and graphic data may reflect compositional effects as well as program effects. Further specific caveats on the interpretations of student outcomes data are discussed in the body of this report.

In relation to interpretation of principal and instructional leader perceptions of impact, care needs to be exercised in interpretation of results. Low responses on some items may be due to an absence of impact, or it might reflect perceptions that the practice in question was already widespread before the Action Plan. The school visits suggest that this latter explanation is seldom the case.

It should also be noted that illustrative comments used throughout the report reflect practices and experiences that were common in all or the vast majority of participating schools. Selected comments are therefore illustrative of substantial trends not individual views.

3. To what extent has there been an improvement in student learning outcomes 2012-2016?

3.1 Impact on student learning outcomes

This section of the report responds to the key contributing question *"What improvements in literacy and numeracy outcomes are being achieved for students in the targeted schools? How are they measured?"*

Data are presented below in relation to the following:

- K-2 Student Assessment for Reading, Writing and Numeracy, for Government, Catholic and Independent schools. Disaggregated data in relation to K-2 are shown in Appendix 4, Tables A8-A49, in relation to Gender, Language Background, Aboriginality, School Location, Continuous Enrolment (ie "matched vs unmatched" students).
- Year 3 NAPLAN data for Reading, Writing and Numeracy in terms of mean scale scores, percentile distribution and National Minimum standards. Disaggregated Year 3 NAPLAN data are shown in Appendix 6, Tables A53-A72 and Appendix 8, Tables A74 and A75, in relation to Gender, Language Background, Aboriginality, Location, Socio-Economic Status, School Enrolment, and participation in Connected Communities (government schools only).
- Principal and instructional leaders' observations of changes in student outcomes and behaviour
- Student attitudes towards literacy and numeracy learning.

The discussion of the data provides explanation of the extent to which changes observed can be attributed to the different approaches to teaching and learning that have occurred in Action Plan schools. Further discussion of factors impacting on student outcomes in literacy and numeracy 2012-2016 have also been outlined in responding to other relevant key evaluation questions in this report.

3.1.1 K-2 Student Assessment data

This section presents data in relation to K-2 student progress towards achieving the expected grade standard. Data are provided separately for each sector, as the different approaches to reporting against the Literacy and Numeracy Continua preclude aggregation because the data from the three sectors have varying degrees of reliability and accuracy. Across all sectors, data were first collected at the end of Term 4, 2012 based upon aggregated teacher judgments in the targeted schools. In Government schools, the Literacy and Numeracy Continua provided the framework against which judgments have been made. Catholic and Independent schools used a variety of means to make these judgments in 2012-2013, but all participating schools have reported against the Continua since 2014.

The K-2 data were only available to the evaluation for the targeted schools, and no comparison on a state-wide basis was possible in this report (although some K-2 data are collected by the DoE from some non-targeted schools). The number of students involved in the K-2 assessment program has grown considerably since 2013, reflecting the growth in the number of government schools joining the Action Plan in 2014 and 2015. Some caution needs to be exercised in interpreting changes over time in the government school data in particular, as apparent changes may be due to compositional effects of successive cohorts (although analysis of results according to year of entry to the initiative discounts this), and more substantively to the effects of different lengths of exposure to the initiative (especially prior to 2015) Overall, data for over 41,000 students across the three sectors is reported in 2016. Data for each sector are presented separately below.

a) K-2 Student Assessment data – Government schools

K-2 Reading in Government schools, 2012-2016

Table 3.1 shows that at the time of the baseline measure in 2012, teachers judged that at each grade level, more than half of the students were below the grade level suggested by the Reading Continuum. In 2013, this had decreased substantially at Kindergarten (from 56% to 40%) and Year 1 level (from 56% to 45%), and while the percentage of students at Year 2 level not reaching the grade standard had decreased, the decrease was less than for the Kindergarten or Year 1 cohorts.

The percentage of students rated as below standard continued to decrease for Kindergarten (to 36%) in 2014, and to 30 per cent in 2015. The 2016 data are largely unchanged from the 2015 level. The decline in the percentage of Kindergarten students exceeding the grade expectation between 2015 and 2016 is significant.

Despite the positive gains at a cohort level since 2012, at each year level, there remain substantial numbers of students who are performing below expectations in Reading (Aspects of Text). Around one-third of students in targeted schools in 2016 did not reach the expected end of year grade standard. Taken together with further data below in relation to Comprehension and Writing, these results suggest that early literacy learning remains a significant issue in the targeted schools.

Table 3.1: Percentage of K-2 students below, at or above relevant standard in Reading (Aspects of Text), Government LNAP Schools, 2012-2016

Year	Below standard (%)	At standard (%)	Above standard (%)	Number of students
Kindergarten Reading (Aspects of Text)				
2012	56	26	18	2,008
2013	40	36	24	2,170
2014	36	38	26	5,658
2015	30	44	26	9,713
2016	32	48	20	9,714
Year 1 Reading (Aspects of Text)				
2012	56	27	17	1879
2013	45	32	23	2196
2014	44	32	24	5,771
2015	28	37	35	5,762
2016	29	36	35	9,410
Year 2 Reading (Aspects of Text)				
2012	52	32	16	1292
2013	47	33	20	2032
2014	51	35	14	5,742
2015	34	48	18	5,877
2016	32	51	17	9,403

Data in relation to Reading Comprehension in the Government sector for schools for 2015 to 2016 are shown in Table 3.2 below. (Comprehension data were not reported by the Government sector before 2015). The results evident in 2015 were largely replicated in 2016. The trend for a greater percentage of students to be judged as at or above the end-of-year standard in Kindergarten and Year 1 than in Year 2 continues. The proportion of Year 2 students in targeted government schools not reaching the

expected standard in Comprehension is significant, and an important significant predictor of later lack of success in Year 3 NAPLAN tests.

Table 3.2: Percentage of K-2 students below, at or above relevant standard in Reading Comprehension, Government LNAP Schools, 2015-16

Year	Below standard (%)	At standard (%)	Above standard (%)	Number of students
Kindergarten Reading Comprehension				
2015	37	49	15	9,711
2016	37	50	14	9,715
Year 1 Reading Comprehension				
2015	34	41	25	5,762
2016	36	39	25	9,409
Year 2 Reading Comprehension				
2015	46	44	11	5,873
2016	42	46	11	9,397

Reading (Aspects of Text) by Continua Cluster

Table 3.3 below shows the end-of-year data for government school students K-2 in targeted schools by cluster level. The Table shows that the majority of students who are below the expected end-of-year standards at each grade level and in each year 2012-2016 are only one cluster behind the expected standard. It should be noted that being one (or more) clusters behind does not have the same meaning at different grade levels. It is more difficult to move say, from Cluster 8 to Cluster 9 in Reading than it is to move from Cluster 3 to Cluster 4. The Continua are not equal interval scales.

The percentage of students rated as "at risk" (i.e. more than one cluster behind the relevant expected standard) by the *Early Action for Success* team decreased between 2013 and 2015. The results for 2016 are not significantly different from 2015. For example, in 2013, 26 per cent of Kindergarten students were more than one cluster behind the end of year standard compared to 11 per cent in 2016. At Year 2 level, in 2013, 52 per cent of students were more than one cluster behind, while in 2016 only 17 per cent of students were in the same position. Similar trends are also evident in relation to Reading Comprehension (see Table XX).

Table 3.3 also shows two important trends; first, that the "tail" of underperformance at Year 2 level is longer than that at Kindergarten and Year 1 level. In other words, while student performance at Kindergarten level in targeted schools is relatively homogenous, by Year 2 level student achievement levels are becoming more disparate. The need for stronger differentiation at Year 2 levels (and beyond) to effectively cater for the broad range of achievement levels represented in these data becomes evident.

The second point to be drawn from Table 3.3 is that most students in targeted schools *do* make progress in Reading from one year to the next. For example, while 36 per cent of the 2014 cohort of Kindergarten students had only achieved at Cluster 1-3 level. By the time this cohort had reached the end of Year 1 in 2015, only 4 per cent of the cohort were at Cluster 1-3 level. By the time the cohort completed Year 2 in 2016, only 2 per cent had not progressed beyond Cluster 3. The important point to be made here is that over the period of LNAP implementation, the rate of progress for students in targeted schools has increased. These data give credence to the core belief underpinning the Action Plan that *all children can learn*, a concept articulated in relation to how schools respond to students'

socio-economic background more than 30 years ago (see for example, Levine and Lezotte, 1990) and reiterated more recently in the work of Hattie (2003) and many others.

Table 3.3: K-2 Reading performance by Literacy Continuum Cluster, (Aspects of Text), Government LNAP schools, 2013-2016

Per cent of Students by Reading cluster Sept 2013 (Aspects of Text)												
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=2,569)	5	21	33	21	13	5	1	1	0	0	0	0
Year 1 (N=2,060)	1	4	9	18	28	21	11	7	0	0	0	0
Year 2 (N=1,626)	1	2	4	8	16	21	23	21	2	1	0	0
Per cent of Students by Reading cluster Nov 2014 (Aspects of Text)*												
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=5,658)	2	9	25	38	22	4	0	0	0	0	0	0
Year 1 (N=5,771)	0	1	4	9	29	32	17	7	1	0	0	0
Year 2 (N=5,742)	0	1	2	3	8	13	23	35	12	2	0	0
Per cent of Students by Reading cluster Dec 2015 (Aspects of Text)*												
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=9,720)	1	9	20	44	21	4	1	0	0	0	0	0
Year 1 (N=5,768)	0	1	3	7	16	37	22	11	2	0	0	0
Year 2 (N=5,880)	0	0	1	3	5	8	17	47	15	3	1	0
Per cent of Students by Reading cluster Dec 2016 (Aspects of Text)*												
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=9,714)	2	9	21	48	16	3	1	0	0	0	0	0
Year 1 (N=9,410)	0	1	2	7	17	36	20	13	2	0	0	0
Year 2 (N=9,403)	0	1	1	3	5	7	14	51	15	2	0	0

*Yellow highlighted cells represent the expected end-of-year grade standard.

The distribution of student performance by Continua Cluster for Comprehension in the Government sector is shown in Table 3.4 below. Data for Comprehension is only available for 2016.

Table 3.4: K-2 Reading performance by Literacy Continuum Cluster, (Comprehension), Government LNAP schools, 2016

	Per cent of students by Reading Comprehension 2016											
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=9,714)	2	10	25	50	11	1	0	0	0	0	0	0
Year 1 (N=9,410)	1	1	3	9	22	39	17	7	1	0	0	0
Year 2 (N=9,403)	0	1	1	3	5	10	22	46	10	1	0	0

Table 3.4 shows that 12 per cent of Kindergarten students are considered to be “at risk” (two or more clusters behind expectations), as are 14 per cent of Year 1 students, and 20 per cent of Year 2 students. At each year level K-2, the percentage of students not reaching the expected standard and classified as at risk in 2016 is higher in Comprehension than in Aspects of Text (by 5 percentage points at Year 2 level).

K-2 Writing assessment in Government schools, 2013-2016

Table 3.5 below shows the percentages of students K-2 rated as being at or above grade standard for Writing in government schools 2013-2016. Table 3.4 below shows that the percentage of students Kindergarten rated as at or above the expected end-of-year grade standard for Writing has increased from 34 per cent in 2013 to 63 per cent in 2016. The slight decline in 2016 from 2015 is not significant. The percentage of Year 1 students at or above the expected end-of-year standard has also increased, from 20 per cent in 2013 to 46 per cent in 2016. At Year 2 level, the percentage of students at or above the expected end-of-year standard has increased from just 7 per cent in 2013 to 35 per cent in 2016. While part of the explanation of this apparent improvement may be an artefact of differences in the way that teachers interpreted the standards in 2013 and 2016 or to inherent differences in the 2013 and 2016 student cohorts, it is also noted that Writing has been a specific focus for assistance and professional learning for teachers in Action Plan schools in the government sector in 2015 and 2016.

Despite the gains made, there are still many students in the targeted schools not reaching the expected grade standards for Writing. There would appear to be a continuing need for this focus in 2017 and beyond.

Table 3.5: Percentage of K-2 students below, at or above relevant standard in Writing, Government LNAP Schools, 2013-2016

Year	Below standard (%)	At standard (%)	Above standard (%)	Number of students
Kindergarten Writing				
2013	66	23	11	2,572
2014	46	43	12	5,654
2015	36	51	13	9,706
2016	37	52	11	9,712
Year 1 Writing				
2013	80	13	7	2,064
2014	69	25	7	5,768
2015	52	37	11	5,757
2016	54	37	9	9,409
Year 2 Writing				
2013	93	7	0	1,622
2014	76	21	3	5,730
2015	66	29	5	5,886
2016	65	31	4	9,400

K-2 Writing by Continua Cluster

Table 3.6 shows that in 2016, as in previous years, the majority of Kindergarten and Year 1 students who are below the expected end-of-year standard in Writing are in the Cluster immediately below the standard. The percentage of students who were more than one cluster behind the relevant expected end-of-year standard has halved since 2013 for Kindergarten and Year 1 students (for Kindergarten students, 33% in 2013 to 13% in 2016, and for Year 1 students, 53% in 2013 to 22% in 2016).

The Action Plan appears to be having a positive impact on the percentage of students classified as “at risk”, that is, those who are two or more clusters behind the expected standard. In 2013, 53 per cent of Year 1 students were more than one cluster behind the expected end-of-year standard, compared to 22 per cent in 2016. At Year 2 level, 77 per cent of students were more than one Cluster behind the end-of-year grade standard in 2013, while in 2016 this had reduced to 38 per cent.

This reduction in the percentage of students considered "at risk" may be a result of earlier identification by teachers of students who are not progressing as expected and fewer students "slipping through the cracks" (made possible by the increased emphasis on data analysis that occurred in LNAP schools). It may also be an outcome of the more focussed Tier 2 intervention emphasising re-teaching targeted students the concepts they had not gained in the initial Tier 1 teaching.

It is noted that the 2016 NAPLAN results for the initial starting cohort of students (the 2012 cohort), who have had the longest exposure to LNAP and were in the lowest performing schools at time of entry, also reflects this trend with 21.3 per cent of students scoring in Reading Bands 1 and 2, compared to the most recent entrants into NAPLAN (the 2015 cohort) which had 28.6 per cent of students in Reading Bands 1 and 2.

Table 3.6: K-2 Writing performance by Continuum Cluster, LNAP Government schools, 2013-2016

Per cent of students by Writing Cluster, Sept 2013									
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Kinder (N=2,572)	7	26	34	23	7	3	1	0	0
Year 1 (N=2,064)	1	6	17	29	27	13	5	2	0
Year 2 (N=1,622)	1	3	9	17	26	21	17	7	0
Per cent of students by Writing Cluster, Nov 2014									
Kinder (N=5654)	2	13	30	43	11	1	0	0	0
Year 1 (N=5768)	0	2	7	22	37	25	6	1	0
Year 2 (N=5730)	0	1	3	8	16	22	26	21	3
Per cent of students by Writing Cluster, Dec, 2015									
Kinder (N=9,706)	2	10	24	51	12	1	0	0	0
Year 1 (N=5,757)	0	2	5	15	31	37	9	2	0
Year 2 (N=5,886)	0	1	2	5	12	19	28	29	5
Per cent of students by Writing Cluster, Dec, 2016									
Kinder (N=9,712)	1	11	25	52	10	1	0	0	0
Year 1 (N=9,409)	0	2	4	16	32	37	8	1	0
Year 2 (N=9,400)	0	1	2	5	11	19	27	31	4

K-2 Numeracy Assessment, government schools

This section discusses data in relation to K-2 Numeracy outcomes as assessed against the Early Arithmetic Strategies (EAS) strand of the Numeracy Continuum. It should be noted that the Numeracy Continuum has fewer levels than the number of clusters for Kindergarten to Year 2 on the Literacy Continuum. The Numeracy Continua strand on Early Arithmetic Strategies does represent an equal interval scale. It is divided into 5 clusters: Emergent, perceptual, Figurative, Counting On and Back, and Facile, representing key stages in the development of students' mathematical understanding. The Numeracy Continuum is based on the Learning Framework in Number, (see Wright and Gould ,2002) for the specific purpose of researching and documenting progress in number learning of students in the first three years of school (5-to 8-year-olds). The framework has been used extensively with students of all levels of attainment, and has been used as a basis for classroom teaching, as well as for intensive intervention for low-attaining students. The Continua were not originally developed as accountability tools but are increasingly being used by teachers and others for this purpose.

Table 3.7 below shows that teachers rated an increasing percentage of students in targeted schools as at or above standard in Numeracy in each successive year from 2012-2015. There was no significant

change in 2016. Between 2012 and 2016, there was a 29 percentage point increase in Kindergarten students rated as at or above the end-of-year grade standard in Numeracy (Early Arithmetic Strategies). For the Year 1 students, there was a 24 percentage point increase in students who met or exceeded the relevant standard for the same period. There was a similar improvement in the percentage of Year 2 students meeting or exceeding the standard. In 2016, by far the majority of students in targeted schools are meeting or exceeding the expected grade standard for Early Arithmetic Strategies.

Table 3.7 confirms there has been continued increase in percentage of students as at or above the expected end-of-year Numeracy grade standard in 2016 over previous years. While around one-third of K-2 students were rated as below the expected grade standard in Action Plan schools in 2012, this had decreased in 2016 to 12 per cent in Year 2, 10 per cent in Year 1, and 3 per cent in Kindergarten. Most importantly, at each year level, there has been a significant increase over time of the percentage of students rated as above grade expectations.

Table 3.7: Percentage of K–2 students below, at or above relevant standard in Numeracy, Government LNAP schools, 2012-2016

Year	Below standard (%)	At standard (%)	Above standard (%)	Number of students
Kindergarten Numeracy				
2012	32	44	24	2,055
2013	17	49	34	2,169
2014	4	38	58	5,635
2015	3	42	55	9,706
2016	3	44	53	9,710
Year 1 Numeracy				
2012	35	45	20	1,902
2013	25	37	38	2,194
2014	14	30	57	5,771
2015	9	26	65	5,753
2016	10	25	65	9,408
Year 2 Numeracy				
2012	39	45	16	1,290
2013	28	47	25	2,031
2014	17	46	36	5,716
2015	13	46	41	5,873
2016	12	44	44	9,400

Numeracy by Continua Cluster

Table 3.8 shows the distribution of students by cluster across the K-2 Numeracy Continuum. This Table confirms the finding that, by 2016, most students in targeted schools were achieving the standards expected for Early Arithmetic Strategies. Only 12 per cent of students have not reached the Figurative level by the end of Year 2.

Previous evaluation Progress Reports identified the need for further exploration of the apparent disjunction between these positive results and the Year 3 NAPLAN results. The issue of the validity of the cluster scaling is being examined in the revision of the Literacy and Numeracy Continua being

undertaken by ACARA. One explanation is that there is a lack of alignment between the kinds of questions asked in NAPLAN and the kind of skills represented in the Early Arithmetic Strategies scale.

While it has been recommended that future evaluations of the 2017-2020 Literacy and Numeracy Strategy also collect data about the Place Value strand, the explanation of the disjunction may reflect a deeper issue with the status of teaching and learning in Action Plan schools. The apparent large reduction in the proportion of students not reaching the Early Arithmetic Strategies (EAS) standards has most probably been a genuine effect, and demonstrates that most students are acquiring the most fundamental concepts underpinning formal mathematics, such as one-to-one correspondence between a concrete quantities and actions and their symbolic representation by numerals or operational symbols (such as +, –, =, X). This has come about by teachers reinforcing these "basic" skills through increasing the time given to numeracy lessons, repetition of learning activities and more frequent opportunities to use concrete materials to develop the understanding of some mathematical relationships that has been observed in Action Plan schools. The development of automaticity (see Pegg, *et al*, 2006) is recognised as necessary for improving mathematical achievement, but may not in itself be sufficient to close the gap between Action Plan and other schools' NAPLAN results. What may not be happening to the same extent in Action Plan schools is explicit teaching of the problem solving and reasoning skills necessary to achieve at the highest NAPLAN bands. It may be that these "higher-order" skills need to be taught explicitly.

Table 3.8: K-2 Numeracy performance by Numeracy Continuum Cluster, LNAP Government schools, 2014-2016

Per cent of students in each cluster level, 2014					
Cluster level	**Emergent**	**Perceptual**	**Figurative**	**Counting on and back**	**Facile (Flexible)**
Kinder	4	38	37	20	1
Year 1	1	13	30	44	13
Year 2	0	5	13	46	36
Per cent of students in each cluster level, 2015					
Cluster level	**Emergent**	**Perceptual**	**Figurative**	**Counting on and back**	**Facile (Flexible)**
Kinder	3	42	34	19	1
Year 1	0	9	26	50	15
Year 2	0	3	10	46	41
Per cent of students in each cluster level, 2016					
Cluster level	**Emergent**	**Perceptual**	**Figurative**	**Counting on and back**	**Facile (Flexible)**
Kinder	3	44	34	17	1
Year 1	1	9	25	51	15
Year 2	0	3	8	44	44

K-2 Literacy Disaggregated Data for Government schools

K-2 Continua data disaggregated by Gender, Aboriginality, LBOTE, school location and for matched and unmatched students is shown in Appendix 4, Tables A8 to A19. There are some significant differences between various sub-groups examined, which should be given continuing consideration by both schools and systems/sectors. Table 3.10 below provides a short summary of the changes in Reading (Aspects of Text) and Numeracy for a sample of the disaggregations undertaken. Table 3.9

shows that the percentage of students achieving at or above the expected end-of-year standards have increased; indeed, the percentage point increase has often been greater in the sub-group that had the lowest initial results.

Table 3.9: Summary disaggregated K-2 Continua data for Reading, (Aspects of Text) and Numeracy, difference between percentage of students at or above expected standard 2013-2016, Government LNAP schools

Percentage point improvement in Reading (Aspects of Text) between 2013-2016						
	Kindergarten		Year 1		Year 2	
Gender	Girls +6	Boys +8	Girls +13	Boys +18	Girls +13	Boys +17
Aboriginality	Abor +7	Non- Abor +8	Abor +14	Non- Abor +16	Abor +13	Non- Abor +15
School location	Met +5	Non-met +10	Met +14	Non-met +17	Met +14	Non-met +18
Numeracy						
Gender	Girls +14	Boys +11	Girls +17	Boys +15	Girls +17	Boys +14
Aboriginality	Abor +15	Non- Abor +13	Abor +19	Non- Abor +14	Abor +16	Non- Abor +15
School location	Met +10	Non-met +16	Met +15	Non-met +17	Met +16	Non-met +16

Matched vs Unmatched students, Government schools

The data provided above refers to "unmatched students", that is, those who were present in the school at the time of assessment. These figures do not take account of student mobility, and the end-of-year assessments will include data from some students who may have been relatively new to the school and thus had no real length of exposure to the Action Plan.

Analysis of Table A18 in Appendix 4 compares whether the results for students who have been continuously enrolled in the same Action Plan school between Kindergarten and the end of Year 2 (matched) are different from those who have not been continuously enrolled in the same Action Plan School (unmatched).

In 2015 and 2016, the evaluation reported data for "matched" students, who were defined as students for whom data were recorded at the first data collection period in each year (usually week 5 of Term 1) and the last data collection period for the year (usually week 5 of Term 4). As seen in Table A19, in the government schools targeted by the Action Plan in 2015, there was a difference of up to 16 per cent in the size of the two samples. In other words, only about 85-91 per cent of the students for whom data have been reported above were likely to have been continuously present in the same school for the whole year. In 2016, the percentage of students rated as at or above the expected end-of-year standard was in the order of 2-3 percentage points higher for matched students in Reading, Writing and Numeracy. Continuous enrolment in the same school, on average, does appear to make a small but positive difference to students' achievement in the Government school sector.

b) K-2 Student Assessment data – Catholic schools

The following section presents Kindergarten to Year 2 assessment data in relation to Catholic schools participating in the Action Plan in 2014-16 using the Literacy and Numeracy Continua as the framework for reporting. Notes as to the processes that have been used to assess student K-2 outcomes in previous years have been provided in previous Progress Reports. All data in relation to the Catholic sector below are based on "unmatched" students, that is, all students present in the school on the assessment date regardless of when they started at the school. In 2016, data for 10,431 "unmatched" students were reported to the evaluation, and for 10,322 "matched students (ie enrolled in the same school in both Kindergarten and end of Year 2). The difference between the two

samples – 109 students – is equivalent to about 1 per cent of the total (indicating far lower turnover of students than in the government sector). There are no significant differences between the outcomes for the matched and unmatched Catholic student samples.

K-2 Literacy Assessment, Catholic schools 2014-2016

Table 3.10 below shows Reading assessment results for students in Catholic schools 2014-2016 using the Reading Aspects of Text Literacy Continuum. Not only has the percentage of students in targeted Catholic schools rated as below the standard decreased between 2014 and 2016, the percentage rated as exceeding the expected standard has also increased at all grade levels, by 10 or more percentage points between 2014 and 2016. The Catholic Reading results, as for the Government schools, show a continuous trend of improving results between 2014 and 2016.

Table 3.10: Percentage of K–2 students below, at or above relevant standard in Reading (Aspects of Text), Catholic LNAP schools, 2014-2016

Year	Below standard (%)	At standard (%)	Above standard (%)	Number of students
Kindergarten Reading				
2014	36	35	29	3,415
2015	28	32	40	3,563
2016	24	35	39	3,507
Year 1 Reading (Aspects of Text)				
2014	39	29	32	3,257
2015	31	27	42	3,486
2016	26	29	45	3,547
Year 2 Reading (Aspects of Text)				
2014	39	35	27	3,302
2015	32	27	41	3,380
2016	32	28	41	3,377

Table 3.11 below shows the assessment results in relation to Reading Comprehension in the targeted Catholic schools 2014-2016. The results show a similar pattern to those for Aspects of Text in Catholic schools, but the percentage of students rated as at or above the expected end-of-year standard are not as positive. There has been a continual improvement between 2014 and 2016 in the percentage of students rated as above standard. As for the government sector, the improvements in Comprehension results tend to be greatest at Kindergarten level and smallest at Year 2 level. Year 2 Comprehension remains problematic, with half of the students in targeted Catholic schools not reaching the expected end-of-year standard.

Table 3.11: Percentage of K–2 students below, at or above relevant standard in Reading (Comprehension), Catholic LNAP schools, 2014-2016

Year	Below standard (%)	At standard (%)	Above standard (%)	Number of students
Kindergarten Reading (Comprehension)				
2014	45	39	17	3,403
2015	40	40	20	3,566
2016	36	43	20	3,516
Year 1 Reading (Comprehension)				
2014	46	30	25	3,362
2015	42	31	27	3,447
2016	38	35	27	3,537
Year 2 Reading (Comprehension)				
2014	51	36	13	3,329
2015	46	34	20	3,376
2016	50	35	16	3,388

Reading by Literacy Continua Cluster, Catholic schools

Table 3.12 below shows that, similar to the results from Government schools, the largest concentration of students rated as not meeting end-of-year expectations are located in the cluster immediately below the expected standard for both aspects of Reading examined.

Table 3.12: K-2 Reading performance by Literacy Continuum Cluster, (Aspects of Text), Catholic LNAP schools, 2014-2016

Per cent of Students by Reading cluster Nov 2014 (Aspects of Text)												
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=3,415)	2	10	25	35	19	7	2	1	0	0	0	0
Year 1 (N=3,257)	0	2	5	9	23	29	18	6	8	0	0	0
Year 2 (N=3,302)	0	0	1	2	5	10	21	35	21	5	1	0
Per cent of Students by Reading cluster Dec 2015 (Aspects of Text)												
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=3,563)	2	8	18	32	27	8	2	1	1	0	0	0
Year 1 (N=3,486)	0	1	4	8	16	27	16	11	12	3	0	0
Year 2 (N=3,380)	0	0	1	2	5	8	16	27	26	13	2	0
Per cent of Students by Reading cluster Dec 2016 (Aspects of Text)												
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=3,507)	2	6	17	35	27	9	2	1	1	0	0	0
Year 1 (N=3,547)	0	1	2	5	17	29	18	11	14	2	0	0
Year 2 (N=3,377)	0	0	1	2	4	8	16	28	29	10	2	0

Table 3.13 below shows the K-2 Reading Comprehension results for Catholic schools by Continua cluster. The trend towards a reduction in the percentage of students rated as at risk (two or more clusters behind seen in Government schools is also seen in the Catholic school data. For example, in 2014, some 18 per cent of students were more than two clusters below the expected standard, while in 2016 this had decreased to 12 per cent of students. At Year 1 and Year 2 level, the reduction in the percentage of students was not as strong (3 percentage points and 1 percentage point better respectively).

Table 3.13: K-2 Reading performance by Literacy Continuum Cluster, (Comprehension), Catholic LNAP schools, 2014-2016

Per cent of Students by Reading cluster Nov 2014 (Comprehension)												
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=3,403)	4	14	27	39	13	3	1	0	0	0	0	0
Year 1 (N=3,326)	1	2	5	11	28	30	14	8	2	0	0	0
Year 2 (N=3,329)	0	1	1	2	7	15	25	36	11	2	0	0
Per cent of Students by Reading cluster Dec 2015 (Comprehension)												
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=3,563)	4	10	26	40	16	2	1	0	0	0	0	0
Year 1 (N=3,486)	1	2	5	12	23	31	17	8	1	0	0	0
Year 2 (N=3,380)	0	1	1	2	6	11	24	34	17	2	0	0
Per cent of Students by Reading cluster Dec 2016 (Comprehension)												
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=3,516)	2	10	24	43	17	2	0	1	1	0	0	0
Year 1 (N=3,537)	0	1	5	10	22	35	18	7	3	0	0	0
Year 2 (N=3,388)	0	0	1	3	7	13	25	35	13	2	1	0

K-2 Writing Assessment, Catholic schools

Data in relation to K-2 Writing against the Literacy Continuum is available for the Catholic sector for the first time in 2015. The results of this assessment are shown in Table 3.14 below. Table 3.14 suggests that while there has been a significant improvement in 2016 for Kindergarten students scoring at or above the end-of-year Writing standard (improving from 59% in 2015 to 64% in 2016) there remain substantial numbers of Year 2 students who do not meet the expected standard. The tendency in 2016 for fewer Kindergarten students (36%) to be rated as below the expected standard than either Year 1 (52%) or Year 2 students (64%) is also demonstrated in Table 3.14. This trend is similar to that observed in 2015, and is similar to the trend in the government sector.

Table 3.14: Percentage of K–2 students below, at or above end-of-year standard in Writing, Catholic LNAP schools, 2015-2016

Year	Below standard (%)	At standard (%)	Above standard (%)	Number of students
Kindergarten Writing				
2015	41	43	15	3,566
2016	36	45	19	3,516
Year 1 Writing				
2015	59	30	10	3,447
2016	52	34	14	3,542
Year 2 Writing				
2015	63	29	8	3,376
2016	64	27	9	3,385

The data in Table 3.15 below shows that the majority of students who are below the end-of-year Writing standard are only one cluster below and would be expected to make progress in the following year. However, Table 3.16 reinforces the relatively small percentage of students who are rated as above expectations in both 2015 and 2016. This suggests that NAPLAN Writing scores in future may

continue to be lower than desired in the targeted schools, and will need to be a focus of attention in Years 3-6 in future.

Table 3.15: K-2 Writing performance by Literacy Continuum Cluster, Catholic LNAP schools, 2015-16

Per cent of Students by Literacy cluster Dec 2015 (Writing)												
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=3,566)	2	12	27	43	14	2	0	0	0	0	0	0
Year 1 (N=3,447)	0	2	7	19	31	30	8	2	0	0	0	0
Year 2 (N=3,376)	0	1	2	5	11	18	27	29	7	0	0	0
Per cent of Students by Literacy cluster Dec 20156(Writing)												
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Kinder (N=1,908)	2	10	25	45	17	2	0	0	0	0	0	0
Year 1 (N=1,945)	0	1	5	14	32	34	12	2	0	0	0	2
Year 2 (N=1,886)	0	0	2	5	12	18	28	27	8	1	0	0

K-2 Numeracy Assessment, Catholic schools, end 2016

Table 3.16 below shows teacher ratings of K-2 students' Numeracy performance in Action Plan schools at the end of 2014 to 2016. The 2015 and 2016 results have shown improvement at all grade levels K-2 over the 2014 results. The results for Year 2 are not as positive as for Kindergarten or Year 1 in terms of the percentage of students below the expected standard. In addition, there has not been a substantial increase (in fact there has been a decrease) in the percentage of students rated as above the expected standard. This may be caused by teachers making more consistent judgments in 2015 and 2016, or it may reflect a plateauing of performance. As the Catholic student cohort has not changed since 2014, the results are not likely to be due to compositional effects. While the decrease in the percentage of students not reaching the accepted standard is positive, the reason for the lack of stronger progress at the upper levels of performance requires further investigation.

Table 3.16: Percentage of K–2 students below, at or above relevant standard in Numeracy, Catholic LNAP schools, 2014-16

Year	Below standard (%)	At standard (%)	Above standard (%)	Number of students
Kindergarten Numeracy				
2014	6	48	46	3,418
2015	3	30	68	3,561
2016	2	34	64	3,513
Year 1 Numeracy				
2014	16	34	50	3,278
2015	9	23	68	3,444
2016	11	22	67	3,541
Year 2 Numeracy				
2014	25	43	32	3, 283
2015	14	35	51	3,376
2016	15	40	46	3,386

Table 3.17 shows the results of the 2014-16 K-2 Numeracy assessment in Catholic schools by Numeracy Continuum Cluster. The Table shows that the majority of students in Catholic schools were

rated as meeting or exceeding grade expectations by the end of the year and the majority of the cohort do make progress from year to year. The results appear to be strongest in Kindergarten, and less strong in Year 2. This pattern is similar to that seen in other sectors, and in also Literacy.

Table 3.17: K-2 Numeracy performance by Continuum Cluster, Catholic schools, 2014-2016

Per cent of students at each cluster level, Nov 2014					
Cluster level	**Emergent**	**Perceptual**	**Figurative**	**Counting on and back**	**Facile (Flexible)**
Kinder (N=3,418)	6	48	30	13	3
Year 1 (N=3,278)	1	15	34	34	16
Year 2 (N=3,283)	1	7	17	43	32
Per cent of students at each cluster level, Dec 2015					
Cluster level	**Emergent**	**Perceptual**	**Figurative**	**Counting on and back**	**Facile (Flexible)**
Kinder (N=3,561)	3	30	32	31	4
Year 1 (N=3,444)	1	8	23	46	22
Year 2 (N=3,376)	0	3	11	35	51
Per cent of students at each cluster level, Dec 2016					
Cluster level	**Emergent**	**Perceptual**	**Figurative**	**Counting on and back**	**Facile (Flexible)**
Kinder (N=3,513)	2	34	36	23	5
Year 1 (N=3,541)	1	10	22	44	23
Year 2 (N=3,386)	0	4	11	40	45

Disaggregated K-2 Continua data for Catholic LNAP schools, 2014-2016

K-2 Continua data disaggregated by Gender, Aboriginality, LBOTE, school location and school size for Catholic schools participating in the Action Plan is shown in Appendix 4, Tables A20-A35. There are some significant differences between various sub-groups examined, which should be given continuing consideration by both schools and systems/sectors. Table 3.18 below provides a short summary of the changes in Reading (Aspects of Text) and Numeracy for a sample of the disaggregations undertaken.

Table 3.18: Summary disaggregated K-2 Continua data for Reading, (Aspects of Text) and Numeracy, difference between percentage of students at or above expected standard 2015-2016, Catholic LNAP schools*

	Percentage point improvement in Reading (Aspects of Text) between 2015-2016					
	Kindergarten		**Year 1**		**Year 2**	
Gender	Girls +2	Boys +4	Girls +6	Boys +5	Girls +1	Boys +1
Aboriginality	Abor -3	Non- Abor +4	Abor -2	Non- Abor +5	Abor +5	Non- Abor +5
Location	Met +2	Non-met +5	Met +5	Non-met +4	Met -1	Non-met +2
LBOTE	LBOTE +3	Non-LBOTE -2	LBOTE+12	Non-LBOTE -1	LBOTE +9	Non-LBOTE +2
Numeracy						
Gender	Girls -1	Boys -1	Girls +3	Boys +1	Girls +7	Boys 0
Aboriginality	Abor -6	Non- Abor 0	Abor -1	Non- Abor +2	Abor +9	Non- Abor +4
Location	Met -1	Non-met -1	Met +1	Non-met +1	Met +11	Non-met +2
LBOTE	LBOTE -2	Non-LBOTE -1	LBOTE +2	Non-LBOTE 0	LBOTE +4	Non-LBOTE +2

* Caution needs to be exercised in interpreting changes in outcomes for Aboriginal students in Catholic schools because of the small number of students involved.

c) K-2 Student Assessment data – Independent schools

As in the Catholic sector, different processes have applied in the compilation of school-based K-2 data in the Independent school sector for the baseline and subsequent Progress Reports. In 2014, all Independent schools participating in the Action Plan began to use the Literacy and Numeracy Continua as the basis for reporting Kindergarten to Year 2 outcomes data. Schools were provided with training in the use of the Continua by AIS consultants to facilitate this in late 2013. As in earlier years, individual Independent schools carried out their own assessments using a variety of tools and mapped these against the Continua. Further training in the use of the Continua was provided to teachers in Independent schools in 2015 and 2016, and the use of the Continua as a tool for monitoring students' ongoing progress and for planning interventions also increased. The level of commitment to the use of the Continua beyond compliance with accountability requirements varied considerably within this sector at the end of the first Action Plan funding period

K-2 Literacy Assessment, Independent schools, 2014-2016

Table 3.19 below shows the percentage of students in Independent schools rated as at or above the expected end-of-year Literacy Continuum standards for Reading (Aspects of Text) in 2014-2016. Table 3.19 shows that for each grade level, K-2, there was an increase in the percentage of Independent school students rated as at or above the expected end-of-year standard in 2015 compared to 2014, however, the 2016 results show only small improvements at Year 1 and Year 2 level and no improvement on Kindergarten results.

In 2014, less than half of the K-2 Independent school students were rated as at or above the expected end-of-year standard in Reading. In 2015, the percentage of students rated as at or above the standard had increased by 17 percentage points in Kindergarten, 16 percentage points in Year 1 and 10 percentage points in Year 2. There were no significant changes in 2016. The Reading (Aspects of Text) results for the Independent sector in 2016 are substantially below those reported in the Government and Catholic sectors.

It is possible that this is a result of different standards of judgment being made in the various sectors (in other words teachers in Independent schools may be marking their students "harder" than teachers in other sectors) rather than a reflection of true differences between students in the sectors. Regardless of the cause, while there has apparently been a substantial reduction in the number of students not reaching the expected grade standards in the Independent sector, the data suggests there is considerable scope for further improvement in future. While the development of deep understanding at each cluster level is important, schools individually and collectively within sectors need to consider and explore how various approaches to literacy and numeracy learning and teaching might be contributing to the current situation and how student progression might be accelerated.

Table 3.19: Percentage of K–2 students below, at or above relevant standard in Reading (Aspects of Text), Independent LNAP schools, 2014-2016

Year	Below standard (%)	At standard (%)	Above standard (%)	Number of students
Kindergarten Reading				
2014	60	22	17	547
2015	43	30	27	655
2016	43	36	21	660
Year 1 Reading (Aspects of Text)				
2014	60	18	22	648
2015	44	25	31	639
2016	43	25	32	631
Year 2 Reading (Aspects of Text)				
2014	58	22	19	611
2015	48	29	23	660
2016	44	30	26	644

Table 3.20 below shows that for Kindergarten and Year 1, there has been an increase in the percentage of students rated as at or above expectations in Reading Comprehension in Independent schools. In 2014, 31 per cent of Kindergarten students were at or above the expected standard for Comprehension, but this had increased to 54 per cent in 2016. For Year 2 students, 30 per cent were rated as at or above the Comprehension standard, and this had increased to 43 per cent in 2016. However, more than half of the students in targeted Independent schools do not reach the end-of-year Comprehension standard.

Table 3.20: Percentage of K–2 students below, at or above relevant standard in Reading (Comprehension), Independent LNAP schools, 2014-2016

Year	Below standard (%)	At standard (%)	Above standard (%)	Number of students
Kindergarten Reading (Comprehension)				
2014	69	24	7	547
2015	52	35	13	655
2016	47	42	11	660
Year 1 Reading (Comprehension)				
2014	66	22	12	648
2015	59	28	13	639
2016	54	30	16	631
Year 2 Reading (Comprehension)				
2014	54	18	28	611
2015	59	31	10	660
2016	55	31	14	644

d) K-2 Reading by Literacy Continua Cluster, Independent schools

Table 3.21 below shows Reading results for 2014-2016 by Literacy Continuum Cluster level. The data show the improvement in both Aspects of Text and Comprehension in 2016 noted above.

As in the other sectors, there has been a reduction in the percentage of students who are more than one cluster behind the relevant standard. For example, in 2014, 27 per cent of Kindergarten students were more than one cluster behind the end-of-year standard in Aspects of Text, but this had reduced to 15 per cent in 2016. At Year 2 level, 41 per cent of students were rated as more than one cluster below the end-of-year standard in 2014, and this had reduced to 25 per cent in 2016.

Table 3.21: K-2 Reading performance by Continuum Cluster, Independent LNAP schools, 2014-2016

Per cent of students by Cluster level, End 2014 (Aspects of Texts)										
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Kinder(N=547)	7	20	33	22	13	3	1	0	0	0
Year 1 (N=648)	1	6	14	16	23	18	12	7	2	1
Year 2 (N=611)	1	2	5	8	11	14	17	22	11	7
Per cent of students by Cluster level, End 2015 (Aspects of Text)										
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10+**
Kinder(N=655)	1	15	27	30	17	7	1	1	0	0
Year 1 (N=639)	0	2	9	13	20	25	17	10	2	1
Year 2 (N=660)	0	1	2	5	6	13	21	29	12	11
Per cent of students by Cluster level, End 2016 (Aspects of Text)										
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10+**
Kinder(N=660)	1	14	28	36	13	5	2	0	0	0
Year 1 (N=631)	0	4	8	13	18	25	18	11	1	1
Year 2 (N=644)	0	1	1	5	8	10	18	30	12	14

Similarly, there has been a reduction in the percentage of students rated as "at risk" in Reading (Comprehension) in participating Independent schools. As seen in Table 3.22 below, 35 per cent of the Kindergarten students were rated as more than one cluster below the end-of-year standard in Comprehension, and this had reduced to 15 per cent in 2016. At Year 2 level for Comprehension, 25 per cent of students were more than one cluster below expectations in Independent schools in 2016.

Table 3.22: K-2 Comprehension performance by Continuum Cluster, Independent LNAP schools, 2014-2016

Per cent of students by Cluster level, End 2014 (Comprehension)										
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10+**
Kinder(N=547)	6	29	34	24	6	1	0	0	0	0
Year 1 (N=648)	1	7	21	18	19	22	7	4	1	0
Year 2 (N=611)	2	3	3	8	11	14	13	18	18	10
Per cent of students by Cluster level, End 2015 (Comprehension)										
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10+**
Kinder(N=655)	1	15	36	35	8	1	1	3	0	0
Year 1 (N=639)	1	3	9	18	28	28	10	3	0	0
Year 2 (N=660)	0	1	4	5	10	18	21	31	8	2
Per cent of students by Cluster level, End 2016 (Comprehension)										
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10+**
Kinder(N=660)	2	13	32	42	9	2	0	0	0	0
Year 1 (N=631)	1	2	10	18	23	30	10	6	0	0
Year 2 (N=644)	0	1	3	5	11	16	21	31	8	4

K-2 Writing Assessment, Independent schools

Data in relation to Writing in Independent schools were available for the first time in 2015. The results for 2016 show only small improvements over those recorded in 2015. As Table 3.23 shows, Kindergarten students perform better than those in Year 1 and Year 2 (consistent with the trend in the government and Catholic sectors). While some caution needs to be taken in relation to interpretation of these data (as the results may reflect the stage of development of teachers' capacity to accurately assess against the Continuum standards), there remain substantial numbers of students in participating Independent schools who are not reaching the expected end-of-year Writing standard.

Nearly 70 per cent of Year 2 students in targeted Independent schools are reported to be not reaching this standard, but the results for Kindergarten and Year 1 also convey clear warning signals. As in the other sectors, this low level of performance may predict poor performance in NAPLAN Writing in later years.

Table 3.23: Percentage of K–2 students below, at or above end-of-year standard in Writing, Independent LNAP schools, 2015-2016

Year	Below standard (%)	At standard (%)	Above standard (%)	Number of students
Kindergarten Writing				
2015	41	46	13	655
2016	42	44	14	660
Year 1 Writing				
2015	66	25	9	639
2016	63	30	7	631
Year 2 Writing				
2015	72	23	5	660
2016	69	23	8	644

Table 3.24 below amplifies the data in Table 3.23 above. Only a relatively small percentage of students in Independent schools were rated as above the expected standard for Writing in 2015 and 2016. The long "tail" in the distribution of Year 2 scores is also noted, with around one-quarter of students in Year 2 being two or more clusters behind the standard (and therefore defined as "at risk").

Table 3.24: K-2 Writing performance by Continuum Cluster, Independent LNAP schools, 2015-2016

Per cent of students by Writing Cluster level										
Cluster level	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10+**
	Kindergarten									
2015 (N=655)	1	13	26	46	11	2	0	0	0	0
2016 (N=660)	1	13	28	44	12	2	0	0	0	0
	Year 1									
2015 (N=639)	0	2	7	26	31	25	7	2	0	0
2016 (N=631)	0	2	8	22	32	30	5	1	0	0
	Year 2									
2015 (N=660)	0	1	2	7	16	20	26	23	5	1
2016 (N=644)	0	1	2	8	15	18	24	23	6	2

K-2 Numeracy Assessment, Independent schools, 2014-2016

Table 3.25 below shows teacher judgments about Numeracy performance of K-2 students in participating Independent schools. Table 3.24 shows that for Numeracy, the great majority of students have been consistently rated as performing at or above grade standard for 2014-2016, and that the number of students who are rated as at or above expected end-of-year standards in Independent schools appear to have increased substantially at all year levels between 2014 and 2015, and improved slightly again in 2016. However, the percentage of students rated as "above expectations, has not improved substantially in 2016 except at Year 2 level. The results are in line with the improvement seen in other sectors in Numeracy, and may be a product of the greater emphasis given to this area since 2014 and the narrow range of skills measured in the Early Arithmetic Strategies element of the Continua.

Table 3.25: Percentage of K–2 students below, at or above relevant standard in Numeracy, Independent LNAP schools, 2014-16

Year	Below standard (%)	At standard (%)	Above standard (%)	Number of students
Kindergarten Numeracy				
2014	1	39	60	547
2015	1	22	77	655
2016	1	22	77	644
Year 1 Numeracy				
2014	10	32	58	648
2015	4	18	78	639
2016	3	22	76	631
Year 2 Numeracy				
2014	15	37	49	611
2015	10	30	60	660
2016	6	25	66	644

Table 3.26 shows in more detail the distribution of students by cluster for Numeracy in 2014-2016. The data in this Table clearly show that the majority of students are at or above the expected grade standard, with students clearly making progress within each grade level. While there was a substantial reduction in the proportion of students scoring below the expected end of year standard between 2014 and 2015, there were only slight improvements over the 2015 results in 2016.

The apparent improvement in 2015 may be a result of teachers' increased capacity to make more accurate judgments about students' performance, rather than a genuine reflection of improved student results. However, the pattern of results overall is not dissimilar to that observed in other sectors. There was, however, a substantial increase in the proportion of Year 2 students rated as above the expected end of year standard (Flexible or Facile).

Table 3.26: Numeracy performance by Numeracy Continuum Cluster, Independent LNAP schools, end 2014-2016

	Per cent of students at each cluster level - 2014				
Cluster level	**Emergent**	**Perceptual**	**Figurative**	**Counting on and back**	**Facile (Flexible)**
Kindergarten					
2014 (N=547)	1	39	39	18	3
2015 (N=655)	1	22	40	33	5
2016 (N=660)	2	22	39	32	5
Year 1					
Cluster level	**Emergent**	**Perceptual**	**Figurative**	**Counting on and back**	**Facile (Flexible)**
2014 (N=648)	1	9	32	33	25
2015 (N=639)	0	4	18	45	32
2016 (N=631)	0	3	22	42	34
Year 2					
Cluster level	**Emergent**	**Perceptual**	**Figurative**	**Counting on and back**	**Facile (Flexible)**
2014 (N=611)	0	5	10	37	49
2015 (N=660)	0	1	9	30	60
2016 (N=644)	0	1	5	26	68

Disaggregated K-2 Continua data for Independent LNAP schools, 2014-2016

K-2 Continua data disaggregated by Gender, Aboriginality, LBOTE, school location and school size for Independent schools participating in the Action Plan is shown in Appendix 4, Tables A36 to A48. There are some significant differences between various sub-groups examined, which should be given continuing consideration by both schools and at sector level. Table 3.27 below provides a short summary of the changes in Reading (Aspects of Text) and Numeracy for a sample of the disaggregations undertaken.

Table 3.27: Summary disaggregated K-2 Continua data for Reading, (Aspects of Text) and Numeracy, difference between percentage of students at or above expected standard 2015-2016, Independent LNAP schools

	Percentage point improvement in Reading (Aspects of Text) between 2015-2016					
	Kindergarten		**Year 1**		**Year 2**	
Gender	Girls -8	Boys +8	Girls +4	Boys -2	Girls +3	Boys +5
Aboriginality	Abor +16	Non- Abor -1	Abor +4	Non- Abor +1	Abor -2	Non- Abor +4
Location	Met -5	Non-met +4	Met +6	Non-met -3	Met +4	Non-met +4
LBOTE	LBOTE +3	Non-LBOTE +2	LBOTE+12	Non-LBOTE +1	LBOTE +9	Non-LBOTE +2
Numeracy						
Gender	Girls -1	Boys -1	Girls +3	Boys +1	Girls +7	Boys 0
Aboriginality	Abor -6	Non- Abor 0	Abor -1	Non- Abor +2	Abor +9	Non- Abor +4
Location	Met -1	Non-met -1	Met +2	Non-met 0	Met +10	Non-met +2
LBOTE	LBOTE -2	Non-LBOTE -1	LBOTE +1	Non-LBOTE +1	LBOTE+11	Non-LBOTE +2

* Caution needs to be exercised in interpreting changes in outcomes for Aboriginal students in Independent schools because of the small number of students involved.

3.1.2 Year 3 NAPLAN results 2010 - 2016

Mean scale score results

The evaluation has tracked Year 3 NAPLAN results as a means of assessing the long-term impact of the Action Plan since its inception in late 2012. In 2016, students in approximately 36 per cent of targeted government schools had experienced only one year of exposure to the Action Plan before undertaking Year 3 NAPLAN testing. The impact of the Action Plan on students' learning, realistically, would not be expected to be reflected in NAPLAN results for the full cohort until 2018. (The impact on the first cohort of schools should become apparent in the 2016 NAPLAN results, when this cohort had experienced three full years of exposure to the Action Plan). Figures 3.1 to 3.3 tracks the results for successive cohorts over time to minimise the impacts of the changing cohorts (compositional effects) on the aggregate results.

The 2012-2016 NAPLAN data should be interpreted with caution, as the year-to-year scores have a degree of volatility that is not related to program effects. NAPLAN mean scores at a population level have a Standard Error of +/- 6 points. Year-to-year changes of less than 6 scale points have not been designated as significant in this report. NAPLAN results provide some insights into the context of implementation of the Action Plan 2012-2016 and for the NSW Literacy and Numeracy Strategy 2017-2020. A fundamental premise of the Action Plan was that effective early intervention is required if later schooling outcomes for students in disadvantaged areas are to be improved. In this context, it would be reasonable to expect that in time, if the pedagogical and leadership enhancement promised by the Action Plan occurs as intended, then NAPLAN scores should improve as a result.

Data from 2010 for Reading and Numeracy and from 2011 for Writing are included to provide a baseline for comparison of outcomes recorded during the period of the Action Plan. The NAPLAN scores for Action Plan schools for 2010 and 2011 are calculated for the sample of schools that commenced the Action Plan in 2012. Appendix 6, Tables A53 to A72, provides more detailed reporting of disaggregated NAPLAN results.

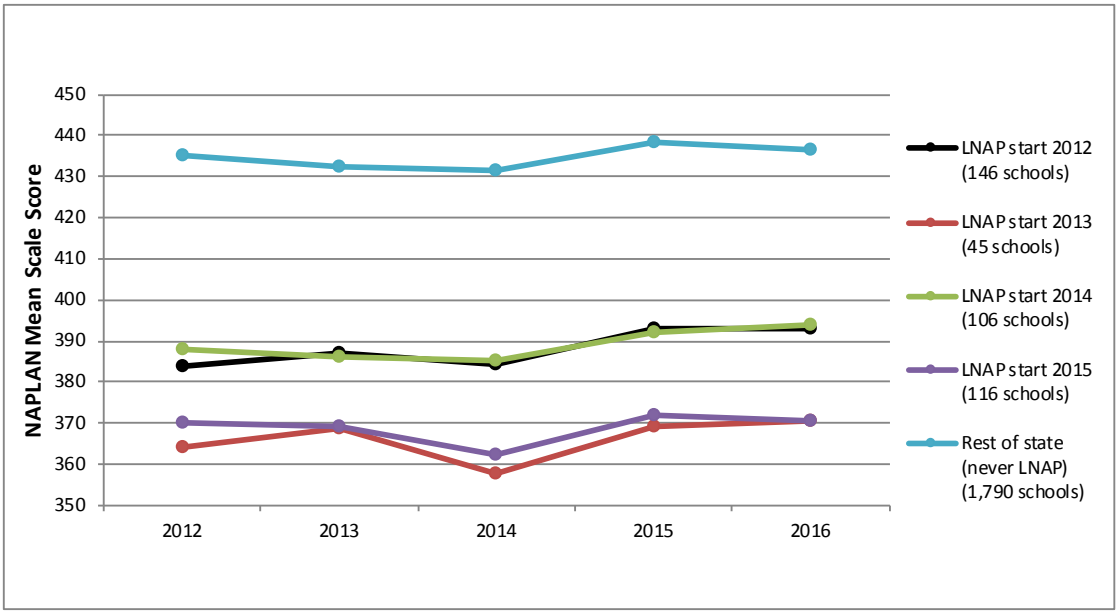
Year 3 Reading, mean scale scores, 2010-2016

Figure 3.1 below shows average Year 3 NAPLAN scores for Reading for each cohort of Action Plan and non-Action Plan schools for 2010 to 2016 inclusive. (See also Appendix 5, Table A50). As the cohort of Action Plan schools each year is different from each preceding cohort, the scores of the different cohorts reflect differing lengths of exposure to the Action Plan.

The data for 2010-2016 shows that in the target schools as a whole, there has been no significant change in Year 3 Reading results over time, and the gap between targeted schools and non-targeted schools remains about 30 scale points lower on average in the targeted schools. The persistence of this gap in performance between targeted schools and those in the rest of NSW provides continuing evidence of the need for systemic intervention in these schools and justification for further intervention in the early years if this gap is to be reduced.

When the "Whole of State" average is considered (see Appendix 6, Table A53), there has been no significant change in the average Reading score over time. In both the overall Action Plan cohort and the Rest of State, the variations from year-to-year are not statistically significant.

Figure 3.1: Year 3 average scores in NAPLAN Reading, 2010-2016, by LNAP start year



NAPLAN Writing results, 2011-2016

Figure 3.2 below shows a comparison of Year 3 NAPLAN Writing scores in targeted and non-targeted schools from 2011-2016. Appendix 5, Table A51 provides information on Year 3 Writing results in targeted schools compared to all schools in New South Wales. (The genre of the Writing test was changed from *narrative* in 2010 to *persuasive writing* in 2011 and subsequent years). NAPLAN Writing results are somewhat difficult to interpret over time, as the results appear to have been affected by factors other than changes in student performance from year to year. The decline in average Year 3 NAPLAN Writing scores shown in Figure 3.2 in 2014 appears to have been mostly a consequence of the design of the writing task in 2014, affecting results in both targeted and non-targeted schools. In 2015 and 2016, there was one writing prompt for students in Years 3 and 5, and a second prompt for Years 7 and 9, with the same genre reported on a similar scale.

Figure 3.2: Year 3 average NAPLAN scores in Writing, 2011-2016, by LNAP start year

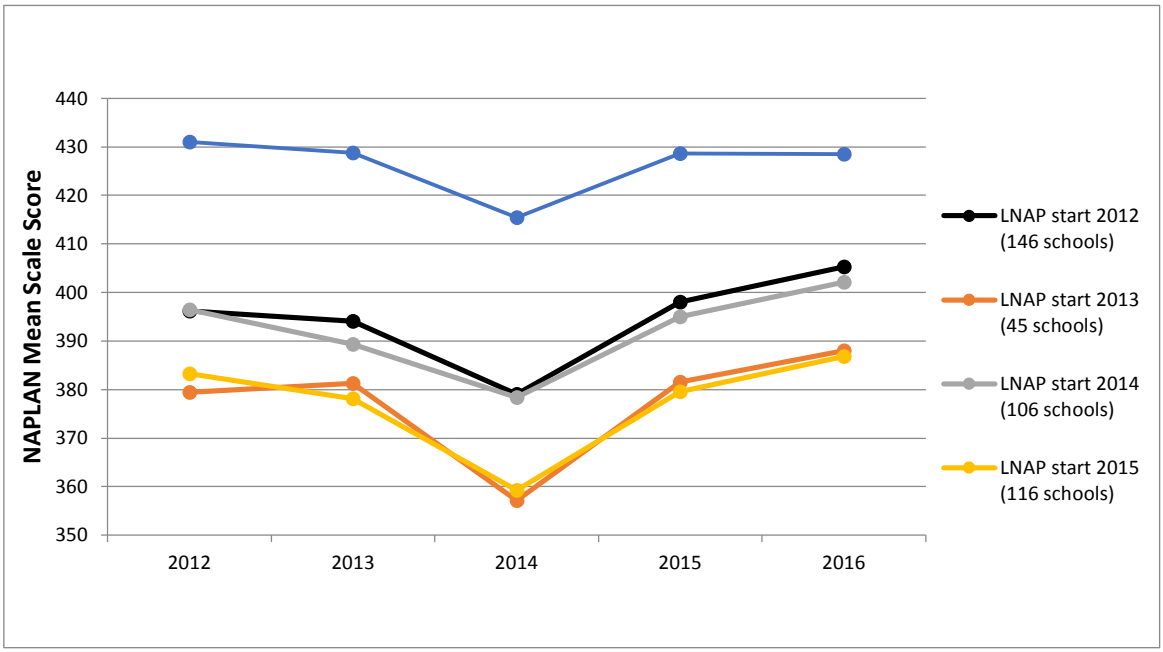
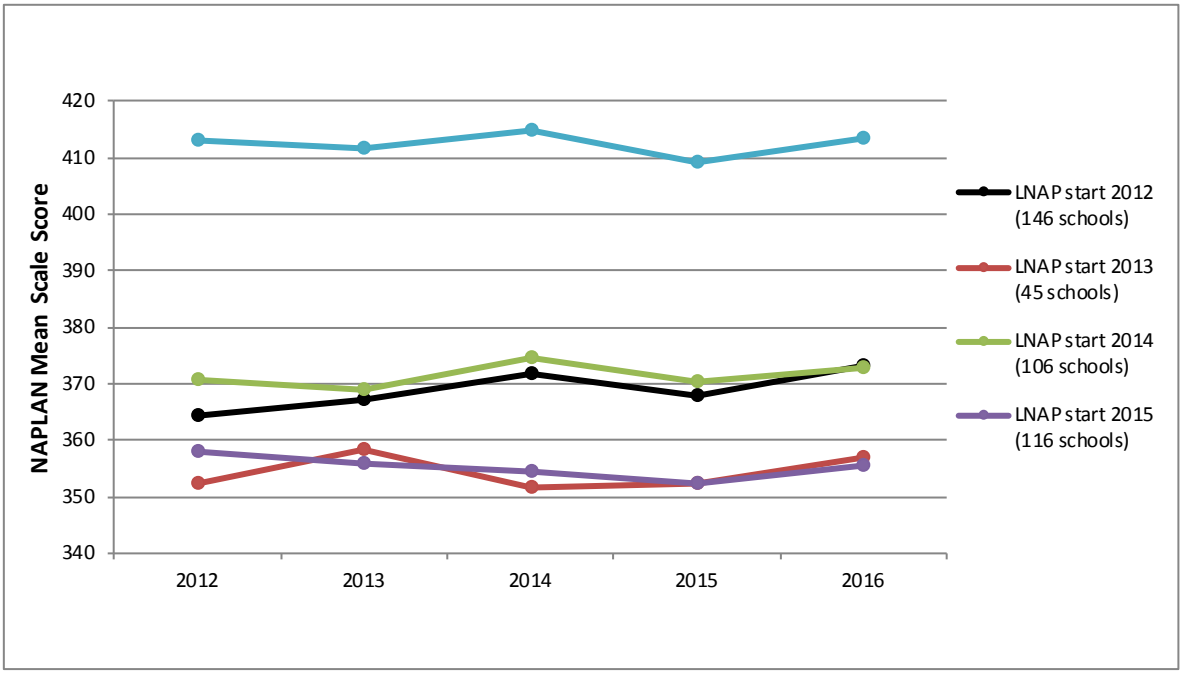


Figure 3.2 shows that a significant and persistent gap in average Writing scores is evident when comparing the full cohort of Action Plan schools with schools in the rest of NSW. The gap has remained in the order of 30 points since 2011. The 2016 results for both the targeted group of schools and non-targeted schools across NSW are not significantly different from those recorded in 2011/12 (disregarding the aberrant 2014 results). The caveat on interpretation of the 2016 results stated in regards to Reading also applies here – in that more than one-third of the 2016 Year 3 LNAP cohort had only limited exposure to the Action Plan prior to sitting the NAPLAN tests.

Year 3 Numeracy, student scale scores, 2010-2016

Figure 3.3 compares Year 3 Numeracy mean scores for students in targeted and non-targeted schools from 2011-2016 (See also Appendix 5, Table A47). Figure 3.3 shows that students in Action Plan targeted schools have consistently scored on average well below students in other schools in NSW. The overall difference has been significant, with students in targeted schools on average scoring nearly 50 scale points less than students in other schools. There has been a trend towards decreasing performance in targeted schools since 2012, but this trend has reversed in 2016. Overall, there would appear to have been no significant change in the gap between targeted and non-targeted schools (as a cohort) in Year 3 Numeracy results over the period of the Action Plan.

Figure 3.3: Year 3 average NAPLAN scores in Numeracy, 2010-2016, by LNAP start year



It is interesting to note that the improvement in Year 3 NAPLAN Numeracy results in Action Plan schools in 2016 has followed the same trend for improvement seen state-wide. Since almost all students in Action Plan schools now meet the expected standards for Early Arithmetic Strategies, it might be predicted that the Action Plan schools' NAPLAN results for Numeracy would have shown stronger growth. The cause of this disjunction requires further investigation.

Disaggregated Year 3 NAPLAN data

Disaggregated Year 3 NAPLAN data are shown in Appendix 6, Tables A53-A72. There are clear differences in the mean scale scores of certain subgroups within the NSW population. These differences are in general seen in both targeted and non-targeted schools. As Table 3.28 shows, the

Action Plan does not appear to have made a substantial or sustained difference in addressing the observed gaps between sub-groups. The differences tend to be large and educationally important. The causes of these differences, and how they might be addressed deserve continued consideration by schools and systems/sectors.

Table 3.28: Year 3 NAPLAN scale scores – difference between subgroups in targeted and non-targeted school, 2016

		Reading	Writing	Numeracy
Gender: Boys v Girls	LNAP	Girls +19	Girls +29	Boys +6
	Rest of NSW	Girls +19	Girls +22	Boys +12
Language Background: LBOTE vs ESB	LNAP	LBOTE +6	LBOTE +19	no diff
	Rest of NSW	LBOTE +7	LBOTE +14	LBOTE +14
School size: smallest vs largest (100+ students)	LNAP	Large +6	Large +13	No diff
	Rest of NSW	Large +31	Large +31	Large +32
Aboriginality	LNAP	Non- Abor +49	Non- Abor +36	Non- Abor +36
	Rest of NSW	Non- Abor +62	Non- Abor +44	Non- Abor +55
School location: Metro vs Non-metro	LNAP	Metro +4	Metro +9	Metro +3
	Rest of NSW	Metro +61	Metro +28	Metro +26

Year 3 NAPLAN by Socio-Economic Status

A clear relationship between socio-economic status and Year 3 NAPLAN Reading performance exists, both across NSW as a whole and within Action Plan schools. Students from schools in the lowest ICSEA national quartile perform significantly lower than those in the highest ICSEA quartile. The same trend is seen when other measures of socio-economic status including parental education and occupation are considered. The gap is lower in Action Plan schools than in the rest of NSW in 2015 and lower than in previous years (in 2015 the gap was 62 points in Action Plan schools and 95 points in rest of NSW). The performance of the students in the very bottom socio-educational advantage quarter in Action Plan schools improved on average by 19 scale points between 2012 and 2016, compared to an 8-point improvement by the same cohort in non-targeted schools. (Refer to Appendix 6, Table A65). The results for students in the highest socio-educational advantage quarters in Action Plan schools are better on average than those for students in the lowest quarters in non-targeted schools, indicating that the effects of socio-educational advantage are pervasive across NSW and remain a significant contributor to students' NAPLAN performance.

Similarly, there is a strong relationship existing between socio-educational advantage and Year 3 NAPLAN Writing performance in both targeted and non-targeted in schools. The gap between students in the highest ICSEA quarter and lowest ICSEA quarter has reduced in both Action Plan schools (from 73 scale points in 2015 to 57 scale points in 2016) and in non-targeted schools (68 points in 2015 to 51 points in 2016). Average Writing performance in the most socio-economically advantaged schools across NSW is significantly greater than in the least disadvantaged schools (by 62 points in 2016), although the difference is reducing over time. Students in the lowest ICSEA quarter have improved by 12 scale points between 2012 and 2016 in targeted schools and 10 scale points in non-targeted schools. (Refer to Appendix 6, Table A66).

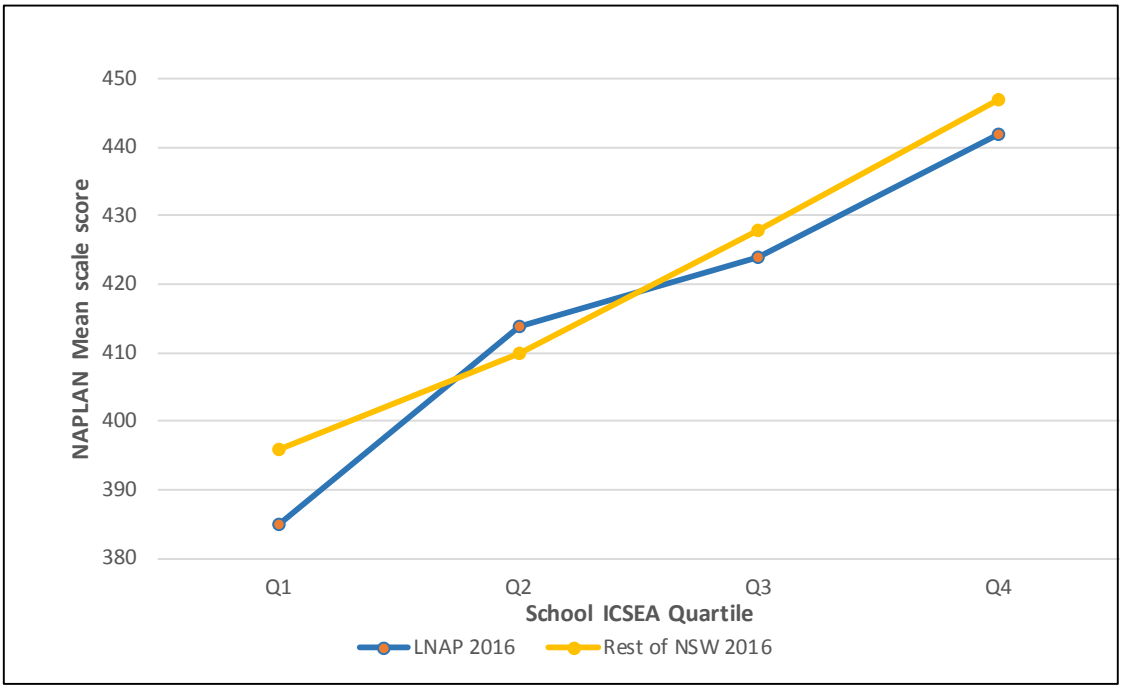
The definition and measurement of socio-economic status, and indeed, socio-educational advantage and disadvantage are open to debate. In fact, different models are used within the NSW education systems and sectors to operationalise the concept as well by various researchers. This evaluation had available to it, three different indicators commonly used as proxy measures of socio-economic status:

parent occupation, parent education, and a measure of school-level SES based on community characteristics (Index of Community Socio-Educational Advantage or ICSEA). Regardless of which indicator is used, a clear relationship between socio-economic status and Year 3 NAPLAN performance exists, both across NSW as a whole and within Action Plan schools. As an illustration of this point, Figure 3.4 compares the relationship between Year 3 NAPLAN results and school ICSEA scores, Students from schools in the lowest ICSEA national quartile perform significantly lower than those in the highest ICSEA quartile. The same trend is seen no matter what measures of socio-economic status are considered, at either school or student level.

Regardless of the specific indicator used, there is a strong linear relationship between ICSEA quarter and average Year 3 NAPLAN Numeracy performance in non-targeted schools, with the difference between the most socio-economically advantaged schools and the least advantaged schools being 77 scale points in 2016 (80 points in 2015). The same trend is evident in Action Plan schools. The difference between the highest and lowest quarter Action Plan schools in 2015 is significant, but may be reducing somewhat since 2012 (by 14 points), while remaining relatively similar in the rest of NSW (5-point change in 2016). (Refer to Appendix 6, Table A67). The changes that have occurred in the NAPLAN results for Action Plan schools in the lowest quarter are relatively modest, but not negligible. It will take some time for the impact of the Action Plan to be reflected in NAPLAN results.

The same trends are evident when considering the relationship between other measures of socio-economic status and Year 3 NAPLAN outcomes such as parental occupation and education (see Appendix 8, Tables A74 and A75). There is a strong linear relationship across NSW between Year 3 NAPLAN Reading scores and both parents' education levels and parents' occupation, as indicators of SES, with children whose parents have the lowest measures on this scale (i.e., those with Year 9 education level and those not in paid work) having average NAPLAN results more than 90 points lower than parents at the highest bands.

Figure 3.4: Relationship between school ICSEA scores and NAPLAN outcomes, 2016*



*Mean NAPLAN scores shown in the above graph are based on the average of Reading, Writing and Numeracy mean scores for each education category in 2016

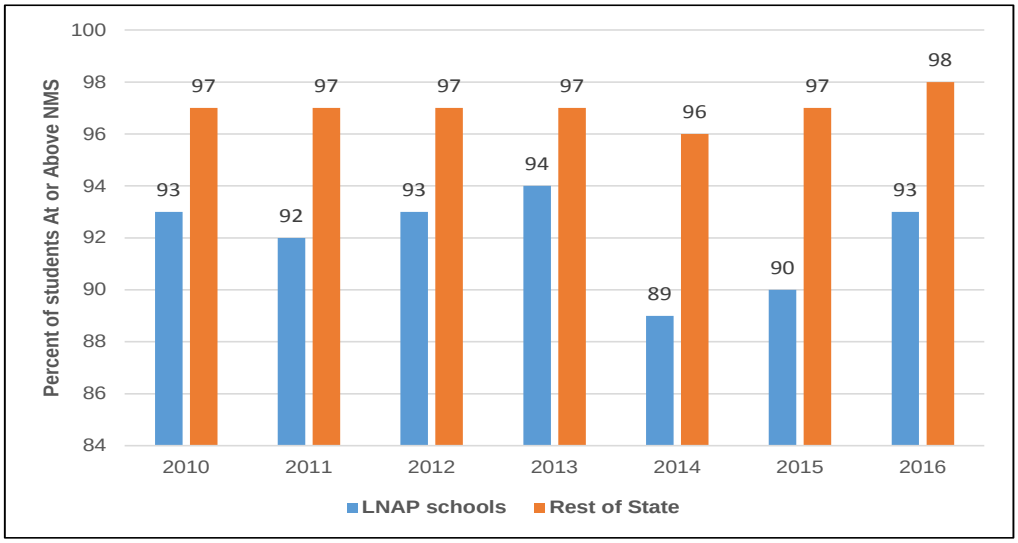
The analysis of Year 3 NAPLAN data by socio-educational advantage status suggests that the initial targeting of schools for participation in the Action Plan was appropriate and addressed genuine needs for improvement of the literacy and numeracy outcomes for disadvantaged students. It also shows that there is a significant group of students in need of support in non-targeted schools. If, as the K-2 data suggest, the Action Plan has begun to impact on student performance in targeted schools, the implication is that the principles and priorities for school improvement employed in targeted schools should apply in all schools. It cannot be assumed that simply because the non-targeted schools on average score higher than currently targeted schools that all students are receiving effective instruction. It is also clear that not all socio-economically disadvantaged students in NSW are located in targeted schools.

Year 3 Literacy, percentages of students at or above National Minimum Standard (NMS) in Reading and Writing, 2010-2015

An alternative to mean score analysis that might reflect differential changes in the distribution of NAPLAN results is to consider changes over time in the proportion of students scoring at or above the National Minimum Standard (NMS), currently equivalent to Band 2 or above. Figure 3.5 shows the percentage of students in targeted schools scoring at or above the National Minimum Standard in Reading has been significantly less in Action Plan schools than that in non-targeted schools since the commencement of the Action Plan in 2012. Figure 3.5 shows that the percentage of students not reaching the National Minimum Standard in Action Plan schools in 2016 was essentially the same as when the Action Plan commenced in 2012 (at around 7% below standard).

Figure 3.5 suggests that for Reading, the percentage of students achieving at or above the National Minimum Standard has remained relatively stable over time in non-targeted schools (at around 97% at or above standard), but has fluctuated over time in Action Plan schools. This fluctuation may be caused, to some extent, by the changing composition of the successive Action Plan cohorts. The data do not necessarily reflect on the impact of the Action Plan at this stage of implementation, since not all students in targeted schools have had extensive exposure to the Action Plan pedagogical approaches, the results provide a further indication that a substantial percentage of students in Action Plan schools score in the lowest NAPLAN Bands and remains an issue to be addressed in targeted schools.

Figure 3.5: Percentage of Year 3 cohort at or above NMS in Reading, 2010-2016



As for Reading, the percentage of students in Action Plan schools performing at or above the NMS for Writing is significantly lower than in other schools in NSW (See Figure 3.6). The decline seen in 2014, due mostly to the change in Writing task appears to have been reversed in 2015 and 2016. The 2016 results show a slightly increased percentage of students at or above the National Minimum Standard compared to previous years.

Figure 3.6: Percentage of Year 3 cohort at or above NMS in Writing, 2011-2016

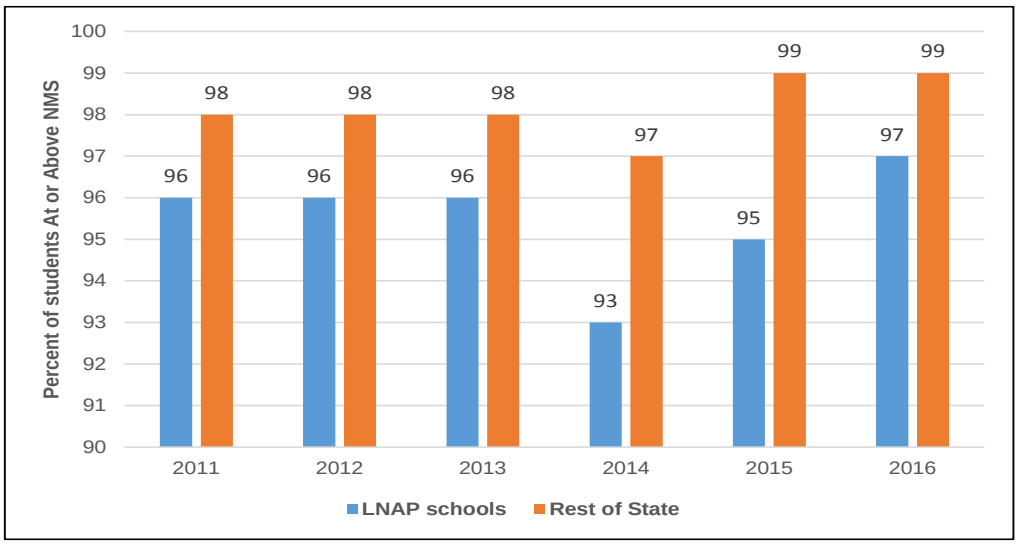
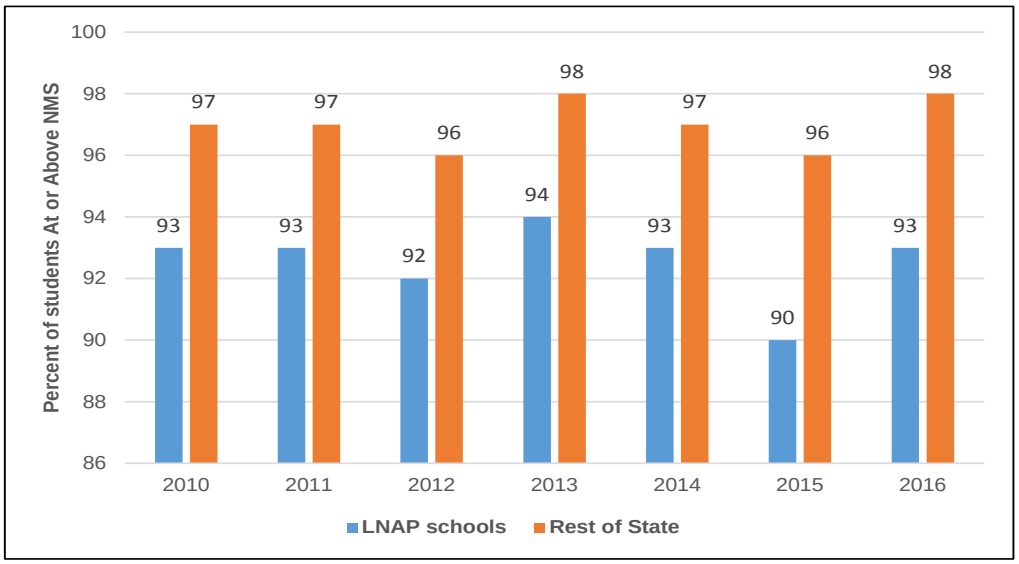


Figure 3.7 below shows the percentage of Year 3 students at or above the National Minimum Standard in Numeracy 2010-2015. Fewer students in Action Plan schools meet this standard than in the rest of NSW. The percentage of students in Action Plan schools reaching the minimum standard has declined since 2013, suggesting that there are relatively greater poor performing students in the 2015 cohort than in previous cohorts. The 2016 results show a return to baseline levels in Action Plan schools as recorded earlier. In non-Action Plan schools the percentage of students attaining the national minimum standard has not changed to the same extent over time.

Figure 3.7: Year 3 NAPLAN Numeracy, Per cent at or above NMS, Action Plan schools versus rest of NSW, all students, 2010-2016



NAPLAN results by Percentage of Students by Band

A further refinement of the above analyses examining whether there have been any changes in the distribution of Year 3 NAPLAN performance is shown in Table 3.29 below, which examines changes in the percentage of students in Action Plan schools compared to students in schools in the rest of NSW for Reading, Writing and Numeracy. The comparison is made with the average of the 2010-2012 results in Reading and Numeracy (2010-2011 for Writing) to minimise differences that may be due to annual variations.

Table 3.29 shows that in Reading, Writing and Numeracy, there tends to be a higher percentage of Year 3 students in Action Plan schools who score in the lower bands (Bands 1 and 2), and conversely a significantly lower percentage of students in Action Plan schools in the highest performance bands (particularly in Band 6). This does not appear to have changed over the time-period of the Action Plan.

In Year 3 Reading, there has been no substantial change in the distribution of students by performance Band between 2010/12 and 2016 in either targeted or non-targeted schools. Likewise, in Year 3 Numeracy there has been no significant change in the distribution of students in each Band in either targeted or non-targeted schools. In Year 3 Writing, there has been a noticeable decrease in the percentage of students scoring in Bands 5 and 6 in targeted schools in 2016, a result that might have been predicted by the 2015 Year 2 Writing Continua results.

Table 3.29: Year 3 NAPLAN Per cent of Students in Band, 2010-2016

Reading							
		Per cent in Band					
		Band 1	Band 2	Band 3	Band 4	Band 5	Band 6
2010-12 average	Action Plan	7	18	21	22	16	15
	Rest of State	3	10	16	22	21	29
2016	Action Plan	7	17	24	21	18	13
	Rest of State	2	8	16	19	25	31
% change	Action Plan	0%	-1%	3%	-2%	2%	-2%
	Rest of State	-1%	-2%	0%	-3%	4%	2%
Writing							
2011-12 average	Action Plan	4	8	19	25	35	8
	Rest of State	2	4	13	21	43	17
2016	Action Plan	3	10	20	30	30	7
	Rest of State	1	4	12	26	39	18
% change	Action Plan	-1%	2%	1%	5%	-5%	-1%
	Rest of State	-1%	0%	-1%	5%	-4%	1%
Numeracy							
2010-12 average	Action Plan	7	19	27	24	15	7
	Rest of State	3	11	21	26	22	17
2016	Action Plan	7	20	33	20	12	8
	Rest of State	2	10	23	23	20	22
% change	Action Plan	0%	1%	5%	-3%	-3%	1%
	Rest of State	-1%	-1%	2%	-3%	-2%	4%

When only the 172 schools in the 2012 cohort are considered, there has been no significant change in the percentage of students in Bands 1-6 compared to 2010-2012 in Reading, Writing or Numeracy.

The percentage of students in each band for the 2012 cohort of schools tends not to be significantly different from later entry cohorts in Reading, Writing and numeracy at Year 3 level. Appendix 8, Tables A76 to A78, provides a further breakdown of percentage bands for Action Plan schools by commencement year.

NAPLAN results by percentile distribution

A further way of examining NAPLAN results to investigate whether there are differential effects of the Action Plan for students at different levels of ability, is to analyse the mean scale scores at various percentile points (with students at the 10th percentile being the lowest achievers and those at the 90th percentile being the highest achievers). There may be some important trends that are not evident when looking at state mean scores as a whole.

Table 3.30 below shows the change in average NAPLAN decile scores from the Baseline average. Actual scores at each decile from 2010-2016 are shown in Appendix 7 Table A73. In Action Plan schools generally in 2016, Reading scores on average improved at the lower end of the distribution, but at the higher end of the distribution had not changed or were slightly lower than in the baseline period. This is consistent with the trend in earlier evaluation analyses, when bottom end students appeared to improve at a greater rate than higher performing students. This suggests that initially at least, the Action Plan has a greater positive impact on lower performing students in Reading, and a less positive impact for higher performing students. The same trend is evident in the 2016 results for Writing and Numeracy.

In the same time-period, the results by percentile band in Reading and Writing show more uniform trends, improving generally by about 10-16 points regardless of decile band, and declining by around 6 points in Writing, again regardless of decile band. In Numeracy, students at the top of the performance spectrum improved substantially, with those in the bottom deciles declining in average performance.

The changes in the non-targeted sample of non-targeted schools reflects both changes in the composition of students in this cohort over time (as increasing numbers of low performing schools were included in the Action Plan cohort) and the volatility of NAPLAN scores from year to year. There is a considerable margin for error in average results over time, and the number of students represented in each decile band is not equal, with most students clustering in the 30-80 range and fewer students at each extreme.

Changes in results should be viewed with caution as shown in Table 3.30 below, the trend for lower levels of growth (indeed in most cases a negative increase) to be seen in stronger performing students (ie those in the top two Bands) has occurred in Reading, Writing and Numeracy. The effect is less pronounced in the 2012 cohort of school. If this trend is genuine and continues, it may call into question the effectiveness of differentiation strategies being used by K-2 teachers in Action Plan schools for more advanced students and reflect the concentration of resources being directed towards the students most at risk (and receiving Tier 2 and 3 support).

Table 3.30: Change in NAPLAN percentile scores from Baseline in 2016*

Change in 2016 from 2010/11/12 average									
Decile Band	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**
Targeted schools (All schools participating in 2016)									
Reading	10	1	7	3	6	4	5	-3	-9
Writing	17	15	-1	-1	-10	-5	-8	-12	-6
Numeracy	0	-2	-1	-4	-2	2	-5	-11	-6
Targeted schools (2012 cohort)									
Reading	9	11	16	12	15	13	16	8	5
Writing	17	15	14	14	4	10	6	1	-6
Numeracy	14	10	-1	7	9	2	6	0	6
non-Targeted schools									
Reading	16	13	15	6	16	16	13	11	10
Writing	5	-1	-5	-5	-3	-7	-8	-6	-7
Numeracy	2	-4	-2	-2	-1	4	10	11	19

* Baseline in this analysis is the average of the 2010, 2011, and 2012 scale scores within each decile.

Multilevel mixed-effects model on Year 3 NAPLAN scores

In 2015, a series of multilevel mixed-effects models were conducted for the evaluation by the Centre for Educational Statistics and Evaluation (CESE) to examine whether students exposed to the Action Plan since 2013 achieved better results in the 2015 Year 3 NAPLAN tests than those students who were of similar characteristics but who were not exposed to the Action Plan.

In 2016, the multi-level analyses were repeated by CESE, but extended to include 2016 NAPLAN data. As in 2015, multilevel mixed-effects models were used to examine whether students exposed to the Action Plan since 2013 achieved better results in the 2016 Year 3 NAPLAN tests than those students who were of similar characteristics but who were not exposed to the program. Student characteristics that were controlled for in the models included Gender, Aboriginality, socio-economic status (SES) and prior ability *(Best Start* or entry to school scores). The analysis includes data only for schools in the government sector, as it is not possible at present to match the students' individual NAPLAN results to their *Best Start* data in the other sectors.

A proxy measure of prior ability was derived from students assessed levels of literacy and numeracy at the beginning of Kindergarten (in 2013), made by teachers for the Best Start program. The analysis was based only on students who were enrolled in the same school at the time of the Best Start assessment in 2013 and as at the NAPLAN tests in 2016, so that the measure of prior performance was available for each Year 3 student record included in the analysis.

In addition to the student characteristics controlled for in the models, school level characteristics including school average SES and location (metropolitan vs non-metropolitan) were also controlled. Models were run separately for students' achievements on reading and numeracy to investigate whether program effects varied across different assessment domains.

For all models, students' prior scores were the estimated levels of literacy and numeracy from the Rasch analysis using Kindergarten Best Start assessment data. Both literacy and numeracy estimates were included in each model to improve the reliability of prior achievement measures.

As schools started the Action Plan in different years, students enrolled in different Action Plan schools potentially had different exposure times. As for the 2015 analysis, two sets of analyses were

conducted. The first included all schools with an Action Plan indicator representing the year the school commenced the Action Plan (2012, 2013, 2014, 2015 or not a targeted Action Plan school). The second analysis included only those Action Plan schools which started in 2012/13 and the non-Action Plan schools. All variables except for the Action Plan indicator were standardised first before they were used in the modelling.

Results, as presented in Table 3.31, show that almost all contextual factors and the prior achievement scores included in the model are statistically significant in terms of predicting students' scores in Year 3 NAPLAN reading and numeracy scores (the exception being non-metropolitan location for Year 3 numeracy in the second analysis of just Action Plan 2012/13 schools vs non-Action Plan schools).

As for the 2015 analysis, the directions of the coefficients are all as expected. For example, one standard deviation (SD) increase in literacy or numeracy scores at the beginning of Kindergarten is associated with around a 0.25 SD increase in Year 3 reading or numeracy results. Aboriginal, low SES students, and those enrolled in low SES schools, are predicted to have lower performance than their respective comparison groups.

Coefficients associated with the Action Plan indicator were not statistically significant with one exception – schools commencing in 2015 achieved statistically higher results in Year 3 numeracy in 2016 than similar students in non- Action Plan schools.[2] The lack of statistically significant results for reading for all Action Plan groups, and for numeracy for Action Plan schools commencing 2012/13 or 2014 indicate that in general students enrolled in an Action Plan school do not perform better in Year 3 tests in 2016 than similar students enrolled in a non- Action Plan school.

[2] The reason for this result is not immediately clear. As these schools only commenced the Action Plan in 2015, when the 2016 Year 3 students were in Year 2, it is unlikely that the program itself would have contributed much, if at all, to this result.

Table 3.31: Parameter estimates for multilevel mixed-effects model on Year 3 Government school NAPLAN 2016 test scores with robust standard errors

	All schools included				Only LNAP schools starting in 2012/2013 and schools which were never part of the LNAP program included			
	Year 3 Reading (std.)		Year 3 Numeracy (std.)		Year 3 Reading (std.)		Year 3 Numeracy (std.)	
Variables	Coefficient	Robust Standard Error	Coefficient	Robust Standard Error	Coefficient	Robust Standard Error	Coefficient	Robust Standard Error
Best Start literacy score 2013	0.254*	0.006	0.186*	0.006	0.253*	0.006	0.184*	0.006
Best Start numeracy score 2013	0.266*	0.005	0.347*	0.006	0.266*	0.006	0.353*	0.006
Male (ref: female)	-0.098*	0.004	0.071*	0.004	-0.099*	0.004	0.073*	0.004
ATSI (ref: non-ATSI)	-0.028*	0.004	-0.021*	0.003	-0.026*	0.004	-0.021*	0.004
Student SES	0.189*	0.005	0.185*	0.005	0.191*	0.005	0.19*	0.005
School average SES (FOEI)	-0.095*	0.010	-0.103*	0.011	-0.096*	0.010	-0.1*	0.011
Non-metropolitan (ref: metropolitan)	-0.037*	0.008	-0.015*	0.008	-0.035*	0.008	-0.013	0.008
LNAP (ref: non-LNAP)								
Group 1 (started 2012/13)	-0.041	0.039	0.022	0.033	-0.042	0.039	0.025	0.033
Group 2 (started 2014)	0.033	0.034	-0.006	0.034				
Group 3 (started 2015)	0.029	0.032	0.074*	0.031				
No. students	48,067		48,067		43,870		43,870	
No. schools	1,598		1,598		1,393		1,393	
residual variance								
school level	0.051	0.003	0.056	0.004	0.051	0.004	0.057	0.004
student level	0.583	0.005	0.561	0.006	0.585	0.005	0.573	0.007

Source: CESE 2016, *Regression Analysis Report*

*coefficient is statistically significant at a 5% significance level

Note: The direction of the school SES index - FOEI is such that the higher the score, the lower the socio-economic status of the school.

Performance change in Action Plan schools from 2014 to 2016 relative to change experienced by non- Action Plan schools

The analysis conducted in 2015 had also examined whether there was any change over time in student performance in Action Plan schools relative to non- Action Plan schools, specifically whether students in Action Plan 2012/13 schools performed differently to those in non-LNAP schools in 2014, and whether the difference changed from 2014 to 2015. This analysis was repeated for 2016 results, with 2014 retained as the base year for comparison.

The analysis combined data for two matched cohorts - 2011 Kindergarten matched to 2014 Year 3 NAPLAN and 2013 Kindergarten to 2016 Year 3 NAPLAN. To simplify the interpretation of the results, only schools that commenced with the Action Plan in 2012/2013 and those that have never participated in the Action Plan were included in the analysis. In addition, all variables are unstandardised variables to aid the interpretation of results.

Multilevel mixed-effects models were also employed for this analysis, with an additional variable 'Year' to capture the average difference in Year 3 scores between 2014 and 2016 and an interaction variable 'Year * LNAP' to examine whether any difference in the Year 3 NAPLAN test scores between Action Plan schools and non- Action Plan schools has changed from 2014 to 2016. If the difference had reduced, it would expect a significant, positive coefficient for the interaction variable.

Table 3.32: Parameter estimates for multilevel mixed-effects model on Year 3 Government school NAPLAN 2016 vs 2014 test scores with robust standard errors

	Reading		Numeracy	
	Coefficient	Robust Standard Error	Coefficient	Robust Standard Error
Year 2016 (ref. 2014)	5.84*	0.73	-0.07	0.68
LNAP (ref. non-LNAP cohort	-9.8*	3.14	-6.05*	2.89
Year 2016*LNAP (interaction)	5.72	3.68	5.52	2.86
Male (ref. Female)	-12.63*	0.50	9.57*	0.45
ATSI (ref. Non-ATSI)	-10.23*	1.23	-7.8	1.08
Student SES	6.75*	0.13	5.97*	0.13
Best Start literacy score 2013	13.17*	0.27	8.74*	0.24
Best start numeracy score 2013	15.88*	0.27	19.48*	0.24
School average SES (FOEI)	-0.16*	0.02	-0.14*	0.01
Non-metropolitan (ref metropolitan)	-5.6*	1.45	-1.74	1.39
Constant term	428.7*	1.91	397.8*	1.82

Source: CESE 2016, *Regression Analysis Report*

*coefficient is statistically significant at a 5% significance level

Note: The direction of the school SES index - FOEI is such that the higher the score, the lower the socio-economic status of the school.

The model results for reading reported in Table 3.28 show that the 2016 year variable was significantly positive for reading (but not significantly different for numeracy). This indicates that Year 3 reading scores in non-Action Plan schools improved significantly from 2014 to 2016. Because schools not exposed to the Action Plan were experiencing improved scores, this means that a simple comparison of scores in Action Plan schools between 2014 and 2016 may be misleading – scores could have increased over this time for reasons unrelated to participation in the Action Plan (for example, subtle shift in the NAPLAN reading scale from 2014 to 2016; other state-wide initiatives that occurred during the same period). This justifies the use of this model in estimating the effects of the program.

The negative coefficients associated with the Action Plan variable indicate that students in Action Plan schools scored significantly lower in reading and numeracy than students in non-Action Plan schools in 2014. This was as expected since participation in the Action Plan was directed to lower performing schools. The Action Plan can be considered effective if participation was able to reduce this initial gap in performance between Action Plan and non-Action Plan schools. There was a small positive interaction between year and Action Plan for both reading and numeracy, indicating the gaps in NAPLAN achievement between students in Action Plan (2012/2013 group) schools and similar students in non-Action Plan schools were narrower in 2016 as compared to 2014, although the changes were not statistically significant in either model. This means that there is not enough evidence to conclude that the initial performance gaps between Action Plan and non-Action Plan schools have changed from 2014 to 2016.

3.2 Principal and instructional leader perceptions of impact on student outcomes

Principals' and instructional leaders' perceptions about the extent to which the Action Plan implementation had impacted on student learning outcomes in their school were sought through the conduct of an on-line survey and through discussions with principals and instructional leaders

conducted in the 12 schools visited in 2016. As shown in Table 3.33 below, there is a continuing belief by principals of targeted schools across the three sectors that Action Plan implementation had achieved a measured impact on improvements in both literacy and numeracy on students in their schools. The basis for principals' perceptions appears to stem from their observation of increased percentages of students achieving Literacy and Numeracy Continua standards (along with other standardised test data). The use of Continua data are the most frequently cited means by which both principals and instructional leaders measure the success of their involvement in the Action Plan.

Table 3.33 shows that the great majority of principals in all sectors believed they had achieved a measured improvement in Literacy (increasing from 81% of schools in 2013 to 94% in 2016) and similarly a measured increase in Numeracy (from 56% in 2013 to 87% of schools in 2016). Only a small percentage of principals believed there had been no increase or a significant decline in K-2 Literacy and Numeracy outcomes.

Table 3.33: Principals' perceptions of the extent of improvements in the following student outcomes K-2 as a consequence of Action Plan implementation in their school (Great or Moderate extent), 2013-2016

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Measured improvements in Literacy	81	88	89	94
Measured improvements in Numeracy	56	72	83	87
No measured/significant changes in Literacy	11	6	2	2
No measured/ significant changes in Numeracy	19	14	8	5
Measured decline in Literacy	0	0	0	1
Measured decline in Numeracy	0	1	0	1
Other (e.g. outcomes vary between classes/grades)	15	11	9	8
N=	**140**	**130**	**168**	**346**

*Combined responses from principals of schools participating in the Action Plan in each year from across all sectors.

These beliefs are largely based by the continually improving K-2 Continua assessment results described in Section 3.1 of this report, however it is concerning that many principals and instructional leaders in the schools visited also effectively discounted the warning signals given by stagnant or declining NAPLAN results. The majority of principals in the schools visited in which NAPLAN results had not improved were genuinely surprised at this turn of events, and had generally not developed any specific plans for ensuring that the gains made by students in Kindergarten and Year 1 translated into significantly improved outcomes at Year 2 and Year 3 levels (even in schools that had adopted a K-6 focus). While the capacity for principals and teachers to analyse and interpret student outcomes data have increased considerably during the Action Plan implementation, it is possible that further development of the capacity to conduct deep analyses of data and to develop effective whole school strategies to address root causes of students slower than expected growth is necessary.

Table 3.34 below shows principals' perceptions of the extent to which there have been improvements in K-2 students' behaviour in relation to learning K-2 as a consequence of Action Plan implementation. Between 2013 and 2016 there has been a substantial increase in the percentage of principals who believed students' level of engagement, interest in learning, on-task behaviour and capacity to work independently and in groups (all increasing by around 40 percentage points over this period). While the percentage of principals who said that student attendance had increased is also higher in 2016 than in previous years, the Action Plan appears to have had less impact on this aspect of student

behaviour than other areas (increased by 33 percentage points compared to more than 40 percentage points in other areas specified). This may be because K-2 student attendance is already high in the majority of Action Plan schools, or because attendance is influenced more heavily by factors outside the control of the school. During school visits conducted over 2013-2016, school leaders and teachers repeatedly commented on the changes they had observed in student behaviour, and how "classroom management" was no longer an issue, even for beginning teachers.

Discussions with teachers, principals and instructional leaders during school visits indicate that these changes have come about as a direct result of teachers' continuing to examine their pedagogy, resulting changes in ways that classrooms are now organised. The more traditional approaches to classroom organisation are rapidly disappearing and being replaced by provision of opportunities for children to work in small groups with other adults in the classroom, using technology or other resources that have been planned to directly address their learning needs. The increased number of adults in classrooms also contributes to more engaged learning and fewer behaviour issues. In one school visited in 2016, for example, the employment of a large number of Aboriginal assistants with strong ties to the community had resulted in more positive student classroom behaviour through both closer supervision of students and the more frequent interactions with families in relation to classroom learning and behaviour.

Across all sectors, the use of more explicit scaffolds to assist learning have been observed since the commencement of the Action Plan, for example the provision of word lists to assist students to complete Writing tasks. School visits reveal that the negotiation of "learning intentions" or "learning goals" for specific lessons are now routinely clearly identified for students, who in turn are able to articulate these goals during classrooms visited during the evaluation.

Table 3.34: Principals' perceptions of the extent of improvements in the following student behaviours K-2 as a consequence of Action Plan implementation in their school (Great or Moderate extent), 2013-2016

Principals' responses	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Increased engagement in class	61	96	100	98
Increased interest in Literacy out of class	52	79	76	98
Increased interest in Numeracy	46	77	96	97
Increased attendance	28	43	48	61
Increased capacity to work in groups with other students	53	83	86	90
Increased capacity to work Independently	53	80	94	93
N=	**169**	**132**	**166**	**349**

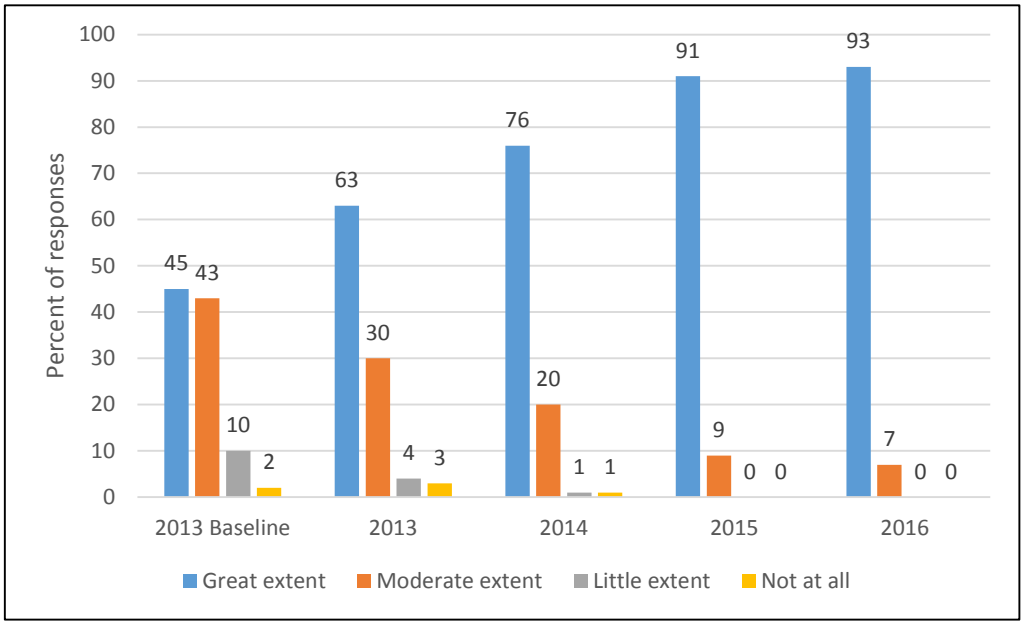
* Combined responses from principals of schools participating in the Action Plan in each year from across all sectors

Importantly, in 2016, almost 92 per cent of principals of Action Plan schools surveyed reported that students were showing increased ownership of their learning and increased student self-responsibility for achievement of their learning goals. In the schools visited in 2016, there was an evident increase in the emphasis within classrooms on increasing students understanding of the criteria for successful completion of learning activities and what the next step in learning will be. In the best examples observed, teachers used flip charts to identify different levels of challenge within successful completion of the activity so that students could work at levels appropriate to their stage of development. At the same time, use of these visual aids helped to identify expectations for students

and aspirational targets. Flip charts were only one such example of how this information has been conveyed.

Principals' overall perceptions of the extent to which the Action Plan had impacted on K-2 teaching and learning is shown in Figure 3.8. The percentage of principals across all sectors who believed the Action Plan had impacted to a great extent has increased steadily over the period of their involvement, increasing from 45 per cent in early 2013 to 99 per cent in 2016 (54 percentage point change). This illustrates the high level of satisfaction that principals now have with the Action Plan and the support they are receiving from their systems and sectors, as illustrated by the open-ended comments made in the surveys below and similar comments made during the school visits.

Figure 3.8: Extent to which principals perceived the Action Plan has made a positive impact on literacy and numeracy teaching and learning, 2013-2016



The ratings shown in Figure 3.8 are reflected in principals' summative comments about the overall impact of the Action Plan. The sample of comments below illustrates the positive views that were expressed. It should be noted that only a small number of comments expressed negative views about the Action Plan, most of which concerned to the relationship with their instructional leader rather than the Action Plan itself.

> *"I am very grateful and pleased that our school is able to participate in the Action Plan. The gains made already are really significant. I believe that it is impacting on teachers across the school not just K-2. I am looking forward to seeing what impact will be made as time goes on."*

> *"I feel this program has been one of the best initiatives I have seen implemented in school in recent times. I hope that funding will continue so that these practices can be fully embedded in school systems and that sustainable change will be a reality in our schools."*

> *"The State Action Plan is one of the best initiatives our school has been involved in over the past 10 years. It has allowed us to give the children quality time and teaching and to implement intervention programs fully where as in the past these programs may have been only been partially implemented because of the lack of people power. The Action Plan has given us more time to complete assessments such as DIBELS and Benchmarking children. It*

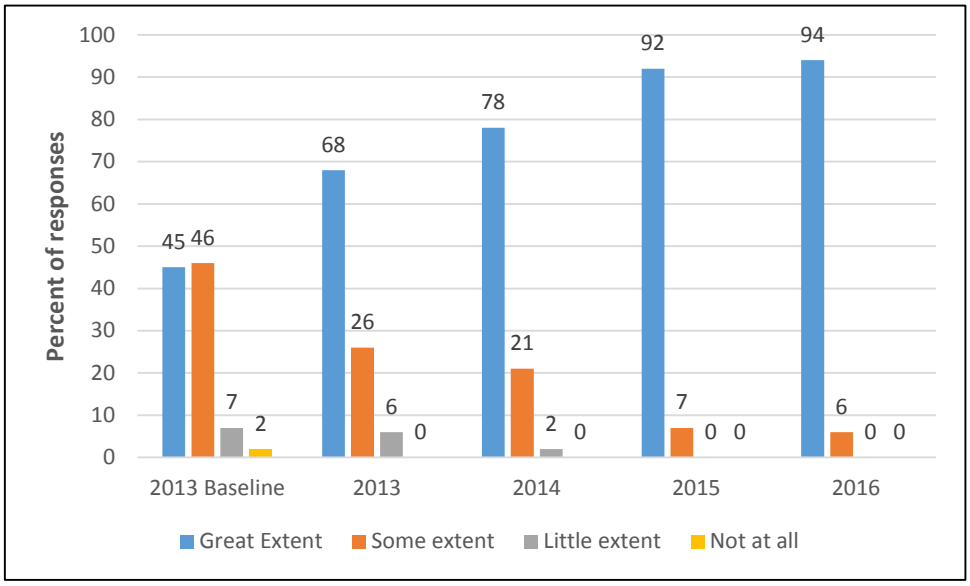
has allowed our support teacher to put processes in place that will allow us to move forward in this school."

"We have been able to support a greater number of students with significant learning needs. Teachers have grown professionally and there has been a shift in our school pedagogy. Parents have been very grateful for the extra support their children have received."

"Without doubt, this has been the best initiative implemented into our school for many years. The improvement in teacher pedagogy, quality of lessons taught, assessments utilised and the plotting of data have all been most significant."

The positive views of principals are echoed in the overall summative ratings of the impact of the Action Plan made by instructional leaders in the government and Catholic sectors in Figure 3.9 below, which shows that 92 per cent instructional leaders are of the view that the Action Plan had impacted on teaching and learning to a great extent. Given that principals' and instructional leaders' views are in such strong alignment, it can be concluded with some confidence that the implementation of the Action Plan has been successful in impacting on teaching and learning in the great majority of targeted schools.

Figure 3.9: Extent to which instructional leaders believe the Action Plan has brought about positive changes in literacy and numeracy teaching and learning K-2 in their school (Catholic and Government schools), 2013-2016



3.3 Year 3 Student Attitude Survey Results 2013-2015

The following section presents an analysis of the results from the online survey of Year 3 student attitudes, distributed to all Action Plan schools across the state from 2013 to 2015. The survey was designed to test both attitudes towards school in general and specific attitudes towards learning in literacy and numeracy. The survey was not conducted in 2016 due to concerns about its lack of discriminant ability.

Table 3.35 shows very little difference in the 2015 results from those in earlier administrations in the percentages of students responding positively to each survey item (per cent of students who agreed with the item "Always" or "Most of the time"). The Table shows that in the targeted LNAP schools, student attitudes towards school in general were largely positive.

Table 3.35 suggests that the majority of Year 3 students surveyed in the targeted schools found school to be engaging experience. More than 85 per cent of students in 2015 considered learning new things to be fun always or most of the time and over 95 per cent of students always wanted to do well in school, and by far the majority of students said they tried their hardest in the classroom always or most of the time.

Tables A79-A81 in Appendix 9 also suggest that student attitudes towards reading, writing and spelling show a high degree of enthusiasm as well as a desire to improve outcomes in literacy. There was very little change in the scores for 2015 from the results recorded in 2014. More than 80 per cent of students found reading to be fun always or most of the time at each survey administration, and a similar per cent reported that borrowing a new book from the library was exciting. Likewise, the data in Appendix 9 suggest that students generally had positive attitudes towards numeracy, with at least 85 per cent of students considering learning Maths to be fun. This high percentage of students expressing enjoyment in learning in numeracy was not matched with a similarly strong sense of confidence that they were performing well. Approximately one quarter of students responding to the survey considered they could only do Maths in their head sometimes or not very often.

Table 3.35: Student attitudes to school and learning, May 2013–December 2015

	Per cent of students			
	2013 May Baseline	December 2013	December 2014	December 2015
	Always/ Most of the time	Always/ Most of the time	Always/ Most of the time	Always/ Most of the time
It's fun to learn new things at school.	85	85	85	87
I like to go to school.	78	78	78	79
I try my hardest in the classroom.	89	89	90	91
When learning is hard, I like extra help from my teacher.	63	59	61	61
When learning is hard, I like working in a group with my friends.	71	66	70	69
I enjoy school even when it is hard.	71	73	71	74
I give up when it is too hard.	20	17	17	17
I want to do well at school.	95	95	96	95
Learning in class is as much fun as playing outside.	67	65	65	67

3.4 Summary of findings in relation to impact on student outcomes from the Action Plan

The data on student outcomes gathered during the course of the evaluation provide a mixed view of the impact of the Action Plan. On the one hand, the K-2 assessment data show incontrovertibly across all three sectors that a substantially greater proportion of students involved in 2016 were reaching the expected end of year standards in targeted schools than at the commencement of the Action Plan. Importantly, the Literacy and Numeracy Continua data show that the vast majority of K-2 students continue to progress each year (see Table 3.36). Likewise, the observations of principals and

instructional leaders reflect their beliefs that the Action Plan has contributed to growth in students' engagement in learning, enjoyment of learning and positive attitudes towards literacy and numeracy. The vast majority of principals and instructional leaders also reported that they have perceived growth in students' literacy and numeracy, basing these observations not only on the K-2 Continua data but also against a range of standardised tests and school based assessments.

Table 3.36: Change in the percentage of students at or above Continua standards in LNAP schools, 2014-2016

	Reading (Texts)			Writing			Numeracy		
	K	Yr 1	Yr2	K	Yr 1	Yr2	K	Yr 1	Yr2
Change between 2014-2016 (percentage point difference)									
Government	+4	+15	+10	+9	+15	+11	+1	+4	+5
Catholic	+13	+13	+7	+5	+7	-1	+4	+5	+10
Independent	+17	+17	+14	-1	+3	+4	0	+7	+9
Per cent of students at or above end of year standard in 2016									
Government	68	71	68	63	46	35	97	90	88
Catholic	76	74	68	64	48	36	98	89	85
Independent	53	53	56	58	37	31	99	97	94

* Writing scores for Catholic and Independent schools calculated from 2015-2016 as data from 2014 was not available in these sectors

On the other hand, the Year 3 NAPLAN results, as a lagging indicator of student outcomes, show no significant change over time for the full cohort of participating schools, and no significant closing of the gap between targeted and non-targeted schools. The data in Appendix 8, Tables A74-A75, suggest that socio-economic status continues to be a strong predictor of students' schooling outcomes. While the Year 3 NAPLAN results are by no means a perfect reflection of the Action Plan's impact, and it must be remembered that more than one-third of schools participating in the Action Plan in 2016 having commenced only in 2015, the apparent disparity between the improving K-2 results and the static NAPLAN results requires further consideration by sectors in the implementation of the *2017-2020 Literacy and Numeracy Strategy* and indeed further attention by individual schools and school systems/sectors in the Phase 2 Action Plan.

Schools visited during the evaluation posited several explanations as to why they believed their NAPLAN results had or had not improved in line with their K-2 results. Some attribute it to a high degree of student anxiety about the NAPLAN tests themselves, unfamiliarity with the test genre, and changes in the school demographic composition. None of these factors would appear to be an adequate explanation at a cohort level.

While it may be true that NAPLAN and the Literacy and Numeracy Continua measure different things in different ways (particularly in relation to Numeracy)[3], the more likely explanation is contained in deeper analyses of the Continua results thus far. Despite the improvements noted, in 2016 there are still more than one third of the student cohort behind the Reading (Aspects of text) Year 2 end of year standard, nearly 40 per cent below the Reading Comprehension standard, and two-thirds of the cohort

[3] It is noted that the Numeracy strand reflecting Place Value is more closely aligned to the demands of the Year 3 NAPLAN test than the Early Arithmetic Strategies – Counting On and Back strand that was used as the measure of Numeracy performance in Action Plan (2012-2016). It is understood that the measurement framework for Phase 2 includes an additional focus on place value.

not achieving the Year 2 Writing standard. This trend was reported also in the 2015 Evaluation Progress Report and recommendations made to increase the priority to these areas.

In all three sectors and in across Reading, Writing, Comprehension and Numeracy, the majority of students are only one cluster behind the expected standard. Examination of what those achieving below expectations cannot do (see the markers in Appendix 10), suggests that it is the more difficult skills, requiring application of contextual knowledge, inference, and critical and analytical skills that they have not yet acquired. This may also help to explain why growth in the higher NAPLAN performance bands has not occurred at the same rate as for students at the lower end of the performance spectrum (this relative underperformance of above average students in Australia has also been reported in relation to 15-year old students in the PISA Reading international assessment programs).

It is also possible that two other factors have impacted on the results. First, while teachers say they are differentiating instruction for all their students (and more than 70% of principals believe this is happening to a great extent – see Table 4.13), in reality they may be focussing more of their attention and resources on students at the lowest performance levels. Second, because there tend to be few students at the higher end of the performance spectrum in targeted schools, teacher expectations of what "strong" performance looks like may in fact be lower than that accepted as "normal" in more advantaged areas. In either case, continuance of the status quo will not be likely to lead to vastly improved student learning outcomes. There will need to be conscious effort and an explicit focus on the development of the types of higher-order skills not currently exhibited by significant numbers of students in the targeted schools.

While these comments were generally made in relation to the schools' improving K-2 results, they also reflect an issue identified by the evaluation in earlier years in relation to teachers' capacity to adequately respond to students who are not progressing in their learning as fast as they should. This issue may still be prevalent in the Government sector due to the entry of a large number of new schools in 2015). It has been noted that after the first year of support from Instructional Leaders developed the skills to make accurate diagnostic assessments of their students learning needs (and to make accurate and consistent judgments about where students are located on the Literacy and Numeracy Continua).

In the 2014 Evaluation Progress Report, it was noted that at the end of the second year of support, the school visit data and survey data suggested that teachers' capacity to understand the causes of student achievement (or lack of it) had greatly improved in the targeted schools. What was slower to develop, and observed only in the best practice schools visited, was a strong understanding of how to respond to those identified needs. Beginning teachers, in particular, have little experience in this area, and, as the school visit interviews have demonstrated, grown considerably in their confidence and capacity to do so, with the support of the instructional leaders in all sectors. The 2016 school visits, as well as the survey responses from principals and instructional leaders suggest that the capacity to analyse data has improved in almost all participating schools, and the confidence and competence of teachers to respond to these analyses with targeted assistance for teachers also greatly improved.

In the face of the deeply entrenched and intractable underachievement in the targeted schools over a considerable number of years, the capacity of instructional leaders to assist teachers to explore innovative approaches and match appropriate interventions and resources to the needs of individual students has been pivotal in enhancing pedagogy in the targeted schools. This in turn, has implications for both the initial recruitment and ongoing professional development of instructional leaders to equip them with the skills to significantly improve on current practice.

4. What specific factors led to the outcomes achieved?

In addressing the second major evaluation objective concerning factors that have led to the outcomes achieved, this Chapter is organised according to the key contributing questions detailed in Chapter 2. In considering the answers to the key contributing questions, it should be noted that over the period of the Action Plan 2012-2016, a number of initiatives designed to enhance literacy and numeracy have been implemented at system/sector and local levels, in non-targeted schools. Some of these initiatives have themselves been inspired by the perceived impact of the Action Plan in targeted schools. This situation further complicates interpretation of improvements in teaching and learning in targeted schools.

4.1 Implementation of the NSW Literacy and Numeracy Action Plan 2012-2016

Implementation of the Action Plan over the period 2012-2016 has continued to be guided by the overall framework agreed at its commencement. As described below, each sector has taken a somewhat different approach to implementation, founded upon the distinctive contexts in which they operate. These various sectoral approaches to supporting schools have been key factors in influencing the changes in teaching and learning that have occurred in targeted schools.

The *Early Action for Success* strategy has been the principal means by which the Action Plan has been implemented in the government school sector. Within this strategy, the appointment of an Instructional Leader to targeted schools (or small cluster of schools) was a key element. The Instructional Leader has been a pivotal resource tasked with enhancing teacher confidence and competence in literacy and numeracy pedagogy. Data from the school surveys and case studies conducted suggest that the work of the instructional leaders has been critical in driving a whole school improvement strategy, leading to demonstrated changes in classroom practice in many government schools.

The non-government sector has approached the challenge of enhancing instructional leadership in different ways. The Catholic Education Commission (CEC) has supported the development of diocesan-level implementation plans for the use of FTE funding, allocated to support employment of in-school facilitators/leaders and teacher educators (these appointments are known by a variety of job titles in the various Dioceses). The AIS initially engaged with principals to deliver the *Principals as Literacy Leaders* (PALL) initiative, as well as provide consultancy support to assist each independent school to incorporate Action Plan priorities into their school plans. In more recent years the AIS focus has shifted towards more targeted and regular consultancy support for schools in both literacy and numeracy.

Action Plan implementation over 2012-2016 focussed on the five key areas identified in the framework:

- diagnostic assessment
- personalised learning (including differentiated teaching)
- tiered interventions
- instructional leadership
- teacher professional learning.

The way in which systems and sectors have addressed these five areas has evolved over the course of the Action Plan in response to their own experience, recommendations from the evaluation and additional priority areas identified by MAGLN.

At the beginning of each year of implementation, each sector developed an Annual Implementation Plan and subsequently reported on outcomes achieved, against the key priorities established for the Action Plan. These Plans and Reports provide highlights of strategies being adopted by sectors (and some snapshots of implementation in a small number of schools), as well as a summary of qualitative and quantitative outcomes achieved. Over the five years of implementation, these documents have provided the major vehicle for accountability by sectors for Action Plan expenditure and a key source of data for this evaluation.

The remainder of section 4.1 of this report will address:

- the ways that the three sectors have provided ongoing support to the implementation of the Action Plan
- key changes that have occurred in the teaching and learning of literacy and numeracy as a result of the process of implementation of the Action Plan
- key changes in principal practices in implementing the Action Plan
- selected organisational arrangements in schools that have successfully impacted on the implementation of the Action Plan in schools, including:
    - the use of paraprofessionals in classrooms
    - target setting in both literacy and numeracy and
    - nurturing a culture of greater teacher collaboration.

How sectors have supported the implementation of the Action Plan

Throughout the period of the implementation of the Action Plan, sectoral support has been a critical ingredient in facilitating the overall success of participating schools. Each sector approached the task in a way that reflected their own contexts, resources and background experiences. Schools have consistently acknowledged through survey comments and school visit discussions the invaluable support offered by sectors in not only providing targeted support for school leaders and teachers but also ensuring agreed accountability measures were being addressed. There has also been a limited amount of cross-sectoral collaboration during the Action Plan, including shared professional development in relation to the Continua. As recommended in previous Evaluation progress reports, there is scope for increasing the scope and frequency of this cross-sectoral collaboration.

Previous evaluation Progress Reports noted that during the early stages of implementation, sectors took considerable time in focusing the nature and breadth of their efforts to ensure that schools were maximising their participation. Evidence from both school visits as well as survey data, clearly point to the importance of the targeted support provided by each of the three sectors. Table 4.1 shows that there has been a steady increase in the value attributed to the sectoral support by principals.

Table 4.1: Extent to which principals believed that sectoral support had assisted them in the implementation process, 2013- 2016 (great and moderate extent combined)

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
State level professional development opportunities (Government only)	54	69	77	87
Regional initiatives (Government only)	60	53	71	85
Professional learning provided by diocesan consultants (Catholic only)	96	92	96	95
Professional learning provided by AIS consultants (Independent only)	79	100	90	96
Cross-sectoral collaboration	26	24	33	29
N=	**47**	**57**	**311**	**372**

The diverse support that each sector has provided to its participating schools has been delivered in a manner appropriate to the financial, policy and priority contexts within each jurisdiction. The following section provides a brief overview of the nature of support provided by each sector throughout the period of implementation of the Action Plan.

The Government Sector

The nature and extent of the support provided by the government sector over the course of the Action Plan 2012-2016 has been shaped by both wider government and departmental reforms including *Local Schools, Local Decisions,* and departmental restructuring.

The Department of Education established a small management team operating from State Office in mid-2013 to provide overall coordination of the Early Action for Success strategy and support for participating schools. A small team of experts was appointed to facilitate and support the changes necessary in government schools to enhance student learning in literacy and numeracy. This team was able to provide contemporary, research-based yet practical advice to staff in participating schools. Professional learning provided by this team, through face to face visits, regional and state workshops, regular webinars, and phone calls and emails to individuals, made a major contribution to building the capacity of instructional leaders and school executives over the course of the Action Plan.

The role of the State Office team in placing strong demands for accountability on schools for students' literacy and numeracy results has been a key ingredient in the success of the government sector model, providing the mixture of pressure and support that Fullan (1982) identifies as critical for achieving lasting school improvement. The use of the Literacy and Numeracy Continua as the vehicles for accountability had an even more beneficial effect on ensuring that schools developed a stronger understanding of the data analysis process and strengthened schools use of evidence based planning and programming. While initially some teachers and executive viewed the accountability process as an imposition and complied with requirements without enthusiasm, by the end of 2016 the vast majority of participants saw the value of the five-weekly reporting exercise and looked forward to the webinars and gained the capacity to see their school's achievements in a state-wide context. The Department's PLAN software greatly facilitated the sector's ability to provide five weekly specific feedback, targeted to address student growth including those students requiring specialist assistance. Such feedback was accompanied by the provision of advice and suggestions for addressing the learning needs of such students, often not just on a five-weekly basis but through one-on-one contact in between each reporting/feedback period.

This feedback was also interspersed with regular face-to-face visits to schools throughout the state. The feedback from instructional leaders and teachers, in particular, demonstrated the value of such visits:

> *"Just two weeks ago, we were visited by (DoE numeracy expert). I had been discussing with my instructional leader issues around practical approaches for teaching place value. After a twenty-minute discussion with (DoE numeracy expert) my problems are solved."*

> *"The networking workshops run by (DoE numeracy expert) and (DoE literacy expert) have been fantastic for the ILs and I have discovered that my teachers have got a great deal out of them as well. Knowing that the data they enter does not just go into the ether that it is actually looked at and discussed has been a great experience but even more than that the discussions in that room are fantastic and motivational for my classroom teachers."*

In addition to the small team of expert personnel in State Office, across the state, thirteen literacy and numeracy trainers, regularly provided Early Action for Success schools with ongoing access to departmental K-2 intervention initiatives. These initiatives included Targeted Early Numeracy (TEN) and Language, Learning and Literacy (L3). These trainers provided valuable and diverse advice and shared experience with classroom teachers in both literacy and numeracy, specifically designed to enhance their pedagogy through targeted capacity building.

The targeted assistance provided by the government sector was also demonstrated through the responsive nature of the development of a "Writing Analysis Tool" for teachers to employ in addressing students' needs as a result of previous poor Writing results in both Continuum and NAPLAN data. *The Early Action for Success K-2 Writing Analysis Tool,* trialled and revised during the 2015 school year included an overview of K-2 writing development across six dimensions that reflected the terminology used in the National Assessment Program Literacy and Numeracy Plan (NAPLAN) writing assessment guide. The tool not only assisted teachers directly to target specific learning needs of students in writing, but also provided a range of practical activities designed to enhance their skills. Such responsiveness has been the hallmark of the way that consultants in the government sector have continued to support participating schools. Instructional leaders' and teachers' appreciation for the practical and immediate assistance has been pervasive across participating government schools.

The Catholic sector

Over the period of implementation of the Action Plan, the nature and intensity of support intensified in all participating Dioceses. Not only has the level of resources committed to supporting the Action Plan increased beyond initial expectations, but also the Action Plan experience itself and success achieved have influenced the nature of school improvement processes and the way professional learning is provided in many Dioceses.

In the first instance the decision was made by several diocesan leaders that all schools within their Diocese, rather than just the Action Plan schools, would begin to follow the key principles underpinning the Action Plan for teaching literacy and numeracy. In 2016 the pervasive impact of this decision has become evident in more extensive use of the Literacy and Numeracy Continua not just by targeted schools but by the majority of schools within particular Dioceses. It has also been reported that in some Dioceses, targeted schools have acted as lighthouses for mentoring and coaching other schools.

While syllabus outcomes continue to provide the overarching framework for teaching and learning in literacy and numeracy, the markers within the Literacy and Numeracy Continua have increasingly become a key reference point for teachers in both planning learning experiences for students in

Catholic schools as well as monitoring their progress. The adoption of the Literacy and Numeracy Continua in such a committed manner is a relatively recent outcome of some schools' participation in the Action Plan in the Catholic sector and has been strongly supported by all diocesan consultants.

The Catholic Education Commission highlighted in its 2016 Annual Action Plan Report that the following factors have facilitated the implementation of the Action Plan, from a sector perspective:

- long-term funding
- instructional leadership
- consistent data collection and analysis processes to inform instructional approaches for literacy and numeracy, including intervention
- uses of Literacy and Numeracy Continua
- strategic support from both CECNSW and diocesan system level including alignment of Action Plan priorities with system priorities.
  (*Catholic Education Commission NSW, NSW Literacy and Numeracy Action Plan 2016 Information for External Evaluators 2016:3*)

Each of the above factors has been instrumental in maximising the nature of sectoral support to Catholic schools especially in more recent years. In fact, the importance of strong alignment between Action Plan priorities and system priorities cannot be stressed too strongly as a factor that contributed to the acceptance of the initiative and the enthusiasm of principals and teachers to embrace the Action Plan priorities. In extending the influence of the Action Plan approach in Catholic schools, it should also be noted that the diocesan consultants have supported schools in a wide range of ways. These include:

- "at the elbow support" of classroom teachers,
- development of case management approaches (and similar high yield strategies) to address student learning needs,
- facilitation of peer observation through instructional rounds and similar methodologies, not just in the K-2 classes but from K-6,
- diocesan developed provision of a wide range of targeted resources and tools (e.g., Writing) designed to assist teachers in their pedagogy in identifying students' needs and providing appropriate ideas to address those needs,
- provision by diocesan staff of targeted professional learning experiences for instructional leaders as well as classroom teachers in areas of identified need,
- facilitation by diocesan staff of the opportunity for collegial group discussions and workshops at both Instructional Leader and classroom teacher levels,
- highly targeted coaching and mentoring of instructional leaders to maximise their impact in classrooms, while ensuring that they are also working in a complementary manner with Teacher Educators, Leaders of Learning and professionals in similar roles within the school.

In addition to the above forms of support, some Dioceses, like the government sector, have also developed software to enable teachers in participating schools to facilitate analysis of Literacy and Numeracy Continua data, to enable schools and diocesan officers to track student progress and assist in developing appropriate interventions for students requiring specific assistance.

Interviews in Catholic schools identified the perceived benefits of this form of support, which has encouraged teachers to accept greater accountability and encouraged them to talk openly about their

ownership of student results not just for the students in their own class but for whole grade or stage level. Discussions about student outcomes data have provided a tangible focus for the professional learning community concept introduced by several Dioceses in recent years. The discussions about data, provide a stepping-stone for deeper investigation of the research about different pedagogical approaches, for example, and provides a vehicle for reflection on their own practices.

The Independent sector

The relatively small number of participating schools in the independent sector and the advisory/mentoring relationship among those schools and the AIS has resulted in a somewhat different approach towards sector support over the period of implementation of the Action Plan. The preliminary approach adopted within the AIS's Implementation Plan had evolved from the initial emphasis on *Principals as Literacy Leaders* (PALL) in 2012 to a broader based support focussed on current Action Plan priorities, including both literacy and numeracy.

Any description of the nature of the support provided to schools by AIS must be made within the context of the distinctive governance and support structures among independent schools, their Boards and the AIS. Schools within the independent sector are directly accountable to their own governing Board or Council. The AIS has no direct jurisdiction or mandate over the operation of those schools. At a practical level, however, when schools accept support from the AIS, whether that be in the form of financial or other resource support, there will always be a level of accountability to AIS for the expenditure of those resources.

In acknowledging these key differences from the other two sectors, a key responsibility during the implementation of the Action Plan has been for AIS to continue to guide leaders in developing their skills to build their capacity. The intention was to develop sustainable practices that focus on improving literacy and numeracy, whilst being responsive to each school's particular context, philosophy and focus.

In 2016, as in previous years, a small team of AIS consultants provided tailored in-classroom advice to teachers requiring specific assistance in relation to both literacy and numeracy. In particular, in 2016, schools received ongoing support from the AIS consultants in providing the opportunity for teachers to interpret data and information from diagnostic school-based assessments designed to track student progress. This was supplemented by a range of activities designed to enhance the reliability of teacher judgments in making use of the Literacy and Numeracy Continua. It should be noted that sectoral support has also been instrumental in suggesting to teachers a wide range of resources and packages in both literacy and numeracy to assist pedagogy in classrooms, including the measurement of student progress.

This form of support has been supplemented by sector-wide courses intended to sharpen accountability skills and enhance strategic planning responsibilities for school executives. Annual planning days have also been employed to assist school executive teams to fulfil reporting requirements for the expenditure of funds.

During late 2016 the AIS hosted a networking opportunity for all participating schools entitled "School Stories", with the intention of providing an opportunity for schools to share good practice on their journeys of school improvement. Each school gave a presentation, using PowerPoint, including challenges and teacher and student achievements. The feedback from the recent showcase workshop, attended by the New South Wales Minister for Education, was extremely positive. Several principals indicated that the experience had not only confirmed some aspects of their current practice in relation to literacy and numeracy but also challenged others, causing them to continue the networking with

the relevant schools in the sharing of ideas and practices to refine their approach to literacy and numeracy teaching. The presentations also highlighted schools' growing ability not only to present quantitative outcomes for students in both literacy and numeracy, but also to talk with increasing confidence about what the results mean in terms of the implications for future planning. (Other sectors have also conducted similar conferences each year and similarly reported as being valuable professional learning and networking experiences).

As with the Catholic sector, there is also growing evidence of the use of the Literacy and Numeracy Continua by some participating schools as part of the dialogue of teachers in collaborating about planning and tracking student progress. AIS has also invested significantly in the development of an online reporting tool for teachers to use in relation to the Continua. However, technical difficulties with the software have limited it usefulness at this stage.

In summary, it is apparent that each sector has adopted a somewhat different approach to supporting their participating schools, and that this support is pivotal to successful implementation of large-scale reform initiatives like the Action Plan. Each sector has developed ways of providing targeted support and facilitating ongoing accountability for results to a greater or lesser extent. A key feature of the Action Plan has been the capacity for sectors to tailor their support structures and implementation processes according to their individual circumstances and context, rather than a single model imposed on all sectors. The fact that schools in each sector have shown improvements in the quality of teaching and learning in their targeted schools suggests that there is no single approach that is appropriate in all circumstances across all three sectors.

On the contrary, the approach adopted by each of the three sectors highlights the need for sectors to have the flexibility to systematically respond to their own existing contexts and distinctive characteristics, to capitalise on strengths and previous positive experiences and to maximise their available resources to ensure they are directly targeted at addressing the needs of key stakeholders in schools to ultimately produce enhanced student learning outcomes. However, while this occurs, the importance of sectors constantly working with schools to address issues of accountability, particularly in terms of growth in student learning outcomes is pivotal to the ongoing success of the Action Plan approach.

Changes in teaching and learning of Literacy and Numeracy resulting from the Action Plan

While the ultimate criterion of the success of the Action Plan concerns the impact on students' improvement in literacy and numeracy, this improvement is predicated on improving the quality of teaching and learning in the targeted schools as the means through which student outcomes can be enhanced in the early years of schooling. The data collected in 2016, as in previous years, clearly demonstrate the many changes in the approach towards teaching and learning of literacy and numeracy that has occurred in targeted schools.

Instructional leaders reported that in 2016, K-2 teachers' participation in the Action Plan has resulted in a very positive change in their approach towards teaching literacy and numeracy (over 95% of instructional leaders and 93% of principals said the Action Plan had influenced teaching and learning to a great extent). This change has focused in particular on teachers' more systematic use of data resulting in greater tailoring of teaching and learning opportunities for students. In the vast majority of schools, teachers' classroom pedagogy has been clearly challenged in a range of ways, from how they use data to their overall organisation of students in the classroom to tailor the teaching and learning process, according to student needs. The following comment from a teacher is illustrative:

"Before the Action Plan, I thought I was doing a great job in teaching literacy and numeracy, but having been involved in this initiative now for almost four years, my whole approach is different. I could never go back to the old ways because I know now what works best for our students. It's all about understanding students' needs, using the evidence and constantly tracking their progress."

As the Action Plan has progressed, an increasing percentage of participating principals has realised that if the impact of the Action Plan is to be sustained, the change in pedagogical practices has to apply across the whole school. Implementation of the Action Plan in the Catholic and Independent school sectors has from the outset had a more whole school focus, but in the government school sector, the initial focus was more specifically and exclusively on K-2. Over time, principals (particularly those in government schools) have broadened the focus to K-6, for example by requiring their teachers to collect and analyse Literacy and Numeracy Continua data and use of data wall discussions on a whole school basis, making resources available for professional learning to support the Action Plan priorities on a whole school basis, introducing literacy and numeracy blocks K-6, scheduling regular joint planning and meeting time for all teachers in the school and strengthening the capacity of their entire executive staff to provide instructional leadership, and broadening the experience of teachers by encouraging transfer of teachers between K-2 to Years 3-6 and vice versa.

Practices encouraged in various Catholic Dioceses, including "learning walks", classroom observations, lesson study have also encouraged a K-6 perspective, and have become more common in schools in other sectors in recent years.

As a consequence of the perceived success of the Action Plan approach, in 2016 it has been increasingly common for principals in larger government schools to use part of their own Resource Allocation Model (RAM) funds to employ an executive, similar to their existing Instructional Leader to ensure continuity of the changes happening in the early years to Years 3-6. These changes are reflected in Table 4.2, which shows that principals perceive changes to have occurred in literacy practices at whole school, stage/grade and individual teacher level. Importantly, only a minority of principals perceive that there have been no changes in literacy practice in their school. The change in focus to a whole-school level is most stark when considering only data from the government sector where 35 per cent of principals reported there had been a change at this level in 2013, compared to 77 per cent in 2016.

Table 4.2: Principals' perceived change in literacy practices since participation in the Action Plan, 2013-2016

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Whole school level	35	62	56	77
Grade/stage level	49	48	44	45
Individual teacher level	30	37	33	38
Not at all	2	4	4	4
N=	**121**	**221**	**254**	**420**

Principals' beliefs that "change" in literacy practices has occurred in their schools is underpinned by their personal observations and reports for the instructional leaders, executive and teachers comparing present circumstances to what they remember from the past. Their views on the extent of change are shaped by a range of factors, including observed increases in student engagement levels,

self-regulation and ability to articulate their learning goals as well as conversations between teachers, teacher mentors and the Instructional Leader that support teachers to deepen their understandings of individual student needs and reflect on evidence.

The depth of change in literacy teaching and classroom organisation achieved has varied from school to school, but in some cases, has been a radical departure from the past. The following response from a principal from the 2016 online survey demonstrates the impact:

> *"The Action Plan has caused attitudinal change across the whole school via instructional leadership. The school has adopted a whole-school pedagogy based around explicit teaching, due to the direct impact of implementing explicit teaching practices for Literacy and Numeracy in K-2. The school has also extended programs, assessments and teaching approaches implemented via the Action Plan in K-2 to Years 3-6 where applicable. The adoption of programs across the whole school are now required to be evidenced based. Our K-6 staff are using a wide range of assessment data extensively to inform decisions regarding the teaching of Literacy at a whole class level and individual student level. "*

The survey data provide further detail on the kinds of changes that have occurred in literacy teaching and learning as an outcome of the Action Plan, including:

- more focussed intervention programs K-6
- better use and tracking of data, including use of student work samples in writing, vocabulary, reading and comprehension to 'unpack' and give us direction on what to teach in order to best support each student
- refined understanding and adjustment of targets for reading levels
- more consistent use of Literacy Continuum to monitor student growth
- using research based teaching practices through K-6 and we have created formalised processes to ensure these practices are maintained,
- established K-2 scope and sequences and programs and units using rich texts,
- strengthening of explicit teaching and identification of learning goals, targets and success criteria,
- increased collaborative planning for implementation of intervention programs for Tier 2 students in the mainstream classroom,
- improved differentiation of the curriculum for individual students.

Changes in Numeracy Practice

Change has also occurred in Numeracy practices in targeted schools over the period of the Action Plan, but not to the same extent as in literacy. Survey data from 2013-2015 show that many schools did not give numeracy the same priority that they gave to literacy. Only after the identification as Numeracy as a required priority area for implementation in 2014 have all sectors, and the majority of schools, focussed on numeracy to the same extent as literacy.

Much of the change that has occurred in numeracy pedagogy has come about as a result of generic changes that have been inspired by the Action Plan, such as the increased tracking of student progress, use of data walls to identify progress, and the emphasis given to increasing explicit teaching, and increased understanding and use of Numeracy blocks.

Specific improvements in numeracy pedagogy have occurred through increased adoption of the *Teaching Early Numeracy* (TEN) program and attendant professional learning in the government sector, and the *Early Mathematics Understanding* (EMU) program in the Catholic sector. Most notable has been the increased use of concrete materials to build students' understanding of the kinds of concepts (e.g. counting on and back) represented in the Early Arithmetic Strategies strand of the Numeracy Continua.

While the increased focus on numeracy that has occurred at a whole school level as a result of the Action Plan is positive, (improving from 38 per cent of government schools in 2013 to 60 per cent in 2016), the poor NAPLAN results achieved by Year 3 students in targeted schools suggest that further focus on numeracy is required in 2017-2020. See Table 4.3 for more detail.

Regardless of the identified grade/stage changes in numeracy practices as a result of the Action Plan (39 per cent in 2013 to 49 per cent in 2016), staff in some schools require continued targeted assistance in relation to the teaching of numeracy, particularly in addressing the needs of students with learning difficulties in this area. The annual response by some instructional leaders to the perceived minimal change in numeracy practices has revolved around the theme of "next year we will be putting more emphasis on numeracy, as our Continuum and NAPLAN results indicate that we should", but the reality appears to be that limited action follows.

Table 4.3: Principals' perceived change in numeracy practices since participation in the Action Plan, 2013-2016

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Whole school level	38	57	50	60
Grade/stage level	39	49	53	49
Individual teacher level	29	36	44	39
Not at all	15	6	11	5
N=	**31**	**221**	**151**	**402**

In addition to its specific impact on literacy and numeracy teaching, the Action Plan has made a significant contribution to improving the quality of educational provision in targeted schools in three key areas. First, it has re-focused attention on the importance of the early years of schooling. While all primary school principals would acknowledge the importance of a sound early educational experience, the reality of schools' practices prior to the Action Plan would suggest that the priority given to the early years was less than it deserved. At the same time, the Action Plan has helped to demystify the early years for many principals, highlighting the fact that good teaching practice is applicable at any age level.

A second key contribution of the Action Plan relates to how teachers, particularly in K-2, now conceive of students' learning. Most important has been reinforcement of the linkage between what teachers do, and what children learn. While this may seem obvious, the reality in the past has been that many teachers have failed to make this connection, instead blaming students' backgrounds or other factors such as a supposed lack of resources, for students' under-performance. The professional learning provided by the Action Plan has helped to turn concepts like "growth mindsets" and "strength-based approach" from abstract slogans to a concrete part of their daily practice.

The third major contribution of the Action Plan has been the way in which it has embedded the process of data collection and analysis into every facet of programming and planning at class, stage and

individual class level in targeted schools. Prior to the Action Plan, K-2 teachers accepted diagnostic assessment of individual students as a necessary part of identifying remediation options, but only infrequently would they have thought whole cohort assessment to have been worthwhile. The change in the culture of teaching that has turned teacher attitudes towards large-scale assessment from something often viewed negatively to something that is now frequent, sought after and desired is quite remarkable in the historical context of education in NSW.

It must also be remembered that before the adoption of the Literacy and Numeracy Continua as a tool for reporting student outcomes in literacy and numeracy learning K-2, there was no cross sectoral measure to report on outcomes achieved. While the Continua have acknowledged shortcomings, the Action Plan experience 2013-2016 has demonstrated that an assessment regime based on teacher judgments against identified criteria is a viable means of gathering system-wide data on a large scale. The experience gained by teachers in using the K-2 Continua has had some additional side benefits. These include internalising the expectations for learning, inherent in the Continua standards, better understanding the linkage between the standards and curriculum and syllabus outcomes, and most importantly, increasing teachers' understanding of the uses of the Continua in raising the quality of teaching and learning in targeted schools.

The vast majority of principals would suggest that their teachers may require targeted and ongoing assistance in understanding and interpreting data appropriately to effectively address students' learning needs, especially in numeracy. While many teachers profess to be using data more frequently, the opportunity to mine the data more deeply may represent a future challenge for many teachers and could be a major focus in Phase 2.

Table 4.4 further highlights the changing focus of schools in terms of the factors that have had the greatest influence on the teaching of literacy and numeracy over the life of the Action Plan. The influence of analysis of both diagnostic and achievement data has continued to increase over time (from 83 per cent in 2013 to 95 per cent in 2016).

Table 4.4: Principals' perceptions of the most important factors influencing their school's current approach to the teaching of literacy and numeracy

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Analysis of student outcomes data	83	85	95	95
Staff/executive decision	72	33	34	34
Already implementing a particular program	41	24	74*	67*
Availability of resources	34	9	41	46
Community Support	3	1	7	7
Departmental/diocesan advice/direction	60	10	-	-
Principal's area of interest	17	10	23	25
Instructional Leader area of interest	18	20	27	29
Instructional Leader expertise	75	41	70	69
N=	**109**	**105**	**224**	**381**

* Question in 2015/16 asked about *outcomes* of a particular program

As teachers' capacity in data analysis and interpretation has increased, participating schools' reliance on executive decision making as a key influence on the school's approach to literacy and numeracy decreased (as reported in survey data, from 72 per cent in 2013 to 33 per cent in 2014 and 34 per cent thereafter). This transition has also coincided with reported changes in the leadership style of

principals towards being more inclusive and collaborative in their decision making. Many principals also attribute this change towards a more democratic leadership style to their participation in the Action Plan.

Availability of resources and the existence of community support have remained a relatively minor consideration over the period of the Action Plan in the majority of schools (bearing in mind that government and independent schools could choose to use part of their Action Plan funding for purchasing resources). In contrast, the expertise of the Instructional Leader continues to be an important influence.

Changes in principal practices in implementing the Action Plan

The findings of the evaluation from 2012 to 2016 reflect an evolution in the way that Principals have adopted a leadership role in relation to the Action Plan. In the early stages of implementation of the Action Plan there was a degree of uncertainty among many principals about the overall purpose of the Action Plan. During that period, principals' leadership was underpinned by emerging advice received from sectors and professional learning opportunities attended. It has become more evident in recent years that as principals' understanding of the purpose of the Action Plan developed, that their leadership has become increasingly underpinned by an emerging set of values, including a commitment to high academic achievement for all students, a commitment to ensuring all students are engaged in productive learning, and a commitment to transparency of the school's academic performance. This shift in understanding is demonstrated in the following illustrative comment from a principal in a school visited:

> *"When I first became involved in the Action Plan I was strongly influenced by what my peers were doing and the advice provided by State office. Now I have a much stronger understanding of what this is really about. I'm proud to say that I am leading with both head and heart."*

This comment is representative of more widespread descriptions by principals during school visits of their leadership style in 2015 and 2016. A sense of "moral imperative" pervades the leadership approach now adopted by principals in many schools across the three sectors. In the last two years of implementation of the Action Plan, many principals have come to the realisation that leadership is not a value neutral activity. A core feature of successful participating principals' practice is that they have a keen sense of service and advocacy for students.

More particularly, this leadership style is characterised by what some principals refer to as "no excuses policy" regarding learning for all students. Such a statement reflects the belief that, irrespective of the students' background and learning challenges, they not only have the *right to learn* but it is also the school's responsibility to ensure that every student has *the opportunity to learn*. Moreover, it stresses another underpinning assumption of the Action Plan that the purpose of schooling is to ensure that all students *are* learning, not simply receiving instruction.

In the examples of best practice schools observed, principals understood that building high expectations for student learning involves more than setting higher targets for achievement or exhorting teachers and students to work harder. It is a matter of changing both mindsets and ways of working. One example of this change in pedagogy relates to teachers' work with students in building resilience and the development of a "growth mindset" among students. Fundamental to this approach is assisting students to enhance their self-belief in confronting new learning situations, including literacy and numeracy (see Dweck, 2006). The growth mindset approach is based on the belief that a person's abilities can be continually developed through conscious effort and application, encouraging

resilience and a love of life-long learning. It has gained popularity in many schools, including LNAP schools in that it locates literacy and numeracy learning in a broader context that emphasises "learning to learn", rather than simply narrow skills development.

The principle that all students can and will learn has led to recognition by many principals of the need for a collective effort by members of the school community to ensure an agreed understanding about the key outcomes for student learning. Across the three sectors there is a growing number of schools where principals have now developed teacher teams that are driven by common goals for student learning and for which all team members hold themselves mutually accountable. Teachers interviewed in Action Plan schools now regularly describe their classrooms, and their teaching practices generally, as more open and transparent. This trend is illustrated in the following sample of comments from the online survey:

> *"The school has developed as a professional learning community. There is much more collaboration between staff members across grades. Even though they work as teams, Infants teachers are increasingly able to share best practice with their primary peers."*

> *"The Action Plan has led to a very teamwork based approach to school planning across K-2. School planning is now linked to support all strategies implemented across the school. Greater ownership has been given to staff to drive the implementation of the Action Plan because there is now a sense of trust within the culture of our school."*

Table 4.5 below highlights the changes in principals' leadership practices since the commencement of the Action Plan. It is apparent from Table 4.5 that throughout the life of the Action Plan, participating principals have delegated responsibility for various aspects of its implementation, but have also increasingly engaged with the Plan's core priorities.

Table 4.5: Principal actions in leading implementation of the Action Plan 2013-2016

	Per cent of Schools				
	2013 Baseline	2013	2014	2015	2016
Led staff meetings about the Action Plan	76	75	66	78	67
Developed and/or amended school policy documents to focus on Literacy and Numeracy	42	47	59	69	65
Delegated responsibilities in relation to the Action Plan	82	83	79	86	88
Established committees to develop school strategy	39	44	37	38	39
Facilitated classroom observations to share effective practices	71	65	69	79	81
Purchased classroom resources	67	89	81	91	81
Supported teacher professional learning	89	98	95	95	94
Facilitated communication across the school	83	91	84	95	94
N=	**83**	**118**	**216**	**226**	**420**

The school visit interviews also suggest that in 2016, the majority of principals, (especially those with the longest experience of the Action Plan), had come to realise the need for them to be more actively involved in shaping what teachers do in their classrooms if they are to effectively contribute to

enhancing student outcomes. This shift in leadership focus is reflected in the following illustrative comment from the principal of a school visited in 2016:

> *"Our school processes have evolved to become much more purposeful and evidence driven. We perform teacher observations and discuss areas that are working well and areas to focus on. This is now a key leadership responsibility for me. We have formalised student assessment to link directly to future planning. Our students are the beneficiaries of these improvements to our processes. However, it is also a much more structured and organised teaching staff as well to facilitate exchanges."*

The findings from both surveys and school visits indicate that a range of benefits of participation in the Action Plan have flowed directly to principals as leaders of their schools. Not only have they had the opportunity to directly impact on the implementation of the Action Plan through their leadership, they have also benefited directly from their participation for the Action Plan.

Table 4.6 highlights the ways in which principal leadership behaviour has been enhanced as a consequence of the Action Plan. More specifically, the Action Plan experience has also demonstrated the ability of principals to change their own practice and indeed, beliefs about leadership, when they perceive it to be of greatest benefit to the school to do so. As noted in the Baseline evaluation report, many principals in the initial cohort of targeted schools did not embrace the Action Plan or the appointment of instructional leaders at first. They were angry about the way they were informed of their selection, angry at their identification as being perceived as a "failing school", and angry at their lack of involvement in the Instructional Leader appointment process. While these start-up issues were subsequently largely resolved in following years, the genuine change in the level of engagement of the vast majority of participating principals is notable.

Table 4.6: Impact on principal leadership as a result of participation in the Action Plan

	2013 Baseline (%)	End 2013 (%)	End 2014 (%)	End 2015 (%)	End 2016 (%)
More collaborative in decision making	51	62	59	65	70
Adopted a whole school approach	60	72	59	81	80
Developed greater understanding of the uses for Literacy and Numeracy data	65	83	81	86	85
Developed more specific targets and goals	69	71	70	75	73
Increased focus on Literacy K-2 only	-	19	12	14	8
Increased focus on Literacy K-6	-	78	77	79	77
Increased focus on Numeracy K-2 only	-	15	11	11	8
Increased focus on Numeracy K-6	-	67	74	76	67
Built a stronger culture of evidence-based decision making	75	83	79	88	87
Increased leadership empowerment	66	79	67	63	66
Taken a more "hands on" instructional leadership role	42	51	51	57	48
None of the above	1	3	3	0	1
N=	**83**	**117**	**212**	**224**	**420**

The findings from the case studies and school visits also highlight the transition for many principals towards a stronger instructional leadership focus. With systemic support and critical reflection on their own actions, many principals across the three sectors have become more acutely aware of the key elements of effective leadership in schools that will ultimately contribute to enhanced learning outcomes for students in both literacy and numeracy. It can be concluded that participation in the Action Plan has been instrumental in enhancing the level of instructional leadership played by principals.

The evidence over the past five years of the Action Plan points to the pivotal influence of the principal as the gatekeeper of the change process in schools. It also highlights the flexibility that is necessary in the leadership role if the potential success of the Action Plan is to be maximised. Participation in the Action Plan has therefore enhanced both the personal capacity of individual principals and strengthened the quality of leadership more broadly in targeted schools, particularly with the increased focus of enhancing the instructional leadership of other school executives that occurred over the past two years.

Changing use of paraprofessionals and support teachers

The way in which principals have attempted to enhance the effectiveness of teacher pedagogy through more strategic use of human resources provides a further example of the particular approaches to implementing the Action Plan.

A key aspect of the reorganisation of the learning context for teachers has been the way that they have made use of additional adults in the classroom, including paraprofessionals, School Learning Support Officers (SLSOs), other specialist support teachers and parents trained for the task. During literacy and numeracy blocks paraprofessionals played a key role in assisting students' learning, in both small group and individual locations within the classroom while the classroom teacher engages in more intensive instruction with those requiring the greatest assistance.

Paraprofessionals are now regularly briefed and assisted by the classroom teacher to ensure they understand the specific goal being achieved by students in their groups, to ensure that student engagement time is maximised during both literacy and numeracy. In this way, the classroom teacher is able to prepare tailored individual learning programs for the majority of students in direct collaboration with the paraprofessional that has the responsibility to assist the teacher with these students. There is increasing evidence both from survey data as well as school observations that in 2016 paraprofessionals were playing an integral role in assisting teachers with student learning.

The impact of their role has also been recognised by principals in many participating government schools, who have made use of both the Innovation Grant and their own RAM to fund the position of additional paraprofessionals in classrooms to assist teachers. Consequently, there are many examples in government schools now where additional SLSOs have been employed through the use of such funds. This does not exclude the use of trained paraprofessionals in some schools who were engaged in speech and language programs working in classrooms with individual and small groups of students to remedy learning deficits.

The following comment from one teacher in a case study school highlights the perceived benefits of more effective use of paraprofessionals:

> *"During my literacy and numeracy blocks students work now in small groups based on their current achievement levels. During those times, I have the opportunity to work intensively with some students with the greatest need while the paraprofessionals*

complete a variety of other activities helping me with my other children. This only occurs because of the preparation I do for them before each block and I always need to give them instructions about what is to be achieved with my students."

The impact of the SLSO has been greatly valued by teachers who now consider this position to be an integral component of delivery of their pedagogy for both literacy and numeracy. While some teachers in the early stages of the Action Plan considered the use of a paraprofessional was an afterthought, in 2016 they are now built in to the overall planning for teachers in using what resources are at their disposal as strategically as possible and therefore become part of the planning process to maximise student learning in classrooms. The following comments by instructional leaders from the online survey are illustrative of these changes:

"Prior to the Action Plan our teachers' aides worked in the staffroom, covering students' books, doing printing and related tasks on the requests of teachers. Teachers' aides never worked directly in classrooms with students."

"When we first began our work in the Action Plan, we were so focused on getting the teachers up to speed, we hadn't even thought about the role the paraprofessional and how that person could be used effectively in classrooms."

These examples serve to highlight the integral role of paraprofessionals now working in classrooms across the three sectors to enhance the process of implementation of the Action Plan for students. Importantly they receive training for the role, generally in-house, and are directly accountable to classroom teachers for undertaking their responsibilities to ensure that quality assistance is provided consistently to teachers in classrooms. The "look" and "feel" of classrooms in Action Plan schools is now typically very different from the past. The physical planning of classrooms and the use of resources is now seen to be more appropriate for addressing individual student learning needs.

The contribution of target setting for literacy and numeracy

As shown in Table 4.7 the frequency with which principals have set specific targets in implementing the Action Plan has increased slightly during the implementation of the Action Plan, from around 67 per cent in 2013 to around 91 per cent in 2016, a 24-percentage point change. Furthermore, the consistently high percentage of schools setting specific targets over the last two years of the Action Plan also reflects their commitment to improving literacy and numeracy and being prepared to have progress in implementing the Action Plan directly measured.

This situation is in direct contrast to prior to the Action Plan. In the Baseline Evaluation report, an analysis of school management plans revealed that no Action Plan school identified specific targets for improvement in K-2 student outcomes in literacy or numeracy. There have been substantial changes in the way government schools are expected to develop annual management plans that have taken place concurrently with the Action Plan implementation, including the use of common planning templates and identified priorities. The enhanced use of specific targets for measured student outcomes in Action Plan schools has been assisted by the stronger planning practices that have been developed in all schools.

Table 4.7: Percentage of schools that have developed specific targets for student performance in K-2 Literacy and Numeracy, 2013-2016, all sectors

Principals' responses	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Yes, for both Literacy and Numeracy	67	85	90	91
Yes, Literacy only	24	8	6	6
Yes, Numeracy only	3	0	2	2
No	7	7	2	1
N=	**123**	**136**	**256**	**374**

In 2016, schools reported that they employed a variety of methodologies for measuring success against set targets. The Literacy and Numeracy Continua were reported to be key measures of student progress in 97 per cent of responding schools. Similarly, 65 per cent of schools also made use of NAPLAN results to measure success. Such frequencies were not dissimilar to the experience of schools using these tools in previous years.

As a result of reflection on their achievement of 2015 target levels, over 67 per cent of schools, reported in the on-line surveys, that they had refined their targets in both literacy and numeracy for 2016. Not only did this demonstrate an increasing culture of measurement in the schools as part of the implementation process, it also underlined the value that schools across the three sectors are placing on the development of targets in both literacy and numeracy and then using those targets as a key source of measuring their own success. A sample of comments from principals' survey responses illustrates these perceptions.

> *"We are keen to measure our progress against literacy and numeracy targets because both areas are also part of our annual strategic priorities within the school, documented in our school plan. I need to report on our progress on an annual basis."*

> *"The literacy target has been changed to improve outcomes in writing. Numeracy outcomes have been changed to increase the use of assessment data to inform decision-making."*

Increased teacher collaborative planning

Since commencing implementation of the Action Plan, many principals and instructional leaders have worked to build and nurture a culture of trust and mutual respect among the teaching staff within the school. The rationale for this focus has been premised upon the importance of these qualities as the foundation for genuine sharing and collaborative planning by staff about student learning. During school visits over the past two years many teachers have commented upon the changing nature of their relationships with colleagues from a "one teacher/one classroom" approach towards grade-based or stage-based sharing of ideas, resources and student results.

The process of building respect and trust among colleagues has also been facilitated by the increasing frequency of classroom observations by peers to assist each other. Whether this takes the form of "instructional walks" or one-off lesson observations with a specific purpose, the consequence of "deprivatising" classrooms has been a significant contributor to the openness and collaboration that is now evident among many teaching groups in participating schools. This process has been pursued by instructional leaders and principals consistently since the commencement of the Action Plan and the fruits of such efforts are now becoming more evident in the genuine collaboration and sharing among teachers.

4.2 Key Elements of the NSW Literacy and Numeracy Action Plan

The Action Plan was underpinned by five key elements, as follows:

- diagnostic assessment
- personalised learning (including differentiated teaching)
- tiered interventions
- instructional leadership and
- teacher professional learning.

4.2.1 Use of diagnostic assessment

It has been widely acknowledged by principals, instructional leaders and classroom teachers in discussions during school visits and reinforced by responses to on-line surveys, that teachers' use of student data represents a significant change in their practice. Table 4.8 highlights the increasing frequency with which principals perceive that teachers are using data for tailoring teaching more directly to student needs.

Table 4.8: Principals' perceptions of how data are used by K-2 teachers (great extent) 2013-2016 all sectors

	2013 Baseline	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Use of data for tailoring teaching and learning for individual students	65	75	78	80	82
Identifying students at risk	70	78	82	80	81
Informing planning and programming	62	64	70	76	83
N=	84	114	208	188	346

An analysis of the transition in the way that teachers have addressed the issue of data over the five years of the Action Plan reflects their engagement broadly in three sequential stages. In the early stages of implementation of the Action Plan (2012–2013), teachers reported that they were more systematically collecting data on students' achievements in literacy and numeracy, using a broader range of assessment tools and standardised tests than previously for purposes of diagnostic analysis. In the government sector, schools had been introduced to the Literacy and Numeracy Continua as a means for collecting and reporting data about student learning outcomes. At this time, schools in the Catholic and independent school sectors used a range of tools including, for example, DIBELS standardised reading test results, PAT tests, Waddington Spelling results and Running records

Increasing teachers' familiarity with the process of moderated judgments about the extent to which student work samples matched the Continua cluster standards has been a continuing focus of the professional learning provided by Instructional leaders in the government and Catholic sectors, and by AIS consultants in the Independent sector. This has substantially enhanced teachers' capacity to more accurately identify students' specific learning needs. The Continua and accompanying data walls provided a vehicle for staff in many schools to contribute collaboratively to conversations, designed specifically to identify student learning needs in literacy and numeracy.

Across all sectors, the use of standardised tests and other classroom based assessments have continued to be used as a means of further informing and moderating teacher judgments and providing diagnostic information. A major focus of the professional learning that took place in 2013 and 2014 concerned achieving greater consistency of teacher judgment, within and across schools. The accuracy of the data reported by sectors would appear to have increased substantially over time

as a result of specific system/sector level professional learning provided throughout 2013-2016. As noted elsewhere in this report, there may be systemic biases in the judgments made by teachers in the different sectors.

By early 2015, teachers in the majority of Action Plan schools across all sectors had developed an understanding of how the Literacy and Numeracy Continua could be used as a tool to analyse the progression of students' learning. The importance of the use of the Continua and associated data walls in supporting the development of a culture of evidence based decision-making in many Action Plan schools should not be underestimated.

Importantly, the culture of gathering, assembling and analysing student data in a systematic and meaningful way was reported by teachers to have become part of their "normal practice" in designing appropriate student learning experiences. This comment is made in light of the fact that there was great variation among teachers' perceptions of the extent to which data were actually used to inform their decision making.

Despite these limitations, in 2016 there was abundant evidence in both the government and Catholic sectors of the use of student data, essentially derived from the Literacy and Numeracy Continua for appropriately planning student learning needs based on what appears to be systematic collection and comprehensive analysis of student data.

As seen in Table 4.9, the use of the Literacy and Numeracy Continua as a means of determining K-2 students' achievement has increased in frequency since the introduction of the Action Plan (increasing from 49% of schools in early 2013 up to 98% in 2016). Over the same time-period, the use of standardised tests (such as PAT, Burt, S.A. Spelling) has declined from 50 per cent of schools using these to a great extent to 33 per cent in 2016.

Table 4.9: Principals' perceptions of the extent to which the following measurement tools are being used to determine K-2 student achievement in Literacy and Numeracy, 2013-2016 (Great extent only), all sectors

	2013 Baseline (%)	2013 (%)	2014 (%)	2015 (%)	2016 (%)
NAPLAN	-	-	-	57	58
Use of Literacy/Numeracy Continua	49	57	77	97	98
Teacher developed in-class assessments	58	63	37	52	49
Standardised tests	50	46	63	42	33
N=	**84**	**121**	**240**	**218**	**257**

* NAPLAN was not provided as a response option in 2013 and 2014

The variations in practice observed in 2016 during school visits demonstrate that not all teachers and schools are as yet capable of the same depth of data analysis. This is both a function of experience and training. Cultural change in the use and analysis of data on such a wide scale must be deliberately planned and supported. Instructional Leaders (and their equivalents) have played a pivotal role over the last five years in building and reinforcing this culture of the use of student data. Indeed almost 94% of Instructional Leaders (and their equivalents) suggested in the on-line survey that the "change in teaching and learning practices K-2" represented the greatest impact they have had in schools (see Table 10 below). This was closely followed by almost 93% of instructional leaders suggesting that "establishing consistent K-2 learning outcome data collection" had also had a significant impact among

teachers in the Action Plan schools, directly attributable to the efficacy of their instructional leadership role.

Instructional leaders have effectively built the capacity of teachers to engage in open and collaborative discussions with peers at this stage/grade levels about student achievement levels, designed to provide individualised programs for students, where appropriate to ensure that literacy and numeracy learning is constantly enhanced. Through the deeper understanding that has now been achieved by many teachers, the regular and shared teacher professional dialogue has resulted in more tailored learning programs for students being targeted.

Accompanying the joint ownership of student learning needs by all staff has been the development by teachers of a growing culture of "evaluative thinking". This may be described as an approach by teachers to address the collection and analysis of data in a more systematic way that identifies trends in relation to student needs and more directly informs decision-making in the classroom, and in which evaluation of evidence of impact features as a regular part of the teaching and learning cycle, not an added-on activity or after-thought. As a result of this evolution, teachers in 2016 were increasingly looking to apply an "evaluative" approach to an increasing range of aspects of their pedagogy.

Table 4.10: Instructional leaders' perceptions of the extent to which aspects of their role contributed to enhanced literacy and numeracy teaching in their school

	2015		2016	
	Great extent (%)	Some extent (%)	Great extent (%)	Some extent (%)
Matching classroom resources to student needs	51	38	60	35
Providing in-class teacher professional learning	61	35	68	29
Establishing consistent K-2 learning outcome data collection	66	27	76	19
Establishing processes for using the Literacy and Numeracy Continua K-2 to identify student learning needs	87	10	92	8
Disseminating research relate to quality teaching and learning practices	85	13	87	12
Establishing high expectations for student achievement	49	41	50	45
Identifying students K-2 at risk of not progressing in literacy	83	16	85	15
Identifying students K-2 at risk of not progressing in numeracy	82	9	84	12
Delivering intervention support to students not progressing in literacy	84	9	80	16
Delivering intervention support to students not progressing in numeracy	72	14	75	17
Working with teachers to tailor small group and on-on-one support for students	67	22	66	25
Working with students to identify students at risk K-2	75	22	77	21
Implementing a student case management approach to improving literacy and numeracy performance	46	37	71	21
Supporting the transition of students into Kindergarten from pre-school and early childhood settings	36	31	48	37
Supporting the transition of students from Year 2 into Year 3	26	42	39	36
N=	**278**		**306**	

Increased evidence based decision making

No discussion of the teacher use of diagnostic data in Action Plan schools is complete without referring to the increased use evidence as a source for informing decision making by both leaders and teachers. One of the most important learnings by school leaders and teachers during the Action Plan has been that the term "evidence-based", when applied to their own practice refers principally to the evidence that *they* collect and use in relation to the impact of their activities. In the past, many principals and teachers believed that particular programs or approaches were "evidence based" because they had been recommended or advocated for by particular "experts" or researchers.

Many of these programs and approaches had achieved considerable popularity and support among educators, but were adopted at school level without critical evaluation of the research that purported to demonstrate their effectiveness. Instructional leaders, particularly in the government and Catholic sectors have continued to articulate the view that it is important that each individual school must evaluate its unique implementation of any program or approach in their own context, regardless of its claimed effectiveness in general application. It was common in schools visited by the evaluators to see posters produced by instructional leaders exhorting teachers to *"Know thy impact*", following Hattie's use of that term in his work on visible learning (2009). At the same time, instructional leaders, guided by system/sector consultants and program managers have continued to build Instructional Leader, executive and teacher understanding of effective practice, as identified in the research literature more generally (such as CESE, (2012; 2015b); *Coe et al.*, (2014).

The steady growth of an evidence-based approach is evident over the past five years from the responses provided by Instructional Leaders (or their equivalents), relating to the extent to which instructional leaders have built a stronger culture of evidence-based decision-making as part of teachers' pedagogy. Table 4.11 highlights the steady growth in this changing culture among the teachers' pedagogy in participating schools.

Table 4.11: Extent to which principals' believed a culture of evidence based decision making has been built into teachers' pedagogy in Action Plan schools, 2013-2016.

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Great extent	47	53	81	86
Some extent	42	40	18	13
Little extent	9	5	0	1
Not at all	2	2	1	0
N=	**51**	**132**	**194**	**316**

The findings from both school visit observations and responses to the online surveys clearly reflect that a growing number of principals have identified that the ultimate success of participation in the Action Plan is not just to improve literacy and numeracy in the school but to use this goal as a vehicle for whole school cultural change. Where this has occurred, there is evidence that the principal and the leadership team are increasingly employing evidence-based strategies in making whole school decisions about school priorities and the most effective strategies for achieving them. This approach not only underpins and reinforces the work being undertaken by teachers in classrooms in the use of evidence. It also more quickly embeds the changing culture of the use of evidence for decision-making because in all aspects of school life, it becomes "the way we do business around here".

4.2.2 Implementation of personalised learning (and differentiated teaching)

Teachers' understanding of the importance of targeted teaching and differentiating lessons to cater for the varied needs of students in their classes has increased considerably during the Action Plan. This has been an outcome of the explicit focus of professional learning provided by instructional leaders. Table 4.12 below highlights the changes that principals across the three sectors believe have taken place in their teachers' classrooms. Providing differentiated teaching and learning was perceived to occur to a great extent in 99 per cent of schools in 2016, compared to only 62 per cent of schools in 2013, a 37-percentage point change.

Table 4.12: Extent to which principals believe K-2 teachers are demonstrating application of the following strategies since commencement of the Action Plan, 2013-2016 (great extent and some extent combined)

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Providing differentiated teaching and learning	62	67	93	99
Hands-on learning activities	59	71	95	95
Encouraging student ownership of their work	43	56	91	95
Teaching explicitly and systematically	70	80	98	99
More appropriate use of other specialist staff and services	50	46	88	91
N=	**114**	**214**	**188**	**346**

Teachers' understanding of the term "differentiation" has changed markedly in some schools during the Action Plan. In 2013 when school visits were undertaken in order to collect baseline data, many teachers considered that streaming literacy and numeracy lessons based on student achievement levels was an effective way of differentiating to meet students' varied learning needs (despite abundant evidence to the contrary over many years from researchers like Darling-Hammond, 2014). At the same time, many others organised and implemented small group rotating activities in the classroom for literacy or numeracy lessons, believing that this represented an effective approach to differentiated teaching. From those initial stages, by 2016, classrooms observed during school visits showed that the majority of teachers were increasingly comfortable with implementing differentiated approaches in their classrooms. This included several small ability-based groups operating simultaneously in the classroom, with one-on-one attention for those students experiencing deeper learning needs. As one principal explained:

> *"Focus areas for teachers are differentiated with the Instructional Leader according to the area that they have identified that they want to strengthen. This is not necessarily linked to their years in teaching. In the classroom teachers are differentiating their teaching according to the fluid and flexible groupings that are identified through the ongoing assessment. The focus on differentiated 'everyday' teaching also builds the teacher's pedagogical framework & practice to encompass all learners."*

These developments in teacher pedagogy have occurred directly as a result of the recognition of the need for teachers to more effectively address diverse student learning needs if results are to improve. The role of the Instructional Leader or equivalent has been pivotal in supporting staff to organise classrooms in a manner that facilitates the differentiation of their teaching to maximise learning opportunities for all students in the classroom.

It should be acknowledged that while many teachers adopted a more systematic approach to data collection and analysis, only some were able to effectively translate their analyses into differentiated learning for students. The following comment from an Instructional Leader illustrates this situation:

> *"The teachers in both my schools have quickly taken a more strategic approach to the collection and analysis of data but the more inexperienced teachers have considerable difficulty in determining the next step for student learning based on the information that had been analysed. The Literacy and Numeracy Continua, particularly in the early years have been extremely beneficial in helping teachers to overcome this obstacle. They now are starting to get it."*

Acknowledging that many teachers are still learning to apply differentiated teaching approaches, the data presented in Table 4.13 highlights teachers' progress in this area, as reported by school principals.

Table 4.13: The extent to which schools' approach to differentiated teaching (K-2) has become more embedded into grade/stage planning since Action Plan funding commenced, (2013-2016)

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Great extent	49	60	68	72
Moderate extent	33	29	30	27
Some extent	13	11	2	1
Not at all	5	0	0	0
N=	**115**	**131**	**223**	**418**

Table 4.14 also highlights the extent to which personalised learning, the corollary of differentiated teaching, has continued to become part of the pedagogy of teachers participating in Action Plan schools. The continual growth over the five years of the Action Plan highlights the extent to which the consideration of individual student learning needs and the development of appropriately tailored learning programs have become integral elements of teachers' pedagogy.

Table 4.14: Extent to which principals' believed personalised learning has become more embedded in schools since participation in the Action Plan, 2013-2016

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Great extent	58	64	68	72
Some extent	28	37	32	26
Little extent	14	5	2	1
Not at all	0	0	1	0
N=	**120**	**164**	**223**	**420**

The link with explicit teaching

The Action Plan has facilitated greater uptake of the concepts of differentiated teaching and personalised learning. The evaluation found that important aspects of a more explicit approach to teaching literacy and numeracy were being adopted in 2016 by an increasing majority of teachers in schools across the three sectors. Explicit teaching requires every lesson to have a clear goal that is understood by both teacher and students. More frequent opportunities were being provided for students to practise key concepts or skills and to receive direct feedback on their results towards the incremental achievement of their goals. Teachers consistently reported that this approach is having

a positive impact on student engagement during learning. In 2015 and 2016, classroom observations provided examples of students using language that demonstrated their experience of personalised learning in a wide range of settings at all grade levels. In relation to literacy and numeracy, it was increasingly common for teachers to specifically articulate the "learning intention" of a particular lesson, or series of lessons, and to ensure that the students also understood the criteria by which they could measure their mastery of the key concepts or skills involved. Learning intentions were most commonly written on the chalkboard or projected onto an electronic whiteboard for each lesson, or displayed as posters showing "*We Are Learning To*…" (WALT) and "*What I Am Looking For*…" (WILF). Increasingly in 2016, technology in the form of iPads provided a useful vehicle for students to capture not only their learning goal but evidence that the goal was progressively being achieved.

4.2.3 Effectiveness of implementation of tiered interventions

A further key priority of the Action Plan concerned the expectation for schools to effectively implement the Response to Intervention model[4] (RTI), which provides a framework for conceptualising and organising school's provision of opportunities for learning in a more systematic way. This framework sees teaching delivered according to three Tiers, in which Tier 1 represents the core program. Tier 2 expands instruction for students who are failing to make adequate progress with Tier 1 classroom lessons and strategies. The additional instruction is personalized to the student's needs and must improve upon, and/or extend the classroom lessons, with targeted additional assistance usually provided to small groups of students 3-4 times per week. Tier 3 the most intensive, including, where feasible, individualised interventions. Throughout the period of the implementation of the Action Plan, the implementation of tiered interventions has grown in momentum as the focus on the importance of differentiated teaching and personalised learning has similarly grown. Indeed, teachers' use of tiered interventions has become integral to the enhanced pedagogy, providing a framework within which differentiated teaching is now organised.

It is informative to trace the development of the application of tiered interventions during the implementation of the Action Plan from 2013 to 2016 to demonstrate the refinement of practice in terms of both classroom organisation for providing interventions, choice of intervention, and the ways in which interventions were delivered that has occurred in Action Plan schools. In addition, teachers' developing use of tiered interventions has been instrumental in more systematically addressing both teachers' own learning needs as well as those of their students. The chronology outlined below, reflects this development.

Implementation in 2013-2014

In the early stages of implementation in 2013, the explicit use of a tiered intervention model in targeted schools was relatively *ad hoc*, in contrast to the more strategic employment of this model in 2016. Schools used a variety of approaches to respond to the needs of students who were not making adequate progress, employing a range of support staff and programs to do so. Decisions about which programs were used were (and remain), a combination of school based decisions and sector-wide initiatives. Many government schools, for example, were already accessing Reading Recovery, funded from a systemic level, as an important tool for addressing student learning needs prior to commencement of the Action Plan. In contrast, some schools had no overall whole school approach

4 See for example, Shapiro, E. (n.d). *Tiered Instruction and Intervention in a Response-to-Intervention Model*. Accessed at http://www.rtinetwork.org/essential/tieredinstruction/tiered-instruction-and-intervention-rti-model

towards addressing identified learning needs in literacy or numeracy and individual teachers more commonly employed strategies that had either worked for them in previous settings or happened to be available, often as a resource package, within the school's collection.

In government schools, in addition to *Reading Recovery*, *Language, learning and Literacy* (L3) was beginning to be used in some schools, depending on the level of training teachers had received. The *Focus on Reading* program was also being implemented in some schools as a legacy of the previous National Partnerships. Most importantly, there was little accountability for the achievement of outcomes from the interventions, and frequently, no formal process for measuring or recording the outcomes from the intervention. Responsibility for students receiving intervention was in many instances passed to specialist teachers, but there was little feedback to the class teacher about what was done or what was achieved.

In a similar way, the approach towards addressing learning needs in numeracy in Action Plan schools in 2013 was founded upon available resources and the existing skill level of teachers in the school. The *Teaching Early Numeracy* (TEN) program was most commonly used in addressing students' learning needs in numeracy in the Government sector. The principles underpinning TEN were understood by experienced teachers who had previously been exposed to the *Count Me In* and *Count Me in Too* programs (along with *Taking Off With Numeracy* or TOWN for Years 3 to 6), upon which TEN was based.

By 2014, awareness was growing among participating schools of the value of adopting the tiered intervention approach for students with learning difficulties. Table 4.15 shows the most frequently used intervention programs in 2014. Across all sectors, it was clear that schools are making individual decisions about which programs they are purchasing or using as a legacy of previous decisions. In addition to the programs listed below, there were a large number of programs named as being used in individual or a small number of schools. These include *Catch up Literacy, Reciprocal Reading, Focus on Reading, Reading Eggs, Getting Reading Right, Reading Doctor, Comprehension Connections, Stars and Cars, Ants in the Apple, Read Live, Jenny Whipp, Jolly Phonics, Reading Rescue, Writing for Success, Spelling Mastery, Reading Mastery, GOTAGS, Elementary Maths Mastery, Learning in Early Number,* and *Stepping Stones*.

In 2014, the role of system/sector support and direction are clearly evident in the frequency with which various programs were being used. This factor accounted for the majority of changes noted in frequency of use since 2013.

Table 4.15: Frequency of intervention programs in either literacy or numeracy implemented by schools across the three sectors, 2014

Intervention program	Government (No. of schools)	Catholic (No. of schools	Independent (No. of schools)
Reading Recovery	38	26	0
MiniLit	14	38	20
TEN	35		0
Language, Learning and Literacy (L3)	84	4	0
QuickSmart	2	2	0
Extended Mathematical Understanding (EMU)	0	14	00
SRA Numberworlds	0		11
No. of schools responding	**108**	**50**	**26**

*NB schools could be using more than one intervention).

Implementation in 2015

As part of the 2015 data gathering, a significant review of the implementation of tiered interventions was undertaken and reported. This review highlighted the increasingly frequent use of tiered interventions by teachers across the three sectors as the predominant tool for ensuring that individual student learning needs were being addressed in a systematic way in both literacy and numeracy. This trend corresponded in 2015 with intensive professional development of staff in relation to personalised learning and the appropriate application of a tiered intervention approach.

In 2015, the classroom teacher had the major responsibility for the delivery of Tier 1 interventions. The teacher's role was supplemented by a range of support staff working with students in the conventional classroom. These members of staff were most consistently referred to as intervention specialists, but also included a range of paraprofessionals. In addition, the Instructional Leader commonly also had a key role to play. In the Catholic and independent sectors, support staff with similar qualifications assisted the classroom teacher, where the budget could enable this situation.

In some classrooms parent volunteers, trained for the purpose, also played a role in assisting students with reading and basic numeracy activities. Irrespective of the sector, the mode of delivery occurred in the classroom, using a wide range of variations around the central classroom concept. A variety of reasons was proposed for this whole classroom approach for Tier 1, however ultimately it was about maximising student engagement time and quality teaching time. The most common responses across the three sectors included:

- strong relationships with staff
- specialist staff trained with the appropriate qualifications
- opportunity for students to access explicit instruction in small groups
- opportunity to build sustainable practices
- all staff are responsible for students' learning

As Table 4.16 highlights, most commonly, these activities occurred in the conventional classroom, in some cases within the whole class but in other cases small groups. Rarely were students withdrawn from the conventional classroom. Team teaching was a very common strategy to maximise teachers' skills and engage students most effectively.

Table 4.16: Frequency of mode of delivery employed for the implementation of Tier 1 interventions across participating schools in the three sectors, 2015

	Number of responses		
Mode of delivery	**Government schools**	**Catholic schools**	**Independent schools**
Whole class	29	17	9
Whole class, team teaching	22	15	4
Whole class, team teaching, small groups	20	11	3
Whole class, small groups	17	14	3
Group rotations	11	3	0
Intervention teacher working across all groups	2	1	0
Withdrawal one on one	1	1	6
Whole class, small groups, withdrawal one on one	0	1	11

In the government sector the approach to Tier 2 was quite similar to Tier 1, where the classroom teacher had major responsibility and was closely assisted by a range of intervention specialists in the conventional classrooms. Commonly referred to as "second chance teaching", strong reliance was made by the classroom teacher on the identification of students requiring Tier 2 intervention, based on five weekly test data. Strong use was made of L3 and TEN as approaches for assisting students in literacy and numeracy and many schools continued to identify Reading Recovery as a Tier 2 intervention strategy.

Most commonly, Tier 2 intervention activities occurred in the main classroom where students worked in small groups. Importantly, the approach to Tier 2 in both government and Catholic schools in 2015 was upon the base of a "school developed response". Table 4.17 summarises the most frequent reported use of a range of Tier 2 interventions across the three sectors in 2015.

Table 4.17: Most frequent reported use of Tier 2 interventions across participating schools in the three sectors, 2015

	Number of responses		
Program/resource	**Government schools**	**Catholic schools**	**Independent schools**
School developed response	64	26	4
L3, L2	39		
TEN (Numeracy)	22		
Reading Recovery	11	7	
Speech Therapy	5		
Number of responding schools	**102**	**38**	**19**

As shown in Table 4.18, the approach towards implementing Tier 3 interventions varied from the ways in which Tier 2 interventions were implemented, as there was a much stronger focus on Reading Recovery. The most common reason for this situation was that there was a resource in the school that had to be used for this purpose. In addition, there is also evidence of some use of personalised learning plans.

Table 4.18: Most common intervention programs/approaches used to implement Tier 3 interventions across participating schools in the three sectors*, 2015

Program/resource	Government schools	Catholic schools	Independent schools
Reading Recovery	50	5	0
School developed response	42	8	0
MultiLit	21	25	29
Speech Therapy	19	4	0
Personalised Learning Plans	9	5	0
L3, L2	18	0	0
MiniLit, PreLit	16	29	29
TEN (Numeracy)	9	0	0

* Schools may be using more than one intervention

Implementation in 2016

In 2016 there continued to be a high expectation on all schools to effectively implement the RTI model, which continued to provide a framework for conceptualising and organising schools' provision of opportunities for learning in a more systematic way.

In 2016 the delivery of Tier 1 lessons most commonly involved whole class, small group or individual activities, depending on the nature of the lesson and the timing of the lesson, but generally occurring simultaneously within a block period of about one and a half hours.

As described in the school visits in 2016, Tier 1 teaching was regarded as having more clearly identified learning intentions, to be appropriately assessed, and more varied in the activities undertaken. This development has continued to occur as teachers' capacity in both literacy and numeracy teaching has increased over the period of their participation in the Action Plan.

In 2016 the findings from school visits and on-line surveys continued to indicate that Tier 2 interventions were most commonly implemented by the class teacher in combination with the Interventionist in government schools (funded by the Action Plan), or a range of other specialist and support teachers, paraprofessionals and parent trained for the purpose. The situation is similar in the Catholic sector.

As in previous years a relatively large number of teachers described L3 and TEN as Tier 2 interventions, while a minority still perceived them as Tier 1. Table 4.19 highlights most common modes of delivery that were being employed for Tier 1 delivery in 2016.

Table 4.19: Frequency of mode of delivery employed for the implementation of Tier 1 interventions across participating schools in the three sectors 2016

	Number of responses		
Mode of delivery	**Government schools**	**Catholic schools**	**Independent schools**
Whole class, team teaching, small groups	35	39	3
Whole class, small groups	29	29	6
Whole class only	26	14	8
Whole class, team teaching	22	31	6
Intervention teacher working across all groups	14	1	0

It is noticeable that the survey responses for 2016 indicated greater emphasis on small group teaching in relation to Tier 1 than in 2015 and earlier, especially in Government and Catholic schools, with less focus on whole class teaching as the only approach used. Team teaching approaches are frequent in all sectors. The relatively frequent use of intervention teachers during Tier 1 teaching is also interesting. It is not clear from the principals' responses whether the intervention teachers are actually providing "intervention" during these lessons, or are simply being used as an additional adult in the classroom supervising a small group of students who are all working on common Tier 1 tasks. Whether this is an efficient use of resources is a moot point, but discussions with teachers in school visits emphasised the point that the closer supervision of students ensured greater student engagement and more appropriate learning behaviour, which in turn led to improved learning outcomes.

The Tier 2 programs and approaches being used in 2016, detailed in Table 4.20 below are similar to those used in 2015. In 2016, Tier 3 intervention support continued in a generally similar manner to 2015 for students experiencing severe learning difficulties and requiring one-on-one assistance. In 2016 the nature of the delivery of this support varied in accordance with expertise and resources available in the school. Most commonly, Tier 3 intervention support occurred outside the conventional classroom and was delivered by a specialist teacher. Specialists included "Intervention teachers" funded by the Action Plan (in the government sector), SLSOs, support teachers, *Reading Recovery* teachers, speech therapists and occupational therapists. The relevant programs for these students were negotiated by the classroom teachers with the direct assistance of the relevant specialist.

Table 4.20: Frequency of reported use of Tier 2 and Tier 3 interventions across participating schools in the three sectors, 2016

	Number of responses	
Program/approach*	**Tier 2***	**Tier 3****
School developed response	246	148
School developed response and Reading Recovery		123
L3 and Reading Recovery		45
Individualised learning programs***		106
TEN (Numeracy)	242	101
L3, L2	202	102
Reading Recovery	146	112
MultiLit	98	
MiniLit, PreLit	67	69
Number of responding schools	**309**	**284**

*Other includes most commonly Write On, Spelling Mastery, Reading Naturally Fluency, Number Worlds, Maths Blast, Reading Tutor program.
** Dandelion readers, Anita Chin approach, Origo Maths, Star Reading, Junior Math Mastery, Number Worlds, Reading our Way.
*** Also referred to as IEP's by some respondents and are often developed in consultation with the school counsellor.

While the Tier 3 programs themselves may not have changed much since the commencement of the Action Plan, there were distinct difference in 2016 in teachers' understanding of why these programs were being used and what needs they were expected to address, how students were identified for participation in Tier 3 intervention, how the Tier 3 interventions were being used, how students' progress was being measured and how the Tier 3 intervention related to the whole-class program. There are still differing views among schools as to whether Reading Recovery is seen as a Tier 2 or Tier 3 response. In contrast to literacy, in many schools the Tier 3 intervention response to numeracy was essentially an extension of the Tier 2 intervention strategy over an extended period.

Despite these variations, the comments from principal survey responses demonstrate the benefits of adopting a tiered intervention approach to enhance to student learning outcomes:

> *"Specific targeted interventions and topping up lessons in individual or small groups have led to quality improvements and student growth."*

> *"Student growth is closely monitored and intervention strategies are continually evaluated to meet the needs of students."*

> *"It has given us the tools to use, the training to implement these programs and the funds to provide the staff to do so."*

Finally, it is noteworthy that the original purpose of the Action Plan was to ensure that all students, irrespective of ability level, had the opportunity to experience high-quality pedagogy in their learning. It is therefore instructive, that at no time over the past five years during data gathering periods has any teacher or principal raised the issue of interventions that are currently being employed for students at the higher end of the ability continuum. While teachers and principals in the targeted schools believed they were differentiating appropriately for students across the full ability range, the extent to which they were actually doing so for higher performing students may require further attention in future.

4.2.4 The role of the Instructional Leader in targeted schools

The role of the Instructional Leader in implementing the Action Plan has been a pivotal factor in influencing teaching and learning processes. Indeed, the influence of the Instructional Leader has been significant in supporting teachers to enhance the efficacy of their pedagogy. Therefore, this section of the report focuses on both the nature and effectiveness of the role of the Instructional Leader as well as the various models of instructional leadership employed to implement the Action Plan. This section finishes with a brief commentary about the effectiveness of the recruitment process for instructional leaders.

It should be noted that a key goal of the Action Plan was to increase the breadth and depth of instructional leadership, with the appointment of instructional leaders being the major vehicle for achieving this in the government school sector. As discussed earlier, instructional leadership can and should be provided by various people in the school setting, especially Principals and other executive, but can also be provided by classroom teachers and other specialist teachers with particular expertise in specific areas. Indeed, instructional leadership can include people outside the school such as the diocesan and AIS consultants.

Throughout the evaluation, the convention has been to refer to government school instructional leaders (capitalised), and positions in Catholic schools as Instructional Leader equivalents. In reality, the data suggest that the Catholic positions, known by a variety of titles, as described in Appendix 3, Table A7, were not really equivalent in terms of either status or role to the government appointments. It is also important to note that in the Catholic sector, both roles and titles of the funded "equivalents" changed substantially in some Dioceses, in some instances supplemented at school level with Leaders of Pedagogy (executive positions) and in other instances by Teacher Educators that were executive positions supporting clusters of schools. In both these instances, the role of these positions was to provide the higher-level expertise intended for the government sector Instructional Leaders.

Role of the Instructional Leader in the implementation of the Action Plan

Continuing evidence from a range of different data sources over the four years of evaluation of the Action Plan implementation consistently highlights the pivotal role of the instructional leader in setting the context for enhancing student learning in classrooms.

In the government sector the appointment was made of an Instructional Leader of relatively senior status in the system, whose major responsibilities were to build confidence and competence of classroom practitioners in teaching literacy and numeracy to ultimately enhance student learning outcomes in these areas. To ensure their relentless focus on this task, they were relieved of other operational responsibilities normally expected of other senior executive in the school.

Within the Catholic sector the initial approach involved appointment of classroom teachers identified as having particular expertise or experience in Literacy or Numeracy to work with teachers in classrooms to model and provide feedback on aspects of teachers' classroom practices that would ultimately improve learning outcomes. These appointments were typically made from within the schools' existing staff. Such teachers were most commonly referred to initially as facilitators or coordinators by their Diocese and in-school colleagues. As the Action Plan progressed in 2015 and 2016, many of the Catholic sector facilitators and coordinators, as their own skill levels increased, accepted greater responsibility for coaching and mentoring of other teachers. While initially, a significant component of the "instructional leader equivalent" positions' role was to provide additional intervention support within their school, over time this tended to change to include a greater level of responsibility for providing professional learning to other teachers.

In some Dioceses, these facilitators were assisted by Teacher Educators, who had a similar role in enhancing teaching and learning and providing professional learning to school staff. Teacher Educators were usually higher level appointments than the literacy/numeracy facilitators but worked in a complementary way with them within the school settings. In most Dioceses, the Teacher Educator positions had been phased out by 2015 (although they continue to provide a significant supporting role for Action Plan implementation in one Diocese). By late 2013, senior positions had been identified within each Diocese with responsibility for Action Plan implementation. A key role for these appointments was provision of consultancy support for schools in relation to the key priority areas of the Action Plan, and facilitating measurement and reporting of student progress. These appointments, (generically referred to by schools as "consultants from the Diocese") made a significant and ongoing difference to the professional growth of teachers and the learning outcomes of students in the Catholic sector.

In the independent sector, the in-school role was initially undertaken through the funded *Principals as Literacy Leaders* (PALL) initiative, supplemented by the targeted support provided by consultants in literacy and numeracy from the AIS. When this initiative concluded, principals, or their delegate (most commonly senior school executive) adopted the in-school role of mentor or coach. The ongoing targeted assistance of consultants from the AIS has continued throughout the implementation of the Action Plan and remains a pillar of support for participating schools.

Irrespective of the organisational structure and appointment arrangements, in many of the schools visited in 2016, it is evident that there were clear goals and agreed expectations for teacher practices in relation to student outcomes in literacy and numeracy. Importantly, the complementary nature of the whole school/strategic leadership role of the principal and the more hands-on/practical role of the Instructional Leader (and increasingly assistant principal) with teachers ensured that the maximum benefit was being derived for students and teachers in their participation in the Action Plan.

Throughout the period of implementation of the Action Plan, strengthening instructional leadership in schools has remained fundamental to successful implementation of the Action Plan. Importantly, the perspective taken by the Instructional Leader in each sector to achieve this goal resulted in somewhat different approaches.

An analysis of the survey data over the period 2013-2016 as shown in Table 4.21 below highlights that the nature of the responsibilities of instructional leaders have not varied dramatically over the past two years, 2015-2016. When a comparison is made between the nature of responsibilities in the first year of implementation, compared to 2016, changes in responsibilities in a number of areas are noteworthy. In the first instance, it is noticeable that there has been a significant increase in the instructional leader responsibilities for the overall Action Plan process (from 66 per cent in 2013 to 79 per cent in 2016). In many schools in 2013 there was only an embryonic understanding of the role of the instructional leader. By 2016 the role had been clarified, confirmed and even refined in many school settings to become more responsive to the individual characteristics of teachers, schools and their communities.

Table 4.21: Major responsibilities of Instructional Leader in Government and Catholic schools, 2013- 2016

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Leading all aspects of Action Plan	66	75	81	79
Provide/facilitate staff professional learning	86	93	83	86
Build an evidence based culture within the school	78	87	82	86
Challenge and refined existing classroom pedagogy	91	89	87	89
Monitor and report on student progress in K-2 Literacy/Numeracy	91	94	87	90
Contribute to the development of plans in both Literacy and Numeracy that focus on student performance	51	62	46	82
Facilitate/share effective practice in Literacy and Numeracy	90	92	84	87
Mentor and coach staff	82	87	93	91
N=	**82**	**202**	**283**	**304**

Findings from the 2016 survey highlight that over 42 per cent of instructional leaders have experienced a change in their role since their first appointment. Appendix 3, Table A6 indicates the familiarity of instructional leaders with the school within which they were working. While some instructional leaders highlighted the provision of a support structure for principals, others described their emerging role as an L3 trainer, while still others suggested that their role has evolved from being an additional intervention teacher to become a mentor and coach of staff.

It is not surprising therefore that a growing responsibility for instructional leaders across both the Catholic and government sectors has been the mentoring and coaching of staff. The opportunity for the instructional leader to build the capacity of teachers, using tailored professional learning opportunities both in classrooms individually, as well as in small stage/grade meetings, has been identified as one of the most positive impacts on staff over the life of the Action Plan. Building the capacity of staff has taken a range of different approaches through mentoring and coaching.

Contribution of different models of Instructional Leadership to implementation of the Action Plan

Over the past two years of the implementation of the Action Plan, data have been specifically sought concerning the model of instructional leadership being employed in schools. In 2016 the choice of model of instructional leadership was also explored during the school visit discussions. In 2016 the situation continued to be similar to 2015, where the choice of the model of instructional leadership being employed in schools was directly influenced by a variety of factors including the following:

- the particular perspective of instructional leadership held by the local school principal
- the identified roles and responsibilities of the instructional leader
- decisions concerning the most efficient way to use the available resources to maximise the impact of the role of Instructional Leader on one school site or several school sites
- the school enrolment
- the geographic location of the school
- skill set of the Instructional Leaders
- the experience of previous instructional leaders in terms of their perceptions of the most successful structure.

Within this range of factors however, as in 2015, the discussion in school visits ultimately revolved around not the existing or even preferred model of instructional leadership in the school, but the interpersonal skills and capacities of the instructional leader and more particularly how they had built trusting relationships with those whom they were mentoring.

The evidence continues to be clear that it is this latter set of factors rather than the actual model of instructional leadership being employed that has the most positive potential impact on teacher capacity building and ultimately student learning outcomes.

It is therefore noteworthy that in 2016 the frequency of formal cluster-based or shared position models of instructional leadership remains a lower priority and the model of an Instructional Leader in a single school seems to be the most common approach.

Table 4.22 confirms that the predominant form of employment of Instructional Leaders in Government schools is now appointment to a single school. While there is still a necessity for some small schools to share an Instructional Leader for pragmatic reasons, some of the options explored in during the early years of the Action Plan, for example using clusters or teams of Instructional Leaders have now been abandoned, and are not preferred by principals. It remains common for Instructional Leaders to self-organise, informal networking to share resources and resolve problems in a collaborative manner.

Table 4.22: Frequency of models of Instructional Leadership in government schools in 2015-2016

Model of Instructional Leadership	Frequency	
	2015 (%)	2016 (%)
Work in a single school	60	73
Work in a single school with a Numeracy focus	9	6
Support a small cluster of schools	11	8
Support a number of small and isolated schools working in a cluster	5	3
Work in a single school with a Literacy focus	1	0
Instructional Leader in a small school with training responsibilities in other local EAfS schools	5	4
Other arrangements	9	6

In 2016, as in previous years, Instructional Leaders identified the benefits they believe are gained through the appointment of a single instructional leader to a single school. Not only does this model enable a deeper engagement over time between instructional leader and teacher, but more importantly, a trusting professional relationship can be established and nurtured, enabling the teacher to have added confidence to adopt the range of different reforms of advice being provided by the Instructional Leader. The consistency of the message across the school over time is reported to be easier to achieve.

At a whole school level, Instructional Leaders continue to describe the benefits of being able to set and maintain the momentum of change in a single school setting over time. While this is the ideal arrangement for instructional leaders, the reality in rural school settings is that the vast majority of instructional leaders share their time with at least one other school. While this arrangement provides particular challenges in terms of both ongoing relationships and maintaining the momentum of change, a variety of internal strategies have been put in place by most Instructional Leaders, e.g., tasks to be completed by the next visit, that enable continuity to be sustained.

On the basis of the information gathered over 2015 to 2016, it can be concluded that there is no single model of instructional leadership that is appropriate for all situations and no single "best" way to provide the pedagogical support for teachers that has been provided by the Action Plan. Indeed, it is evident that schools with similar structural arrangements for the Instructional Leader role have experienced different levels of success. In fact, almost all principals and Instructional Leaders would acknowledge, in accordance with Table 4.22 that a single Instructional Leader in a single school may be the preferred arrangement. Yet Instructional Leaders sharing two or more schools would suggest that their professional growth is enhanced because of the range of exposure they have to different styles of leadership, pedagogy and school organisation. Similarly, their engagement in a broader range of collegial dialogue provides a catalyst for diverse solutions to the same problem.

Despite these differences, principals in participating schools during the recent school visits suggest that three key determinants ultimately influence the success of the Instructional Leader:

- general experience in schools with a particular focus on leadership
- deep understanding of classroom pedagogy and whole school cultural change and
- the ability to build trusting reciprocal relationships with colleagues.

Impact of Instructional Leaders

Irrespective of the model employed, the Instructional Leader in schools has played a direct role in impacting the teaching/learning process during the implementation of the Action Plan 2012-2016. It should also be acknowledged that in many schools across the government and Catholic sectors, the positive working relationship, now established between Instructional Leaders and principals, has been singularly powerful in driving the cultural change process in schools, where leadership roles are most commonly complementary, yet still designed to achieve the common goal of enhanced instructional leadership in the school.

As noted throughout the evaluation, the relationship between principal and Instructional Leader has continued to be pivotal to the impact of the Action Plan in building teacher capacity in schools, irrespective of the sector. There is also growing evidence that Instructional Leaders' impact on teachers' professional practice has continued to evolve since the commencement of the Action Plan. After five years of participation, in the vast majority of schools, both principals and Instructional Leaders believed that the impact has built momentum and culminated not only in changed teacher practice but also impacted on student learning outcomes, especially in K-2. The following comment from the principal of a longitudinal case study school illustrates this observation:

> *"As I've said before, if you have the right IL for your school, that is the most important factor. The other positives have been the IL's inclusion in whole school planning and monitoring of the school plan and milestones. The IL has had an excellent rapport with our school community and is an integral part of our executive team. This year it's been an amazing time for our school as this initiative has now brought together much of the professional learning that we have been conducting over the past five years. It is starting to show results and the greatest change is to teaching practice in classrooms. Now it is starting to show results for students as well."*

Table 4.23 highlights the range of impacts on teachers that have occurred due to the actions of Instructional Leaders since 2013. It is noteworthy that for thirteen key teacher responsibilities listed in Table 4.23, every score has increased from 2013 to 2016.

Table 4.23: Extent to which Instructional Leaders believe they have assisted teachers to undertake the following activities 2013-2016 (Great extent only)

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Use data for tailoring learning experiences for individual students	65	76	78	79
Use data for tailoring learning experiences for whole class programming and planning	62	64	71	75
Match the use of resources to students' needs	50	52	52	63
Establish systems for recording of student progress	60	62	72	69
Provide opportunities for sharing of ideas with other teachers	53	60	66	69
Undertake peer observation and reflection	31	28	32	42
Engage parents in the learning process	5	6	8	14
Personalise learning for individual students	64	64	69	65
Identify interventions for teacher to implement	51	62	95	66
Facilitate the use of a block of time for numeracy teaching and learning	63	61	67	73
Facilitate the use of a block of time for literacy teaching and learning	52	53	72	78
Engage parents and the community to assist with literacy learning K-2	10	7	9	13
Engage parents and the community to assist with numeracy learning K-2	3	3	7	10
N=	**101**	**195**	**274**	**306**

In summary, the approach underpinned by the implementation of the Action Plan clearly places the Instructional Leader at the heart of the teaching/learning process in targeted schools. As a key element of the Action Plan strategy, the appointment of dedicated Instructional Leaders has been pivotal to the overall success of the Action Plan. There has been almost universal agreement about the efficacy of the Instructional Leader in focusing on the building of teacher capacity, challenging existing teachers' pedagogy and facilitating staff to make the transition towards evidence based decision-making in their planning and practice. Each of these achievements has a direct influence on the potential for enhancing student learning outcomes.

While there is a great deal of similarity in the way that Instructional Leaders within each system/sector operate, there is no single prescription by which they can achieve enduring success. Each Instructional Leader has had to adapt their approach to suit the unique and often changing needs of their individual contexts. The overall summations of the Instructional Leaders in their survey responses suggest that the majority of them believe they have been largely successful in achieving this demanding adaptation.

Was the appointment of Instructional Leaders an effective strategy?

The appointment of Instructional Leaders has been perceived by all stakeholder groups in targeted schools since 2013 as an effective strategy for facilitating the implementation of the Action Plan. The fact that in 2016 government schools have continued to use their RAM to appoint internally their own Instructional Leader for years 3 to 6 reinforces the importance and influence of this role in the

early years of schooling and the motivation of many government school principals to extend their positive influence into the primary school years.

Despite the fact that more than 70 per cent of Instructional Leaders are working within a single school setting, most have been very skilful in flexibly shaping their role to ensure that it responds directly to the emerging agenda for school improvement, while building trusting relationships with executive and staff. From this perspective, the higher quality Instructional Leaders have been able to simultaneously manage the daily operational issues required of the role, while never losing sight of the more strategic imperatives of longer term cultural change in the school. This skill requires not only an intimate understanding of and experience in managing and leading schools but also the ability to lead a whole school change process. The implications for recruitment in terms of appointing experienced and skilful school leaders in the future are self-evident.

For further evidence in relation to the overall "value for money" of the initiative, including the contribution of the Instructional Leader, please see section 5.4 of this report.

4.2.5 Building the capacity of teachers and school executives to meet the needs of low performing students

This section focuses on the impact of the Action Plan on the capacity of principals, Instructional Leaders and particularly teachers to more effectively meet the diverse needs of schools with low performing students.

While it should be acknowledged that there can be no guarantees that tailored professional development opportunities for teachers will directly cause enhanced student learning outcomes, teachers in schools visited have consistently reported that the varied capacity building experiences have provided them with the knowledge and skills to more effectively address the literacy and numeracy needs of students in their care (Hattie, 2009).

The Action Plan recognised as one of its key pillars that improving student learning was dependent on the quality of teaching they received, which in turn depends on the teacher's capacity to consistently deliver high quality lessons targeted at students' individual learning needs. Building teachers' capacity was, therefore, a fundamental focus of the Action Plan, giving substance to the rhetoric that "teachers make a difference", inspired by the work of Hattie (2009) and others.

Instructional Leaders were expected to be the primary vehicle for delivery of this increased capacity. The belief that increasing opportunities for teachers to access professional learning as the pathway to improved student learning is not new. In Australia, the Australian Government Quality Teaching Program [AGQTP] (Brooks and Ewing, 2010) and the National Partnership for Literacy and Numeracy [National Partnerships] (Erebus International, 2009) are recent examples of large scale and well-funded programs aimed at building teacher capacity. It should be noted that neither of these two programs achieved the desired lasting increase in student learning outcomes, despite some benefits in terms of improved teaching and school organisational practices.

The professional learning delivered to teachers and school leaders through the Action Plan (2012-2016) differs in several crucial aspects to that provided by programs like the AGQTP and National Partnerships, including in the mode of delivery, focus and intent of the professional learning, and expectations and accountability for change resulting from the professional learning. The professional learning "model" delivered under the Action Plan responds to some of the identified deficiencies of previous approaches. Foremost among these deficiencies was a perceived disconnection between the kinds of professional learning undertaken by teachers to meet their personal development goals and

the immediate learning needs of their students (Timperley, 2011). The incapacity of teachers to translate learning from course work and other external programs into improved classroom practice is also well documented.

According to principals and Instructional Leaders interviewed in schools visited and the longitudinal case studies over 2013-2016, several issues in relation to teacher capacity needed to be urgently addressed. First, they noted that many of their more "experienced" teachers had not undertaken any professional learning for some time, believing that they were already skilled practitioners. Second, they noted that their staffing complement included a high number of beginning or inexperienced teachers who like beginning teachers everywhere, often have strong developmental needs in relation to curriculum knowledge, classroom management and pedagogical practices. (These developmental needs are recognised by NSW education system/sector authorities and further reinforced in the NSW Literacy and Numeracy Strategy 2017-2020, and are now embedded in the Australian Institute of Teaching and Learning Professional Standards).

Within this context, the Action Plan funding and appointment of Instructional Leaders was therefore seen by most school leaders as a valuable means of support for addressing their schools' capacity building needs, and in many instances (particularly in some Catholic Dioceses and the Independent sector – and the government sector prior to introduction of the RAM funding model), provided opportunities for accessing professional learning to an extent that they would not have been able to do from within their own funding. Because the guidelines for how Instructional Leaders were to enhance professional learning were flexible, there were some sector specific differences in how professional learning was delivered, as well as differences at individual school level. The influential role of the diocesan and AIS consultants, for example, has strongly shaped the nature and content of professional learning in those sectors.

What was common across all sectors, was the substantial shift in the locus of delivery of professional learning. As reported in 2014, it was noted that attendance by teachers at one-off professional learning programs away from the school was becoming less frequent. In 2015 and 2016 this has continued to be the case, and in 2016 the vast majority of professional learning undertaken in targeted schools related directly to priorities identified within an overall school plan, with the aim of directly equipping teachers to address the immediate learning needs of students.

These learning needs have been identified through the enhanced use of diagnostic assessment and student evidence samples. It is the process by which these needs are identified and become in turn the focus of teacher professional learning that may be one of the most profound legacies of the Action Plan. Whereas in the past, teachers mostly chose their professional learning from a catalogue, from advertisements or recommendations from peers, in Action Plan schools it is now standard practice that teachers as a stage or grade group meet on a regular basis with their Instructional Leader and executive to consider data about their students' learning on a regular basis (often using the Continua and data walls as a tool to focus discussion), and identify strategies for addressing the students' needs.

These discussions should form the basis of the teachers' differentiation and personalisation of lessons as well as identify which, if any interventions a particular child may need. A further outcome of these meetings is the identification of which teachers need assistance from the Instructional Leader in specific areas of practice. Throughout the life of the Action Plan, Instructional Leaders and system/sector consultants have taken a lead role in providing "point of need" professional learning to improve teachers' classroom practice. This professional learning has taken a variety of forms, including, for example, modelling or demonstrating a particular strategy in a team-teaching situation, providing feedback following a lesson observation, or directing teachers towards a particular resource.

For a teacher to be able to say in front of their peers and supervisors, “I don’t know what to do about…. and I need help with….”, is for many a marked change from the past. It requires both the establishment of trusting personal and professional relationships and a degree of transparency and openness that represent true collegiality. It requires teachers to have a sense of collective responsibility for all students and to contribute to the effectiveness of their peers. While it is now commonplace for teachers and school leaders to describe this scenario as the norm in schools visited for the evaluation, they also say that this was far from the norm before the Action Plan commenced.

The challenge for school leaders has been to find time within the school timetable to schedule these meetings and subsequent professional learning times. Action Plan funding has been reported by teachers and principals during school visits to have been fundamental in providing time during the school day for these meetings to be held. While after-school meetings are sometimes unavoidable, building the meeting times into the teachers’ regular schedule is by far their preferred model, this is only possible if the teachers’ absence from class is “covered” in some way. Not surprisingly, a substantial proportion of Action Plan funds at the school level have been used to purchase release teacher release time.

Scheduling these meetings during school time is important for several reasons. First, it signals that the intense interrogation of student learning data and collaborative planning is a serious and important undertaking that is an integral, not added-on, part of a teachers’ role. It signals that the definition of what a teacher does, and what quality teaching is, involves far more than simply what happens in classrooms. Second, it is important because it signals that quality teaching requires school staff to be part of a genuine learning community, and that this way of working is not something inspired by a special funding program but the normal way that the school conducts its business. Lastly, it signals to staff that their contribution is valued; that seeking help and being provided with support is not a punishment or a sign of weakness, but again, part of the way the school operates.

The preference for this analysis and planning model is not without problems. Because it is a departure from past practice, many teachers, and indeed parents, are uncomfortable with the class teacher being out of the room during the school day. Noting that consistency, regularity and familiarity are important features of learning in disadvantaged communities, they are rightly concerned when school organisational practices appear to mitigate against this. Similarly, they are concerned, from their experience, that many casual teachers do not provide the same level of productive learning as the classroom teacher might have done.

School leaders interviewed did propose several solutions, most commonly by hiring specialist teachers who take responsibility for particular areas of the curriculum such as Science or Music to provide continuity of learning for students. While these specialist teachers may be hired on a temporary basis, they are more frequently seen as part of the schools’ staffing establishment than casual replacements. This area is one that all schools and school sectors will need to explore in future.

The above discussion points to the vital role that the Action Plan, through the emphasis on enhanced instructional leadership, has played in leading cultural change in the targeted schools. Indeed, the extent to which Instructional Leaders in government schools and their equivalent in the Catholic sector had succeeded in building a culture of teaching and learning in their schools was most frequently cited by them as their greatest achievement, as illustrated in the following comments from principal’s survey responses:

> *“There has been consistent, school wide, systematic adoption of an evidence based approach to teaching & learning that holds the focus firmly on the progress of the student's learning,*

underpinned by great teachers becoming increasingly better at their craft. It has needed a collaborative approach to make it work & the benefit of that is that everyone shares in the joy of seeing the improvement in our youngest students & the flow-on effect of improvement in our Years 3-6 students also."

"There is now greater understanding by teachers that their practices directly impact on student learning outcomes and that their practices can and should improve to address student learning needs."

The impact of Instructional Leaders is also shown in Table 4.24, which shows principals' ratings of the effectiveness of various capacity building initiatives from 2014 to 2016. While each of the activities listed has generally been considered to have been beneficial since the outset of the Action Plan, there are some important differences in the degree to which they have been felt to have been helpful, and differences according to when schools commenced participation in the Action Plan. The most important source of capacity building in Government schools identified by principals has been the professional learning provided by the Instructional Leaders. While the support from broader educational network initiatives was seen to be highly influential, it is not rated to the same extent as the support provided by Instructional Leaders.

Table 4.24: Principals' perceptions of the extent to which capacity building initiatives had supported implementation of the Action Plan, 2014-2016

	2014		2015		2016	
	Great extent (%)	Some extent (%)	Great extent (%)	Some extent (%)	Great extent (%)	Some extent (%)
State level professional development	23	47	40	37	52	37
Regional (Network) initiatives (Govt)	10	44	31	40	43	44
Professional learning provided by Instructional Leader	79	13	76	20	85	12
Diocesan consultancy support	58	30	51	41	66	29
AIS consultancy support	86	14	81	10	80	16
Local school collaboration	21	50	31	39	41	37
Cross sectoral collaboration	5	21	7	28	29	4

Survey results and discussions with Catholic principals indicate they also rate the contribution of professional learning provided by diocesan consultants highly (66 per cent to a great extent in 2016) and by AIS consultants in the Independent school sector (80 per cent to a great extent in 2016). The impact of the professional learning provided by Instructional Leaders over the life of the Action Plan can be seen in Table 4.25.

Table 4.25: Extent to which Instructional Leaders believe their appointment has led to the following practices have becoming embedded into teachers' practice, 2013-2016, Government and Catholic schools, (Great extent only)

	2013	2014	2015	2016
A more collaborative approach to decision making	46	38	61	67
Adopting a whole school approach	39	37	54	60
Increasing focus on classroom based instructional techniques	61	60	80	80
Building a stronger culture of evidence based decision making	52	55	81	80
Increasing emphasis on building teacher capacity	63	65	83	81
Greater emphasis on assessment of student learning for quality teaching	60	64	86	82
Greater consistency of teaching within Stage levels	-	-	63	66
N=	**99**	**196**	**277**	**254**

4.2.6 Other factors impacting on the implementation of the Literacy and Numeracy Action Plan

This section addresses two other factors that have impacted on the implementation of the Action Plan. Initially, the influence of parent engagement on implementation was a key outcome of the Action Plan, identified in the program logic (see Appendix 1). The second focus relates to the sustainability of the impact of the implementation of the Action Plan and highlights a range of strategies being employed through the implementation process to maximise the impact of the Action Plan in the future. Both factors have the potential to directly influence the achievement of student outcomes in literacy and numeracy in targeted schools

Impact of the Action Plan on parent and community engagement in participating schools

In 2013, increased engagement of parents and community volunteers was identified as a new priority area for schools participating in the Action Plan. There has been a long history of parents across all three sectors in NSW assisting teachers with classroom instruction, for example, with reading groups, although for a variety of reasons, this form of participation is reported in many of the Action Plan schools visited to have declined in recent years. These schools suggest that they cannot sustain pedagogical approaches that are reliant on parent volunteers.

This does not suggest that parents are disinterested or uncaring about what happens in their children's school, and the findings of research over a long period of time identifies alignment of values between school and home as one of the underpinnings of school effectiveness and a key element in successful school improvement strategies. Masters (2010), for example, includes the development of strong partnerships with parents and community in his School Improvement Framework, which was subsequently adopted by the Australian Government in its National School Improvement Tool (DEEWR, 2012). Similarly, a report commissioned by the Family-School and Community Partnerships (Emerson *et al*., 2012) concludes that positive parental engagement in learning improves student academic achievement, wellbeing and productivity. It further concludes that resourcing and effectively progressing parental engagement initiatives is warranted, if not essential to, education reform and the future of Australia

Throughout the period of the Action Plan evaluation, discussions with school visit participants indicated that the majority understood of the importance of engaging with parents as a means of facilitating students' acquisition of Literacy and Numeracy skills in the early years of schooling. About 40 per cent of principals surveyed each year 2013-2016 say that increased engagement of parents is one of the measures by which they will judge the success of their implementation of the Action Plan.

Each year, more than half of the principals and Instructional Leaders interviewed also indicated that increasing the engagement of parents had been a lower priority for them than building teacher and executive capacity and changing classroom pedagogy (which is also reflected in the survey results showing more than 92% of principals say that increased teacher capacity is a key success measure). The 2016 school visits and survey responses do show a slight trend towards stronger parent and community engagement, (perhaps as a consequence of these schools having largely addressed their teacher development issues), with principals in the majority of schools visited in 2016 now indicating anecdotally that they had observed a greater number of parents attending school assemblies and other events. It was also common to hear in these schools that the changes in school and classroom practices instituted as part of Action Plan implementation and outcomes achieved had enhanced the reputation of the school in the community, which in turn had led to increased enrolments.

While the priority given to substantially altering the way that the school engages with parents and the community may not have been high in Action Plan schools generally, some notable exceptions were observed among the schools visited, particularly in schools that had large Aboriginal student enrolment, including some Connected Communities schools. In these schools, principals (who had often been relatively recently appointed to this school) had initiated some specific activities to involve parents more fully in the life of the school. These ranged from hosting barbeques and picnics as a way of attracting parents to the school, during which some aspects of learning were discussed informally, and strategies for increasing attendance at parent/teacher meetings in which the students give a presentation on their learning rather than traditional teacher-led dialogue, to more widespread employment of Aboriginal people as paraprofessionals (SLSOs in government schools).

A sample of comments from parents collected during school visited in 2016 attests to this perceived change by parents themselves:

> *Since accepting some of the invitations to come up to the school, I now have a much better understanding of what is happening with my children, particularly in relation to literacy and numeracy. We also feel more welcome in the school and probably will get more involved in the future.*
>
> *I have now been to my children's school three times in the last year. I think I know a lot more about what is happening there and the teachers have made me very welcome. I feel more comfortable to go to the school and ask questions about any issues that concern me.*

The elevation of the SLSO role to one which provides strong in-classroom support for learning interventions (from one which provided largely welfare or administrative support) had often increased the status of these people in their communities and subsequently enhanced the reputation of the school as well.

Another strategy adopted by some schools since 2015 has been the appointment of "Parent Ambassadors" who act in the role of a liaison between the school and parents to advise them of what is happening in relation to particular developments with the Action Plan and how they can assist their own children at home. While principals generally considered this strategy to have been

beneficial, it also has some limitations, as highlighted in the comment from a Parent Ambassador below:

> *While I have been able to make contact with lots of parents due to the networks I have within the school community, most are really only interested in knowing what is happening at the school. When it comes to actually trying to get them involved, they are either too busy or too shy. They just don't feel confident enough themselves to help their children.*

Overall though, very few schools in 2013 to 2016 were using volunteers, other than family members related to the students enrolled in the school. In the isolated examples where volunteers were a prominent feature of Action Plan implementation, principals had used personal networks to invite retired teachers and principals to assist in classrooms, and in one case, had invited the local "Men's Shed" members to assist with Tier 2 interventions with small groups of students.

Consistent with these responses, the data in Table 4.26 indicate that across Action Plan schools as a whole, while there has been an increase in the use of new strategies for engaging parents since the introduction of the Action Plan, the rate of increase has plateaued since 2014.

Table 4.26: School involvement in new strategies to strengthen the partnership between home and school, 2013-2016

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Yes, new strategies introduced or continued strategies from 2014 or earlier	59	82	76	79
No new strategies	41	18	24	21
N=	**122**	**137**	**251**	**372**

The kinds of "new" strategies reported each year have tended to be similar over time, with the percentage of schools adopting such strategies also remaining similar. In 2016, the most frequently used strategies included the following:

- introducing strategies to support home literacy and numeracy practices (55 per cent of responding schools)
- providing training workshops in literacy or numeracy for parents and community members (59 per cent)
- conducted information sessions, including guest speakers (48 per cent)
- introduced new communications strategies (50 per cent),
- introduced new opportunities for parents to assist delivery of literacy interventions (36 per cent) and numeracy interventions (20 per cent), and
- increasing opportunities for parents to participate in classroom observations (34 per cent).

In addition, in the schools visited in 2016, a greater tendency for teachers to share the individual learning goals of their students with their parents was noted. This aligns with the trend noted elsewhere for teachers to be making stronger use of the Literacy and Numeracy Continua as the basis for reporting to parents during parent-teacher meetings and as a way of explaining students' achievements and future learning needs and the schools' response to these.

It is apparent from the experience of all schools visited in 2016, and earlier, that schools across all sectors continue to provide information to parents and community about their K-2 literacy and numeracy practices through a variety of platforms, both in-person, written, and online. Many schools, for example, provide information nights at the start of each year, but while attendance of

parents/carers of new Kindergarten students is highest, attendance declines in sessions for parents of students in later years. It is also apparent from the comments made by principals and parents interviewed, that many of the on-site information sessions and workshops do not attract a wide audience of parents or family members. In 2016, the use of Smartphone applications has been adopted by an increasing number of schools as a means for engaging with parents. In the schools visited that were using these applications, parents commented positively on this strategy as a means of communicating with them.

The parents interviewed as part of the evaluation data gathering process cannot be assumed to represent the views of all parents in Action Plan schools. In all schools, those interviewed expressed largely positive views in relation to the efforts of the schools to communicate with them about literacy and numeracy learning. Most could identify ways in which their school had attempted to build parents' skills and confidence in supporting their children's learning (although also noting the caveat about the reach of these activities identified above). As one parent during a 2016 school visit said:

> *"I feel I have the skills and knowledge to complete these activities with my children but understand not all parents feel the same. I think the school could continue to offer support to parents with information sessions and even 1:1 or small group demonstrations with parents about how they can complete tasks at home."*

Likewise, the responses of other parents are typical:

> *"The school has always been open for suggestions on what I use at home that works for my kids and vice versa. I try to use the same at home as school to consolidate the learning happening in both places".*

> *"I feel that I get provided with lots of information on my child's work and progression, at [the school] the teachers send home books of work, twice a term which allows you to see how your child is learning."*

Another avenue by which schools are attempting to engage with parents and the community is through enhanced transition to school programs and outreach to local pre-school programs. The motivation for this enhancement is only partially related to enhancing literacy and numeracy skills of students, and is as often motivated by the schools' need to secure enrolments, but does provide a means by which teachers know the needs of incoming students more fully than in the past. Typically, schools are beginning their preschool transition programs earlier and with more frequent sessions. The majority of Instructional Leaders in the government schools visited had made contact with at least one local preschool, and in some cases, had organised for reciprocal exchange visits between Kindergarten teachers and preschool teachers. It should be noted that not all schools have a readily identifiable preschool from which they draw new Kindergarten enrolments. Further, a substantial number of Kindergarten students attending Action Plan schools have not experienced a preschool program.

A small number of the schools visited had established more structured on-site school familiarisation programs using Action Plan funds in a quasi-pre-school environment in unused classrooms, which were reported to be mutually beneficial for students and teachers. Likewise, a small number of schools had used some Action Plan funds to extend existing community outreach programs. Parents who had accessed these programs spoke positively about them, but the numbers of such parents were small and not necessarily representative of all parents.

From 2014 several government schools have implemented the Parents as Teachers and Classroom Helpers (PaTCH) program which attempts to not only engage parents in classrooms in Literacy and Numeracy but to concurrently provide them with a range of skills that enhance their contribution in classrooms and enable them to develop qualifications through TAFE. PaTCH has been found useful by the small number of schools that have adopted it, and it has helped in those schools to raise awareness of literacy and numeracy strategies in some families. It has also led to a small number of graduates gaining employment in schools as paraprofessional staff. While reported to be useful in the school settings concerned, PaTCH has actively involved only a small number of parents across Action Plan schools as a whole.

Table 4.27 shows that half of responding principals has reported since 2013 that engaging parents in the learning process had become embedded in their teachers' classroom practice to some extent, but substantially fewer said that this had occurred to a great extent, although this had increased in 2016 to the highest level recorded (21 per cent in 2016 compared to 14 per cent in 2013).

Table 4.27: Extent to which engaging parents in the learning program in Action Plan schools is reported as having become embedded in teachers' practice since introduction of the Action Plan, 2013-2016

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Great extent	14	12	13	21
Some extent	51	48	53	50
Little extent	31	37	27	25
Not at all	4	3	7	4
N=	**114**	**209**	**184**	**343**

The overall conclusion to be drawn is that while some progress has been made in enhancing parent engagement in their children's learning, there is scope for further development in this area. It is evident that increasing parent engagement remains an area with which many schools find challenging, and in which traditional approaches may no longer be relevant. Given the inability of many individual schools to achieve greater traction in this area, a stronger level of systemic support may be required. There may be an opportunity in the future for Action Plan schools to explore new strategies, drawing on the examples of success that do exist. There may also be opportunities for sectors to identify examples of good practice in parent engagement and disseminate these more widely. It is noted that the Department of Education's "Class Movies" resource already provides some examples of how this can be achieved.

Sustainability of the impact of the Action Plan post-2016

This section of the report responds to the key research question *"What plans are in place to continue support for the improvement of literacy and numeracy outcomes at a school, sector or system level?"*

As the Action Plan has directed substantial funding towards school improvement, and particularly the employment of Instructional Leaders and intervention specialists (particularly in government schools), a key question for the evaluation concerns the sustainability of impact of the Action Plan 2016. It has never been the intention that the Action Plan provide a de facto additional staffing supplement for disadvantaged schools, and all schools participating in the Action Plan, 2012 to 2016 did so in the knowledge that funding was time limited (although at the time of writing, all government schools participating in Phase 1 have been given continued but reduced funding for the Phase 2 Action Plan being delivered through the Government's *Literacy and Numeracy Strategy, 2017-2020*).

As demonstrated throughout the reporting of the outcomes of the evaluation, the focus upon whole school cultural change has been an important characteristic of Action Plan implementation. In leading this process, the vast majority of principals are aware of the positive impact on cultural change that can be derived from sustaining successful practices into the longer term.

Table 4.28 shows that by 2016, the majority of principals reported that either comprehensive strategies (35 per cent of schools) or some strategies fostering sustainability were in place in their school. The percentage of schools with sustainability strategies in place has increased substantially since 2014, indicating that the need to sustain impact has been an increasingly important aspect of schools' implementation of their Action Plan strategy. Over the period 2014-2016 there has been a corresponding decrease in the percentage of principals reporting they had not yet developed plans for sustainability.

Table 4.28: Principals' views on extent to which sustainability strategies were in place, 2014-2016

	2014 (%)	2015 (%)	2016 (%)
Yes, comprehensive strategies are in place	22	22	35
Yes, some strategies have been developed	51	43	48
No, but plan to do so in future	25	26	15
No plans in place	2	5	2
No. of responses	**202**	**186**	**331**

During the school visits, principals, Instructional Leaders and teachers provided further details of the steps that had been taken to ensure sustainability of impact. These were reported to a greater or lesser extent in all schools visited. The purchase of additional resources and refurbishment of classrooms (such as classroom furniture more appropriate for small group work with the teacher), for example, was seen to be a "one-off" expense that would continue to be used into the future. More importantly, the vast majority of schools identified building teacher and school executive capacity as a key strategy for sustaining impact. They cite, for example, the way that teacher and executive capacity to analyse and interpret data have developed over time, from a situation in 2013 where most schools were dependent on the Instructional Leader to perform this function (or in sector support staff in some non-government schools), to a stage where teachers in grade/stage teams are largely taking responsibility for this task themselves under the leadership of a school executive member.

Case management meetings, lesson study and other classroom observations, once formerly led by the Instructional Leaders are similarly now more frequently led by class teachers or executive. In this context, it should be noted that the Action Plan has led to a re-definition of the role and purpose of middle executive in many schools, to now having a much stronger emphasis on providing leadership for outcomes achieved by their teachers rather than ensuring compliance with requirements.

A further strategy used in an increasing number of schools to sustain (and extend) the Action Plan has been the appointment of additional Instructional Leaders (with a variety of titles) from the school's own funds (and in several Catholic Dioceses, additional pedagogical leadership positions have been funded by the Diocese). Usually these additional Instructional Leaders focus on Years 3-6 or whole school improvement rather than K-2, which remains the particular focus of the Action Plan. It should be noted that since the commencement of the Action Plan, government schools involved in the Action Plan have received additional funding through the RAM, which is calculated on the extent to which the school community experiences socio-economic disadvantage.

In government schools, RAM funds have most frequently been the source from which the school-based Instructional Leaders have been purchased. Further, in schools visited whose RAM funding was of a size that could support independent purchase of an Instructional Leader, the majority of principals indicated that they would seek to continue to employ an Instructional Leader should external funding cease. The following quotes from principals' survey responses illustrate the range of strategies adopted by schools.

> *"Ongoing employment of key staff, Instructional Leader, data analysis, coaching and teacher's aides dedicated to programs such as MiniLit have been factored into 2017 staffing roles. The development of 'The Book of English' which captures the key strategies implemented from all the professional development undertaken throughout the Action Plan, the underlying pedagogy of explicit teaching and links to BOSTES outcomes. It also includes Scope and sequences for teaching and assessment. This ensures when new staff come to teach at Heritage the document describes explicitly how we teach Literacy. A similar document is being developed for Numeracy."*

> *"We plan to roll out a similar program 3-8 next year which will build capacity in our rapidly changing staff to embed the culture developed by EA4S in a way that will ensure a core of skilled and committed staff remain at any time to continue the program. Budget modelling includes provision for support to continue as long as the current school funding model exists."*

The experience of participation in the Action Plan has helped many principals to become more aware of the need to link their expenditure to educational outcomes. The Action Plan has therefore increased principals' capacity for strategic budgeting and evaluative thinking, however, as this style of management is relatively new for many, additional support in this area may continue to be needed for some time.

Table 4.29 below summarises principals' perceptions of the factors that could inhibit sustainability, and how these views have changed since 2014.

Table 4.29: Extent to which principals' believed the following would inhibit sustainability of the Action Plan, 2014-2016 (Great extent only)

	2014 (%)	2015 (%)	2016 (%)
School leadership turnover	23	18	28
Reduced or discontinued funding	76	76	76
Loss of Instructional Leader	-	70	76
Teaching staff turnover	31	36	37
Competing priorities and demands	65	15	18
Student mobility	17	13	19
Changing demographics of the school community	11	9	11
Loss of systemic support	74	56	61
No. of responses	**202**	**188**	**334**

Table 4.29 shows that across all years surveyed, principals considered that reduced or discontinued funding (76 per cent of responses), along with loss of the Instructional Leader (also 76 per cent of responses in 2016) would pose the greatest threat to sustainability. Loss of systemic support was also seen as a threatening sustained impact in a considerable number of schools, although to a lesser extent in 2016 than in 2014, perhaps reflecting the greater level of understanding of pedagogical practices developed over the course of the Action Plan. Over time, the importance of competing

demands and priorities has decreased (from 65 per cent of schools to 18 per cent of schools). This may be due to principals developing a stronger understanding over time of the central importance of the Action Plan priorities as central drivers of teaching and learning in their schools.

Turnover of staff (37 per cent) and executive in the school (28 per cent) were not seen as important as loss of funding as an inhibitor of sustainability, presumably because the culture of evidence-informed practice and collaborative planning in the schools had developed to the point that teacher turnover would have less impact, and as stronger induction and professional learning systems were in place by 2016 to mitigate turnover. This was not the case in all schools that have particularly high rates of teacher mobility, as illustrated by the comment from a principal of a case study school below:

> *"My school has 13 temporary teachers. Staff turnover is an ongoing issue as you continually starting over with a new group of teachers."*

Another theme in the responses concerned ensuring the quality of any replacement of current staff, including the Instructional Leader. As has been noted throughout the reporting of the outcomes of the evaluation the development of a positive working relationship between Instructional Leader and principal is one of the keys to the success of this model of school improvement. It would seem fundamental, therefore, that principals should be directly involved in the appointment and recruitment process, as the following quote from a principal in a school visited illustrates.

> *"All personnel changes, whether in leadership, IL or CRT roles [sustainability] will be quite reliant on the personality of the people who fill those roles. Confronted with the data before and after EAfS I don't see how any principal could turn their back on it and the same goes for teachers. We as a school are very happy with the changes we are seeing since we've become an EAfS school."*

While this last section of the report concerning strategies for sustainability relates in a somewhat indirect way to enhancing student learning outcomes, it is widely acknowledged that the opportunity to participate in Action Plan, implementation can only be maximised through appropriate principal leadership, to ensure that the key outcomes achieved can be sustained in the longer term.

It is also evident that no single factor can be identified to more significantly influence student learning outcomes than any other. Importantly the five years of the Action Plan has highlighted the importance of ensuring a multi-faceted approach to implementation where the combination of factors highlighted above may have the potential to positively impact on student learning in both literacy and numeracy.

While targeted schools have been vigilant in ensuring that the implementation process has responded directly to the distinctive characteristics of their varied learning contexts, the combined impact of effective school leadership, with high quality instructional leadership, targeted teacher capacity building and explicit strategies for addressing individual student learning needs, through evidence based decision making, cannot be underestimated.

5. To what extent were the outcomes achieved cost-effective?

This section of the report addresses the evaluation question "*To what extent was the improvement achieved cost-effective?*

Discussed below is evidence in relation to costs associated with implementation of the Action Plan, how schools used their funding provided through the Action Plan and what was achieved from this expenditure, and an analysis of the cost effectiveness of the Action Plan as a whole. This section concludes with a discussion of participants' perceptions of the value for money provided by the initiative.

5.1. Costs associated with implementation of the Action Plan

In announcing the Action Plan in 2012, the NSW Government indicated that resources would be allocated progressively. Table 1.1 details the number of schools and students supported under the Action Plan in 2012-2016, with data in Table 1.2 provides information on FTE allocations across the life of the Action Plan.

The annual report data provided by sectors indicate that the allocation occurred as intended, with some minor adjustments made to timing of payments to the Catholic and Independent sectors occurring in 2015 and 2016. It should be noted that the Minister agreed that funds provided under the Action Plan should be allocated in terms of dollar value and that sectoral allocations be governed by Funding Agreements which outline targets, associated conditions and reporting requirements. The actual allocation of funds, as reported in the sector Annual Reports in 2016 is shown in Table 5.1. The information in Table 5.1 also includes data on the average per student expenditure.

Table 5.1: Action Plan allocations and expenditure by sector (2012-2016) and Average Annual per Student Cost across three sectors

	Government	Catholic*	Independent	NSW
Total budget allocation***	$204.252m	$38.782m	$15.557m	$258.591m
Total funds allocated to schools	$196.390m	$37.593m	$11.540m	$245.523m
Per cent of funds allocated to schools	96%	97%	74%	95%
No. of schools	310	109	29	448
Average allocation per school (2012-2016)	$633,516	$344,890	$397,931	$548,042
Number of students (2012-2016)	84,719	48,337	8,216	141,272**
Average per student expenditure ****	$2,472	$815	$1,924	$1,830
Average annual per student expenditure across NSW Action Plan schools	**$1,737**			

* Catholic sector estimates a total of $4.7m good will to support the Action Plan, not Included in the above figures.

** Students may receive more than one year of funding.

*** In February 2015, the Minister agreed to allow 2015 resources to be carried over into 2016 to enable full implementation of the Action Plan to the end of 2016. In response, Catholic school authorities have planned for, and are implementing, the initiative as a two-year program (funding at $17.040 million with resources equivalent to 145.6 FTE teacher positions).

**** Average per student expenditure is calculated as the total expenditure 2012-2016 divided by total number of K-2 students for that period advised by sectors.

Part of the explanation of the differences in the per-school and average per-student cost between sectors arises from the ways in which funds were allocated within sectors. In the government sector, the per school grants earmarked separate allocations for professional learning and innovations, as

well as Instructional Leader salaries. Catholic schools were provided funds solely for employment of Instructional Leader equivalent positions. Within the Independent Sector schools had to allocate funding across the four priorities to be eligible to receive the funds. Funds not allocated to schools were spent on instructional leadership in the form of AISNSW consultants. Across all sectors, the per student costs, based on K-2 student enrolments, is an over-estimation of the true per student cost, as the Action Plan impacted on students in Years 3-6 as well as K-2.

5.2 How schools have used funding from the Action Plan

Table 5.2 shows the ways that schools across all sectors have employed their funding provided by the Action Plan in 2013-2016. The most frequent uses of Action Plan funds across the three sectors have been hiring of additional staff (including Instructional Leaders), purchase of resources, and implementing specific programs. While expenditure on staffing and release days has remained relatively constant across 2013-2016, other areas of expenditure show no clear trends. Purchase of classroom resources was less frequent in 2016 than in previous years, reflecting perhaps the relatively higher frequency of such purchases in earlier years. Relatively fewer schools have used Action Plan funds for community engagement activities or purchasing services from non-government agencies.

The data in Table 5.2 reflect in large part the changing needs of participating schools as the cohorts have expanded over time. The large influx of government schools in 2015, for example, may explain why fewer schools reported using Action Plan funds in 2015 and 2016 to provide teacher release days than in 2014. This may be a consequence of greater use of in-class professional learning provided by Instructional Leaders than in the past, and a stronger in-school role being played by diocesan consultants. While there has been a decrease in the percentage of schools purchasing professional learning for teachers, the delivery of this professional learning would appear to be occurring in ways that do not require teacher release.

Table 5.2: How schools have used funding from the Action Plan, 2013-2016, all sectors

Principals' responses	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Hiring additional staff	91	93	86	86
Providing teacher release days	74	88	69	70
Purchasing classroom resources	76	83	81	52
Purchasing professional learning for teachers	53	79	75	52
Purchasing or implementing specific programs	67	75	83	49
Community engagement activities	21	44	25	32
Purchasing services from non-gov't agencies	14	25	10	7
Purchasing specific interventions	-	-	-	29
Purchasing additional consultancy support				15
N=	**123**	**226**	**223**	**370**

There were some specific differences in how principals in the various sectors reported they were using Action Plan funds. The number of schools in the Government sector reporting use of Action Plan funds to hire additional staff (usually for intervention support and teacher release time) has increased. This was over and above the appointment of Instructional Leaders. In the same period, the percentage of Catholic principals reporting that they had purchased additional staff declined from 96 per cent in 2013 to 66 per cent in 2016. The explanation for this decline is not obvious, as instructional leader equivalent positions continued to be funded by the Action Plan. In the Independent sector, there continued to be a relatively strong reliance on the purchase of specific programs and expertise as the

key methodology for addressing quality teaching and learning issues (96% of Independent schools compared to 39% of Government schools).

How did Government schools use their Innovation Grants?

Table 5.3 shows how government school principals reported using their innovations funds in 2016. The most frequent areas of expenditure were in relation to purchase of classroom resources, employment of additional staff (especially intervention support staff and specialty services, e.g., speech therapy) and professional learning for teachers. There has been a notable increase in the number of schools using their innovations grant for engagement of parents and community and pre-school settings in 2016.

Whilst these purchases might have been new in the context of individual schools, in terms of overall educational practice, they cannot be described as truly innovative. In the main, it would appear that the majority of principals treat the totality of funds received as one "bucket" which they use selectively to support their school change strategy. This may explain why a significant number of schools reported purchase of professional learning from their innovations grant when they also received a separate grant for that purpose. This is not to say that the expenditure of the Innovations grant money was not beneficial, or did not produce worthwhile outcomes, as indicated by the testimony of participating principals. Both the Innovations grant and the Professional Learning grants have demonstrably expedited the change process in participating schools by providing time and resources to support the targeted pedagogical practices.

It should be noted that Catholic and Independent schools had also achieved similar changes in teaching and learning practices at a sector-wide level by 2016, without the same level of financial support from Action Plan funds. In these sectors, schools have used a combination of external funding (e.g. diocesan funds) or internal school budgets to support Action Plan implementation. With most participating Government schools now receiving significant additional funding from the RAM to reflect the challenges of the low socio-economic communities they serve, it might be expected that in future the changed practices initiated by EAfS grants might be sustained by greater use of these school funds.

Table 5.3: How Government school principals used their Innovations Grant, 2016

Area of expenditure of Innovations Grant	Per cent of responses
Purchase of technology to support teaching and learning	5
Preschool transition and outreach programs	5
Employment of Speech Pathologist/Speech Therapist/Occupational Therapists	10
Purchase of classroom resources (incl. L3 and TEN resources, PM readers, "rich texts", quality literature)	27
Employment of additional/enhanced classroom intervention support staff (incl. SLSOs, LaST teachers, additional instructional leader time)	19
Creation of enhanced learning environments/purchase of new furniture	7
Parent/community engagement, incl. parent workshops, take-home resources	5
Teacher professional learning (incl. teacher release/casual teachers' salaries	21
Number of responses	**296**

*Government schools only. Principals could nominate more than one area of expenditure in their response

What was achieved from the Innovations Grants?

Table 5.4 shows Government school principals' perceptions about what was achieved from their expenditure of Innovation grant funds in 2016 (this question was not asked in earlier surveys). The most frequent response noted improvements in student learning outcomes, specifically in relation to

progress against the Literacy and Numeracy Continua targets and NAPLAN results (32% of responses). A further 7 per cent of principals noted improvements to student engagement in class. Reflecting the investment in teacher professional learning and hiring of additional staff, enhanced teacher capacity and better targeted and more appropriate intervention for students at risk were also frequent outcomes noted by principals. Similarly, better equipped and more appropriate learning environments were also frequently rated as the outcome of Innovations grant expenditure.

Table 5.4: Government school principals' perceptions of what was achieved from their use of Innovation Grant funds, 2016

Area of expenditure of Innovations Grant	Per cent of responses
Increased staff capacity	15
Greater access to appropriate and engaging classroom resources	11
Improved student learning outcomes (including speech)	32
Improved student engagement	7
Enhanced classroom learning environments	5
More positive parent/community engagement	5
Improved program delivery (including L3 and TEN)	5
Better targeting/provision of intervention support for students	15
Greater engagement with preschool settings/enhanced transition to school	4
Number of responses	**296**

How did Government schools use their professional learning grants?

Government schools participating in the Action Plan 2012-2016 were provided with a separate grant for professional learning. How these funds were used has varied depending on school needs and stage of development, as well as staffing context. The types of professional learning accessed included specific training in relation to L3 and TEN (often off-site), but equally, structured time for meetings between individual classroom teachers or whole grade/stage groups for "point of need" professional development, for example in how to structure a literacy block. These meetings were also used to help teachers reach consistent judgments about students' achievement of Continua criteria. Less frequently, these funds were used to facilitate teacher release to participate in some form of peer observation, Instructional Rounds or Learning Walks. The grant funds were typically used to hire casual teachers to replace the class teachers on a rotating basis to attend these meetings. Other forms of professional learning noted by principals that were funded by the EAfS grants included participation in network meetings.

It is important to reiterate here that Catholic and Independent schools generally did not receive additional funds specifically earmarked for professional development. In these sectors, professional learning also played a significant role in the implementation of the Action Plan, but it has been funded from different sources and has greater reliance on external expertise for delivery (including by diocesan and AIS consultants).

The overwhelming majority of principals said that they would not, in retrospect, change the way in which they had used their Professional Learning Grant. Regardless of how they used the grant, they believed that it had been a productive use of funds and contributed to increased teacher confidence and competence.

This view is reflected in the illustrative comments from principals' survey responses below:

"Even in retrospect we wouldn't spend the money any differently as much of the PL was delivered through Stage meetings whereas, this really provided the opportunity to differentiate teacher's PL based on their individual needs. It also provided the opportunity to direct the meeting towards improvements for their specific class needs."

"No - this has been a crucial aspect of ensuring our teachers are equipped with the required knowledge to plan and teach appropriately for their students."

What aspect of Action Plan funding has produced the greatest benefit for staff?

Table 5.5 shows what aspect of Action Plan funding government school principals believed had achieved the greatest benefit for staff in 2016 (this question was not asked in earlier surveys). As might be expected, teacher professional learning was rated most frequently as contributing most benefit to staff (39% of responses), as was provision of release time and employment of instructional leaders. All of these areas interact to a large extent (i.e. release time makes professional learning during school time, particularly "at the elbow" support from the instructional leader possible), as described in the following illustrative comment from a principal's survey response:

"Professional development has empowered teachers with knowledge and skills to deliver well organised and sequenced learning activities in numeracy and literacy. They have additional skills to differentiate and cater for all students in the classroom and support students learning. Benchmark assessments in numeracy and literacy have support student growth and informed teachers of specific areas of focus for each child."

Table 5.5: Area of Action Plan expenditure that had the greatest benefit for staff, 2016

Area of resource expenditure	Per cent of responses
Professional learning/capacity building for staff	39
Purchase of classroom resources and programs	7
Additional staff to support enhanced intervention in literacy/numeracy learning	11
Additional release time	21
Employing an instructional leader	20
Purchase of technology to support pedagogies	
Increased access to external consultants	2
No. of comments	518*

*Principals could comment in more than one area

What area of expenditure has had the greatest impact on students?

Table 5.6 shows the areas of expenditure Government school principals believed had provided the greatest benefit for students. Enhanced staffing, including the employment of specialist intervention support staff, and more appropriate deployment of staffing resources to better address students identified learning needs were the most frequent response given by principals (33% of responses). Also important was the greater capacity of staff to deliver quality pedagogy, reflecting the considerable expenditure in this area over the life of Phase 1 of Action Plan implementation.

In reality, it has been the combination of all of the strategies employed by principals that have achieved the results observed. Simply providing more old-style teacher professional learning courses without the pressure to actually change their classroom practices, without the greater accountability

and capacity to identify students' real learning needs through the emphasis on analysis on learning data, or providing the resources to utilise the tiered intervention approach would not have produced the same level of benefit. This finding is encapsulated in the following illustrative comment from a principal's survey response:

> *"It's difficult to pin down which particular aspect of EAfS has been of the greatest benefit for our students but I certainly feel that the change in teaching practice will have the longest-term impact. The whole teaching and learning cycle of teachers actually assessing/teaching/evaluating means that student's learning is relevant to their needs and they are not having to go over tasks they already know. The most impressive thing has been just how quickly some improvements are made when the process is followed."*

Table 5.6: Principals' perceptions of area of expenditure that had greatest impact on students, 2016

Area of expenditure	Per cent of responses
Intervention programs for students (including for example speech therapy, MiniLit, Spelling Mastery, L3, TEN	14
Enhanced staffing (including interventionists, paraprofessionals and instructional leaders)	33
Access to additional/enhanced classroom resources	10
Enhanced capacity to better target individual students ("Learning at point of need"/ better differentiation/ use of tiered interventions)	14
Enhanced teacher capacity to deliver quality pedagogy	21
Greater capacity to track students/use data as a tool for learning	8
No. of responses	**364**

Reflection on expenditure of government funds

Principals in Government schools were asked in the 2016 on-line survey if, in retrospect, they would have used their Early Action for Success funds differently. Overwhelmingly, the response was "No", with 94 per cent of the 246 principals who responded to this question indicating that they believed their expenditure decisions were justified. Of the 6 per cent of principals who indicated they would use their funds differently, the most frequent comments concerned earlier or increased employment of specialist interventions (including Speech Therapists), and less frequently, an earlier focus on both literacy and numeracy. Individual principals mentioned employing a dedicated rather than shared Instructional Leader, increased parent engagement, and earlier transformation of learning spaces.

The major reasons for the principals' belief in the appropriateness of their expenditure of Action Plan funds is that these decisions were made on the basis of extensive initial and ongoing situational analyses, in most cases, then subject to wide consultation with staff and executive in the majority of schools. The vast majority of principals across all sectors thus believe that their expenditure decisions were responsive to identified student school needs – a fact attested to by their explicit inclusion of Action Plan goals in their whole school planning documents (observed in all of the school plans examined as part of the school visits conducted in 2016).

5.3 Cost Effectiveness of the Action Plan

Very few educational studies are able to report on the cost effectiveness of an educational program or initiative, and those that do have significant limitations, as the ACER (2013) *Literacy and numeracy*

interventions in the early years of schooling: a literature review: report to the Ministerial Advisory Group on Literacy and Numeracy found.

Belfield *et al* (2013) also point out that very little research attention is paid to cost-effectiveness analysis, despite the method being set out over four decades ago and despite its relatively straightforward objective. The majority of cost-effectiveness studies described in the research literature refer to discrete programs, rather than large-scale reform initiatives.

To address the key evaluation objective in relation to the cost-effectiveness of the Action Plan, this evaluation has proposed a methodology for testing the cost effectiveness of the Action Plan, as described in Appendix 14.4.

The approach adopted by the Center for Benefit-Cost Studies of Education, Teachers College, Columbia University has been used as a guide for the present evaluation. In this regard, it is important to note that cost-effectiveness analysis is distinct from cost-benefit analysis. Cost-effectiveness analysis is a decision-oriented method of inquiry. The decision-maker's first task is to determine which educational outcome is to be pursued. Reforms and interventions can then be evaluated insofar as they improve that outcome and at what cost. Thus, both effectiveness data and cost data are necessary and they must be combined (Belfield, 2013).

Measuring the cost of the Action Plan

Most cost-effectiveness studies attempt to quantify the individual costs of each of the "ingredients" necessary to implement the program in question. This might include the cost of any resources or equipment required, staff time for implementation or training, and travel time in some instances. In the methodology described by Levin *et al*., (2013), a distinction is made between the apparent cost of a program or initiative provided by budget details, and its "true" cost, taking into consideration any other direct and indirect funding actually required to implement the program. While extremely difficult to measure, the true cost of the initiative includes its opportunity cost, or the cost of not doing something else in relation to the area of need.

In 2015, the evaluation tested the feasibility of gathering data about the true cost of implementing the Action Plan in the 31 schools visited and at the system/sector level. Prior to the data gathering at school and sector levels, templates and guidelines were provided to schools to enable them to complete the template as accurately as possible while minimizing the time taken to complete.

In summary, the results revealed that across the three sectors, implementation of the Action Plan did not necessitate additional expenditure in the 31 schools concerned. Those that did identify additional expenditure from their own funds recorded sums between $1,000 and $30,000. The smaller amounts cited were generally used to purchase reading or numeracy resources, while the larger amounts were used most commonly to increase a part-time intervention or support teacher's time to a full-time position.

The discussions with schools and sectors demonstrated the difficulties in attributing costs to a particular source in circumstances where funds from multiple sources (e.g., schools' recurrent and equity funding) are combined as a global budget to address students' targeted learning needs. Schools for example, may have chosen to purchase additional reading resources from general funds rather than Action Plan funds, even though this may have been possible for reasons other than necessity. Indeed, there were numerous examples where principals purchased resources using school funds, where Action Plan funds could have been used, and vice versa. The reasons for this appeared to be idiosyncratic.

At the sector level, the templates completed by the sectors in 2015 reflect similar issues to those identified at the school level. First, in the government school sector no expenditure above those allocated in the Action Plan budget was identified. In other words, all systemic expenditure had been accommodated from within DoE share of the Action Plan budget allocation. In contrast, the Independent sector reported additional expenditure at sector level of $193,056.50 and additional time of 250.7 hours. This equates to the equivalent of 1.65 FTE per annum.

In the Catholic sector, Dioceses appear to have interpreted the request for data in different ways. For example, some included the costs associated with the provision of Reading Recovery, ESL and special needs teachers. More specifically, one Diocese claimed the full cost of the provision of its Reading Recovery program, while other Dioceses claimed nil from Action Plan funds for the same initiatives. Similarly, some Dioceses, included the cost of providing paraprofessional staff and others did not. Some have provided costs in relation to initiatives that had commenced prior to the Action Plan, and yet others have provided costs for supporting non-target schools. The raw data indicate additional expenditure incurred by Dioceses in supporting the Action Plan in a range between $17,650 and $1,638,000. In their 2016 Annual Report to the Minister on Action Plan implementation, the Catholic sector identified $4.6 million of additional in-kind funding to support the Action Plan.

Likewise, additional time spent supporting the Action Plan by Catholic systemic personnel ranged from 18 hours to 1,284 hours for the semester under consideration. Consultancy time was the major component of the estimated additional time. In the case of Dioceses with low additional time allocation, it would appear that the additional consultancy time has not been included. The total additional expenditure reported by Dioceses was around $3.8 million for the year. The differences in estimated diocesan expenditure reflect in part the number of students and schools involved in each Diocese, but it also illustrates the very different models of leadership implemented in each Diocese.

These data also highlight another important issue, which would ordinarily not be captured in a cost effectiveness calculation; that is the issue of how the Action Plan has leveraged change (and therefore expenditure) on a wider scale. For example, as a result of the Action Plan experience, Dioceses have developed a range of resources initially for Action Plan schools, but which have now been made available to other schools in Dioceses and beyond.

Another example concerns the fundamental changes to the way in which professional learning is offered and supported to all schools in at least one Diocese in line with the Action Plan model. In another Diocese, an established approach for teaching Literacy and Numeracy has been implemented in all schools, including relevant training for principals. In yet another example, some Dioceses have mandated the Action Plan model for all schools in the Diocese, supporting this from within their recurrent budgets. Each of these examples illustrates the far-reaching benefits that have accrued from Action Plan implementation but are not accurately and comprehensively reflected in current costing data.

While the validity of some systems' estimates of additional expenditure necessitated by the Action Plan might, in some cases, be questionable, the totality of system and sector expenditure is still small relative to the totality of funding. The additional costs invested by systems and sectors estimated in the quantitative calculation can be accommodated by the same method as for schools' contributions, that is, by estimating the costs within a band of +/- 5% of the funds allocated to the Action Plan.

Using the data from Table 5.1, the cost of the Action Plan, expressed as an average annual per student cost (the metric used in Levin *et a*l., 2013) results in an amount of $1,737 per student, and the "true" cost being in the range of $1,650 to $1,823.

Using the categorisation provided by the Australian Teaching and Learning Toolkit (2016) Technical Appendix as a guide (See Appendix 11, Table A82), the Action Plan would be described as a moderate to high cost approach. Table 5.9 compares the cost per student of the Action Plan to a range of other educational approaches.

Estimating a measure of the effectiveness of the Action Plan for cost-effectiveness comparison

The above discussion has focussed on resolving issues in estimation of the "costs" part of the equation. The second part of the equation requires a measure of effectiveness. The effectiveness of complex initiatives like the Action Plan is difficult to distil as a single numeric value. The term "effectiveness" itself begs the question "effective at what"? In the model for calculation of educational cost effectiveness proposed by Levin and colleagues, effectiveness is defined as "change in students' learning outcomes relative to that of a control or comparison group, usually expressed in terms of an effect size" (the use of effect sizes is commonly used when conducting meta analyses of studies using different measurement metrics, see for example Hattie's (2009) work on identifying effective practices).

The Australian Teaching and Learning Toolkit converts these effect sizes into a measure of "months growth" in expected student learning. The Toolkit provides one of the few sources relevant to Australian education that provides data on the cost and effectiveness that are usable as a source of comparison for the Action Plan. Both the calculation of costs and effectiveness in the Toolkit are estimations and the ratings given to various approaches are open to debate (given the wide variance acknowledged within approaches considered). The Toolkit itself discusses a number of caveats, including most importantly research by Slavin and Smith (2009) into the risk of under-estimation of the effects of large scale initiatives like the Action Plan.

For the purpose of this exercise, we have chosen to define change in student outcomes in terms of students' growth against the Literacy Continuum. The literacy score is calculated as the average growth on the Aspects of Text Reading scale, averaged for Kindergarten, Year 1 and Year 2 students in the government schools with longest exposure to the Action Plan (non-government schools were not included because of concerns about the accuracy of their early K-2 data). K-2 scores have been chosen rather than NAPLAN which has more known measurement properties because it is most relevant to the target group for the Action Plan. The control group has been defined as the "expected" growth within a particular year. The definition of the expected cluster level for each grade level is based on the Continua developer's expert view of the syllabus outcomes that could be reasonably expected to have been achieved by a typical student by the end of each grade level. The expected growth by students in this sense represents the "average" growth of each grade cohort. This method is necessary as the evaluation does not have access to data about the "real" growth achieved by students in non-targeted schools across NSW (reporting against the Continua on PLAN software has been voluntary for non-Action Plan schools). The Continua were not originally developed as measurement tools and do not have established measurement properties, so provide only a broad approximation of expected stage of development within each year level.

Table 5.7 shows the estimated impact for the K-2 cohort in Reading (Aspects of Text) using this method of change in cohort growth. Since Reading has shown greater growth than either Comprehension or Writing, the real impact on literacy achievement is likely to be somewhat less than the figure derived.

Table 5.7: Estimating the impact of the Action Plan (Reading Aspects of Text).

Cluster	1	2	3	4	5	6	7	8	9	10	11	
Year's growth equivalent	0**	0.25	0.5	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	Total
Kindergarten												
2013 % of year cohort	5	21	33	21	13	5	1	1	0	0	0	
Growth achieved	0	5.25	16.5	21	19.5	10	2.5	3.0	0	0	0	**0.78**
2016 % of year cohort	2	10	21	49	15	2	1	0	0	0	0	
Growth achieved	0	2.5	10.5	49	22.5	4	2.5	0	0	0	0	**0.91**
Year 1												
2013 % of year cohort	1	4	9	18	28	21	11	7	0	0	0	
Growth achieved	0.	1	4.5	18	42	42	27.5	21	0	0	0	**0.78**
2016 % of year cohort	0	2	3	7	18	36	20	12	2	0	0	
Growth achieved	0	0.5	1.5	7	27	72	50	36	8	0	0	**1.01**
Year 2												
2013 % of year cohort	1	2	4	8	16	21	23	21	2	1	1	
Growth achieved	0.	0.5	2	8	24	42	57.5	63	8	5	6	**0.72**
2016 % of year cohort	0	0	2	4	5	7	13	52	14	2	0	
Growth achieved	0	0	1	4	7.5	14	32.5	156	56	10	0	**0.94**

* Total of achieved yield as a fraction of total "expected" for each year level, where "expected value at Kindergarten =1.0 year's growth, Year 1 = 2.0 year's growth, Year 2 =3.0 year's growth.

** Cluster 1 is defined as entry to school level. Students may or may not actually be able to demonstrate the Cluster 1 skills but there is no option for teachers to record less than Cluster 1 in the current Continuum. As an "entry to school" measure, it is assigned a value of zero growth for the purposes of this calculation

The impact or effect of the Action Plan is calculated as the difference between achieved growth in 2013 compared to achieved growth in 2016. The Continua is not an equal interval scale, (there are more clusters at Kindergarten than Year 2 level for example), but each cluster can be roughly equated to "months growth (as a fraction of a year's growth)" using weightings for each year cohort based on the difference between the defined expected mid-year standard and end of year standard. This allows comparison to the "effectiveness" metric used in the Toolkit, as reported in Table 5.8.

Table 5.8: Achieved growth 2013-2016 (as a fraction of a year) in LNAP 2012 cohort Government schools

Year level	Achieved growth 2013-2016
Kinder	0.13
Year 1	0.23
Year 2	0.22
Total for K-2 cohort	**0.58**
Average per year level	**0.19 years**

This calculation suggests that the Action Plan has thus contributed to an average growth in cohort Reading (Aspects of Text) equivalent to about 2.4 months after five years of implementation. This positive growth suggests the Action Plan has had beneficial. Using the Table in the Australian Teaching and Learning Toolkit, this gives an equivalent effect size of between 0.10 and 0.18, which is classified as "low impact". (See the Cost Assessment Matrix in Appendix 11, which provides a further description of the categorisation of Australian educational programs and interventions of having an impact raging from very low to very high). Table 5.9 below compares the estimation of the impact and cost of the Action Plan compared to other intervention approaches provided in the Teaching and

Learning Toolkit. The Action Plan estimation of having a low impact should be treated with a great deal of caution, given the caveats above. It is produced for the sake of demonstration of one approach to estimating cost effectiveness. Given the unreliability of the measure and the lack of successful examples of reporting of the cost-effectiveness of other large scale initiatives in the research literature, it must be questioned whether the concept of cost effectiveness as a single quantifiable measure is of practical value in describing the worth of such initiatives.

Table 5.9: How does the cost per student of the Action Plan compare to other approaches?

Approach	Impact*	Cost
Collaborative learning	5	$
Phonics	4	$
Feedback	8	$$
Individualised instruction	2	$$
Mastery learning	5	$$
Peer tutoring	6	$$
Digital technology	4	$$$
Small group tuition	5	$$$
NSW Literacy and Numeracy Action Plan	**2**	**$$$$**
Mentoring	1	$$$$
Parental involvement	3	$$$$
Early years intervention	6	$$$$$
Reducing class size	3	$$$$$
Repeating a year	-4	$$$$$
Teaching aides	1	$$$$$

* Impact is defined in terms of average expected months growth in learning from implementation of the approach, extrapolated from the estimated "effect size of the approach. Source: Australian Teaching and Learning Toolkit Technical Appendix. The Education Endowment Trust (2016).

In comparing the impact of the Action Plan with other approaches listed in the Toolkit in Table 5.9 above, it must also be appreciated that the methodologies for estimating the effects of omnibus approaches like the Action Plan are very different from those that are appropriate for specific treatments, measured in controlled studies. The calculated impact of the Action Plan above may in fact significantly under-estimate its "true" impact.

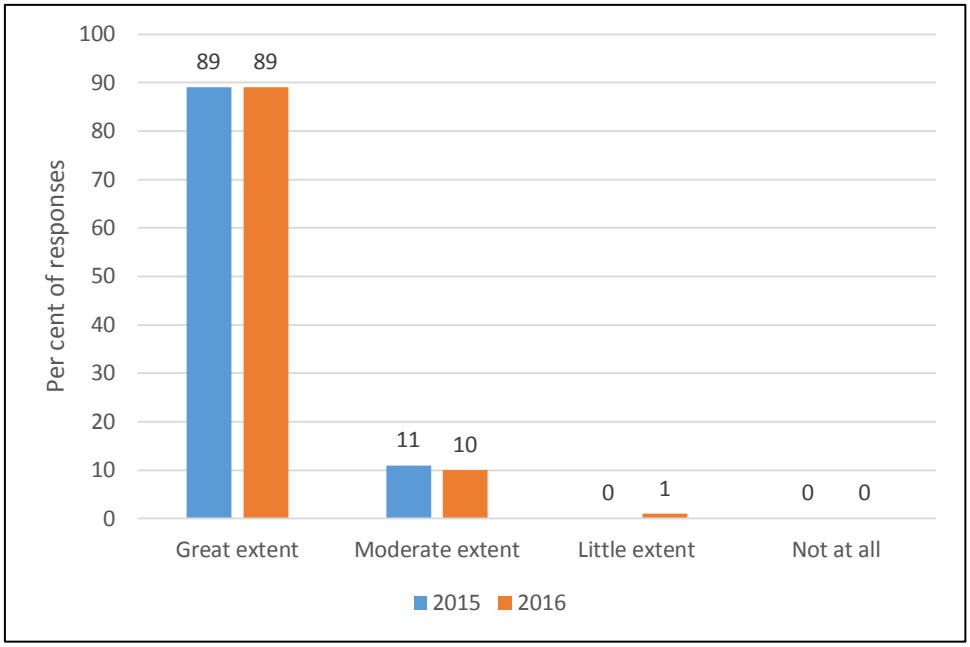
5.4 Has the Action Plan provided value for money?

Cost-effectiveness as discussed above is a technical measure of efficiency, and has a meaning that is distinct from Cost-Benefit Analysis (also a technical measure in which monetary value is attached to both the inputs and outcomes of programs) and the more general question of whether an initiative or program has provided value for money.

Figure 5.1 shows the perceptions of principals across the three sectors of the extent to which they believed the Action Plan had provided value for money in 2015 and 2016. When principals answer this question, they have in their minds memories of other initiatives they have been involved in as well as the costs and outcomes of other items in their school budgets. The resulting mental comparison, while perhaps not statistically rigorous, represents their overall summation of the relative worth of the initiative. As Figure 5.1 shows, the great majority of principals in both years considered the Action Plan to have represented good value for money. This is reflected also in the spontaneous comment made

by several of the principals interviewed in school visits that the Action Plan was the most effective initiative they had ever been involved in.

Figure 5.1: Extent to which principals believe the Action Plan has provided good value for money, 2015-2016, all sectors



It might be tempting to dismiss these figures as representing no more than principals' self-interest, but in the experience of the evaluators, it is unlikely that the more than 500 responses received to the survey questions would have been so unanimous without there being a strong foundation to the expressed views. When asked why they considered the Action Plan had been value for money, the majority replied that it had produced a level of change in teacher capacity that they would not otherwise have ever have been able to achieve. Analysis of the survey comments revealed that more than 75 per cent of principals expressed the belief in the efficacy of appointment of instructional leaders to provide focus and accountability for the change, as well as the time and expertise to build the capacity of staff, was the primary value or benefit provided by the Action Plan funding.

A second major theme in the responses reflected principals' views that the Action Plan had provided value for money because it had been a catalyst for transforming the culture of learning in their school. These views were echoed in the school site visits, and are reflected in the illustrative comments from principals in schools visited:

> *"It has enabled the school to have a member of staff (the IL) solely focussed on building teacher capacity through shoulder to shoulder support, rigorous & regular evaluation of student progress data, and enhanced the value of the instructional leadership model amongst the whole staff. It has facilitated a very transparent approach to teaching & learning across the school that is underpinned by a pedagogy of highly supported collaboration building on strengths. It has enabled staff to see that every student's learning progress can be monitored closely and that differentiation in the teaching delivered can lead to a shift in the student's progress."*

> *"The Action Plan has developed value for money as we would not have been able to achieve all that we have been able to without the funds. To address Literacy and Numeracy in such a holistic way for four years has enabled long lasting change in the way we teach Literacy and Numeracy not only in K-2 but across the whole school. We would not have been able to engage the number*

of staff in professional development, purchased the resources and programs and taken a consistent approach to analysing data and assessing the effectiveness of initiatives without the focus of the Action Plan."

A separate but important issue is the question of how the Action Plan has leveraged school funds to support Literacy and Numeracy in different ways than in the past, e.g. using RAM funding in government schools to purchase an Instructional Leader at Years 3-6 level in the government sector. This point cannot be ignored as many principals did indicate that they had become more strategic in how they were now using available school funds, particularly in terms of the differential benefits that can be derived by investing, for example in teacher professional development, rather than new resources.

In addition, it should also be noted that it has been reported by principals that they are using their time differently in light of the Action Plan experience. While the salary cost has not changed, the vast majority of principals in smaller schools indicated that they are spending more time as instructional leaders, and giving greater attention to K-2 issues than in the past. This has also arisen because of the principal's focus on K-6, rather than 3-6 as it was previously in many cases in the past. While principal instructional leadership has increased, principals of larger schools, in particular, also say that there is no way they could perform the same role as the dedicated instructional leaders.

A further lesson that can be taken from this experience may be the need for some principals to undertake targeted training that would prepare them to more effectively utilise the funds available to them. Discussions around costs and use of resources indicate that principals need to exercise some sophisticated budgeting and resource management skills to most effectively support the cultural changes made possible by the Action Plan.

6. Discussion and Conclusions

The need for the Literacy and Numeracy Action Plan

The Literacy and Numeracy Action Plan was developed to address the widespread inequalities in learning outcomes known to exist from the earliest years of schooling in NSW schools serving low socio-economic status (SES) communities. The NSW NAPLAN data, and the Basic Skills Test data before that, have demonstrated over many years the existence of wide disparities in student learning outcomes for students from different socio-economic backgrounds. The student outcomes data reported throughout the evaluation, similarly show that achievement levels for Aboriginal students, those from non-metropolitan areas, and those from low socio-economic communities have continued to lag behind those of their more advantaged age-peers. There continues to be substantial gender differences in achievement as well, with boys on average achieving lower literacy outcomes than girls, but with girls performing less well than boys in numeracy. These patterns are evident across Australia, and at all grade levels, and are also identified in the recent Program of International Student Assessment (PISA) report (Thompson, De Bortoli and Underwood, 2016) and Trends in Mathematics and Science (TIMSS) study (Thompson, Wenert, O'Grady and Rodrigues, 2016).

These national results suggest that intervention at whole-of-state level was clearly justified, and necessary, if this situation were to be reversed. For nearly 40 years, successive Australian governments and school systems, state and national, have been concerned about the disparities in student outcomes evident at every level of schooling, and the influence of students' socio-economic status (SES) on these results (see for example Karmel, 1985; Gonski 2011). In attempting to address these disparities, initially from a social justice perspective and more recently as part of a national productivity agenda, governments have committed hundreds of millions of dollars in compensatory programs for disadvantaged schools and students (Productivity Commission, 2014).

On the whole, these programs appear to have made only a limited contribution to a sustainable "closing of the gap" in outcomes achieved by socio-economically disadvantaged students and their more advantaged peers. If fact, the gap, in terms of school completion and therefore access to higher education, appears to be widening (Lamb et al, 2015). By their estimates, around 20 per cent of students do not leave school with the academic or social skills and qualifications that position them for later success. The strong relationship between socio-economic status and end of schooling outcomes continues to be further demonstrated in recent analyses of Higher School Certificate data (see Munro and Ting, 2016).

As Lamb *et al.* (2015) point out, young people who are missing out can recover and gain ground. This is also true for students from disadvantaged backgrounds. There has been abundant evidence since the 1990s that demonstrates that school actions lead to significant differences in the outcomes achieved by students (see for example, Levine and Lezotte, 1990; Hopkins *et al.,* 1994; Hargreaves, 1995; Hill, 1995). Likewise, there is abundant evidence that the quality of teachers, and teaching, has a significant influence on learning. What teachers know, do, and care about is very powerful in the learning equation (Hattie, 2003; Hattie & Anderman, 2013).

The causes of student underachievement are complex, and not all are within the power of schools to address. Hattie (2003), identified that around 60 per cent of the variance in student achievement is due to what the students bring to school (which includes factors associated with their home circumstances). Importantly, his research, involving a meta-analysis of more than 1800 other studies, identifies that much of the remaining 40 per cent of the variance in achievement arises from what teachers do in their classrooms. That is, as Rowe (2003) asserts, the quality of teaching and learning

provision is by far the most salient influence on the growth that occurs in students' cognitive, affective, and behavioural outcomes of schooling. He also concluded that findings from the related local and international evidence based research indicate that "what matters most" is quality teachers and teaching, supported by strategic teacher professional development. The focus of the Action Plan also aligns strongly with the features of high performing schools identified by Louden (2015).

The focus of the Action Plan on enhancing teacher capacity and on ensuring alignment of classroom pedagogy with known best practice would therefore appear to have been a most appropriate strategy and again, consistent with the approaches adopted in countries which do perform well in the international arena (see for example Masters, 2014). As has been reported through the evaluation, the Action Plan, and participating schools, recognised that achieving the level of improvement necessary required a change in the way that the schools operate as well as change in individual teacher practice. It involves not only change in structures (such as timetables or even student grouping practices) but a change in the way people conceptualise teaching and learning in the school.

The OECD (2016) analysis of why low-performing students fall behind and what helps them to succeed suggests that creating demanding and supportive learning environments at school, providing early intervention support, encouraging parent and community involvement and inspiring students to make the most of education opportunities are important ingredients in lifting student performance. In turn, this requires a culture of high expectations for the quality of teaching and learning. The report warns that "School leaders and teachers sometimes respond to low-performing students by lowering their expectations for these students and even reducing the scope of the curriculum these students are taught" (p.4), creating the self-fulfilling prophecy of low achievement. Further, the OECD found that "...struggling students benefit from teachers who show an interest in every student's learning, help students when they need it, work with students until they understand the course content, and give students an opportunity to express their opinions." (p.6).

The focus of the Action Plan on creating cultural change within the targeted schools, rather than mandating simplistic, but often expensive, remediation programs, would therefore also appear to be appropriate in establishing the pre-conditions for more effective learning outlined in the above research. The CESE review of *Reading Recovery* (2015), for example, found that while it may have an immediate impact on some students, this impact is not sustained over time. Whether this particular program was or was not effective in the medium or longer term is perhaps less important than the flaw it shares with all programs of its kind – in that it does nothing in and of itself to change the circumstances that contributed to the under-performance in the first place. Addressing the root causes of under-performance, rather than applying a band-aid after it occurs, would therefore logically appear to provide a more appropriate long-term solution.

Likewise, given that access to prior-to-school experiences and exposure to quality developmental opportunities are also unequal between areas of high and low socio-economic circumstances (see AEDI, 2013), the focus of the Action Plan on the early years of schooling would also appear to be highly appropriate and well justified by the research literature (see for example, Rose, 2006; BOSTES, 2014; CESE, 2016). The Australian Institute of Health and Welfare (2015) concluded that the research findings unequivocally agree that the early years are a critical period of intense learning for children which provides the foundation for later academic and social success. As Willms (2003) points out, students who are not reading well by the time they reach Year 3 face significant challenges for the remainder of their schooling. Ensuring that all students have access to appropriate learning opportunities and effective remediation when required are both critical if the quality of outcomes is to be raised to the level of our international competitors.

How successful has the Action Plan been in achieving its objectives?

As discussed in Chapter 3, the evidence available to the evaluation concerning the success of the Action Plan in addressing its primary objective of reducing the disparities in student learning outcomes, and reducing the impact of socio-economic status on learning outcomes - is mixed. The K-2 assessment data clearly shows that in all sectors, across all year levels K-2, and across all domains measured, at a cohort level, the proportion of students reaching the expected end of year standard is substantially greater in 2016 than it was at the commencement of the Action Plan. This is an encouraging outcome, and has resulted largely from achievement of greater consistency and continuity of instruction across classrooms K-2, as well as a stronger linkage between the curriculum expectations and teaching practice as a consequence of the capacity building provided by instructional leaders. The focus on early identification of student learning needs and more targeted intervention has also undoubtedly contributed to these improved student learning outcomes.

At the same time, the K-2 results, particularly at Year 2 level, also indicated that considerable further work is necessary. While more students were leaving Year 2 with a stronger foundation in Reading, in terms of Aspects of Text and in Early Arithmetic Strategies, there was still an unacceptably high number of students in targeted schools who were not achieving grade expectations, particularly in terms of comprehension and writing skills. While the overwhelming majority of students, even those who were below expectations, did achieve some progress each year, the rate of progression of those who were falling behind remains a concern. It is not surprising that average Year 3 NAPLAN results have not substantially improved at a cohort level.

It should be noted that Action Plan implementation has developed and evolved over time. As a result the Action Plan cannot be considered or evaluated in the same way as a fully developed or mature initiative or program implemented with fidelity from the outset.

Nor would it be expected that the Action Plan would have had significant impact on NAPLAN results as yet, as more than half the cohort have had only limited exposure (less than two years) to the enhanced pedagogy provided the Action Plan.

While there are clear differences to the general trends at individual student and individual school levels, on the whole, the pervasive influence of socio-economic factors, gender differences, and other inequalities continue to be evident. While some small improvements are likely as further capacity is built in schools that only recently commenced participation in the Action Plan, it would seem that neither the K-2 results nor NAPLAN results will improve to the extent necessary to reduce the socio-educational gradient in results, without a specific focus on the kinds of skills represented in higher-level performance on these assessments. These skills include, for example, analysis and synthesis of information, making inferences, drawing conclusions, and solving problems. This does not mean "teaching to the test", although ensuring that all students are familiar with the testing genre is essential.

Schools cannot continue to dismiss their NAPLAN results as an aberration, but need to become more sophisticated in analysing the causes of underachievement and more importantly, how to effectively respond to this diagnosis. The processes introduced to Action Plan schools for identifying student needs and planning a response is undoubtedly correct (i.e., the spiral of inquiry cycle – see Timperley, 2011). The challenge for schools is, as it always has been, to ensure that diagnosis of student needs is accurate, and that the responses are appropriate, timely and effective, and not simply what is convenient and available.

While the improvement in student learning outcomes from the Action Plan may not have been as great as desired, this does not mean that the Action Plan did not provide a range of benefits for students, teachers and schools. Rather, when its impact on the quality of teaching and learning and school culture is considered, the evidence demonstrates widespread impact on a range of school practices, including:

- Evidence informed practice, personalised and student-centred learning.
- Enhanced teacher capacity to tailor learning experiences according to identified student need.
- Greater sense of collective responsibility for student outcomes.
- More appropriate use of interventions for students at risk
- More appropriate use of specialist and paraprofessional staff
- Stronger accountability for outcomes and understanding and acceptance of critical reflection on the effectiveness of practice.

The importance of these changes should not be under-estimated, nor should the difficulty in shifting entrenched school and community attitudes and expectations about what "normal" practice should be. The school visits clearly demonstrate that successful Action Plan schools look and feel very different to what they were in the past, as are relationships within the school and between staff members and the community. They have undoubtedly become places where learning is purposeful, productive and valued, something that cannot always be said to have been characteristic of all schools as little as five years ago. Teachers, school leaders and parents have always wanted the best from their students and for their students, but sometimes the weight of accumulated decisions and practices have become counter-productive. The Action Plan has been an effective catalyst for schools to examine their practices and adopt more appropriate ways of working.

What can be learned from the Action Plan 2012-2016?

The announcement of continued funding to be provided to targeted schools through the through the NSW Literacy and Numeracy Strategy 2017-2020 provides an opportunity to build on the features of the Action Plan that have contributed to its success to date and to address elements that require further attention.

The following discussion provides a reflection on the key lessons to be drawn from the evaluation findings 2012-2016.

The importance of targeted sectoral support

The seeds for success in Action Plan schools are sown well before the schools begin to participate in the Action Plan. The chances of success are greatly enhanced when the school's relevant system/sector prepares the principal and staff for participation in the Action Plan by making clear what is expected of them, not only in terms of compliance with accountability requirements but also the outcomes that are intended. The role of the system/sector in setting the clear expectation that the participation in the Action Plan requires fundamental cultural change in the way the school operates cannot be underestimated. The system/sector also has a critical role in ensuring that both the principal and key staff have a sound understanding of the research base that underpins the Action Plan, including contemporary views on what constitutes best practice pedagogy in the early years of schooling. Well prepared schools have a clear understanding of the role of the instructional leaders and their place within the school's executive.

In successful Action Plan schools the commitment of the system/sector is reflected in the involvement of relevant senior personnel in the appointment of the instructional leader and other staff, in

conjunction with the school principal. In successful schools, an ongoing relationship between the system/sector personnel and principal and key staff, through targeted professional learning opportunities and formal review processes as well as frequent and regular monitoring of progress against targets on both a formal and less formal basis can be observed. Successful Action Plan schools are underpinned by a level of system/sector support that effectively "closes the loop" between provision of data for accountability purposes and provides feedback that allows the school to more effectively plan for the next stage in the implementation cycle.

It should be noted that one of the indirect benefits of the Action Plan experience has been the increase in cross-sectoral collaboration that has occurred, particularly at the senior executive level of the three sectors. There is scope for further cross-sectoral collaboration at the operational level, for example in shared professional learning. The Action Plan has provided a valuable catalyst for future joint endeavours.

Empowering school leadership to drive cultural change

System/sector empowerment of principals to make informed staffing decisions when necessary and to redeploy resources and change existing school structures and operations are also fundamental to effecting change. In short, successful Action Plan schools entered into the Action Plan with a willingness to embrace the opportunity and saw it as a chance to enhance the quality of teaching and learning provided to its students and make a genuine and sustainable impact on the level of learning outcomes achieved by its students. Successful schools understood why they had been targeted for assistance, and why they needed to fundamentally change what they are doing to break the long-standing patterns of under-achievement by which they are characterised. In this situation, the principal needs to takes a fundamental and active role in ensuring teachers and other members of the school community clearly understand the specific goals of the Action Plan, the key outcomes to be achieved and the complementary roles of each of the participants in the Action Plan.

The style of principal leadership was equally important. Successful Action Plan schools were characterised by Principal leadership that is not seen as faddish or idiosyncratic but inclusive and supportive. Both qualitative and quantitative data about student achievement were used by successful principals as irrefutable sources of evidence, providing a persuasive case for adopting new practices. They must, in this sense, both create and sustain the "moral imperative" for improving student learning.

Enhancing the quality of instructional leadership has been one of the priority areas for the Action Plan, building on the back of the research literature that identified the importance of leadership in initiating, supporting and sustaining change. In successful Action Plan schools, the principal was fully engaged in the implementation of the Action Plan in their school. These principals actively championed the Action Plan, and set the expectation that changed pedagogy was a high priority for the school. These principals also demonstrated the importance of the Action Plan by modelling an appropriate relationship with the Instructional Leader, giving them status and credibility as the vehicle for change. They understood that the Action Plan was not a program or set of prescriptions to be undertaken that could be "ticked off" as complete. They understood that the implications of the theories underpinning the Action Plan required a different way of doing business, not simply adding to what their school was already doing.

Such principals also understood the need for transparency of decision making underpinned by evidence, for example by engaging all staff in the development of the school plan. They regularly

acknowledged teacher professionalism and effort, and developed the notion of the school staff as a team with collective responsibility for whole school direction and achievement.

They understood the importance of developing "leadership density", by devolving authority and responsibility to others rather than carrying the burden of change by themselves. They understood the importance of staff "ownership" of the change process, celebrating its successes and identifying and addressing shortcomings. At the same time, they made clear that participating in the change process is not an option for their staff, and took action when necessary to overcome active and passive resistance to change.

In successful schools, the principal ensured that the Action Plan did not stand alone as a one-off project but was an integral part of the school's operation that is "owned" and accepted by the whole school staff and community.

Successful principals understood the necessity of supporting the Action Plan implementation with strategic budgeting and personnel decisions. They understood that effective pedagogy in early literacy and numeracy learning requires different staffing models, organisational arrangements, and physical structures than had been the norm in the past. They understood that the totality of the school's resources (and crucially the resource of staff time) has to be used to maximise student learning, and that this resource needs to be applied flexibility as the situation demands, not applied according to formulas or perceived entitlements. They challenged traditional arrangements in schools that had become comfortable ways for some staff, but were not productive or cost-effective in addressing student learning needs. In challenging the status quo, they developed an understanding among their staff that to support additional planning time, for example, difficult decisions may have to be made in trading-off a staff position, or other variables such as class size or other release time. They understood that every decision has a "cost", and the need to constantly question whether the decisions they make are delivering value for money.

The pivotal role of instructional leaders

Instructional leaders have played a critical role in the cultural change journey undertaken by successful Action Plan schools. They have been successful because they have had the time and expertise to focus solely on building capacity of both school executive and classroom teachers in early learning in literacy and numeracy, while ensuring that student data are the enduring source of evidence upon which informed decisions are made about teaching and learning. They have been instrumental in ensuring the translation of the Action Plan's key priority areas into practice within their school's context.

Likewise, they have driven the uptake of the processes by which the regular analysis of individual student achievement can be monitored, resulting in ongoing changes by teachers in focus and direction. Just as not all teachers have the same confidence and competence to motivate and inspire their students, not all instructional leaders have the same level of skill. The evaluation has demonstrated that both initial and continuing professional development of instructional leaders is necessary for them to achieve maximum effect.

As with principals, the personal style or manner adopted by instructional leaders was an important determinant of their success. Good instructional leaders do not simply tell, or even show, teachers what to do; instead, they empower them to identify the most appropriate solutions by encouraging research, exploration and reflection. Instructional leaders need to clearly understand their role as a change agent, not just as an expert teacher of literacy and numeracy. They need to be strongly supported by their principal and system/sectors as a valued and legitimate resource in the school.

In successful Action Plan schools, instructional leaders have spent increasing amounts of time with the assistant principal or equivalent to ensure that this member of the executive was adequately prepared and empowered to undertake the future role of Instructional Leader and ensure a seamless transition in learning for both students and teachers and ultimately government funding ceases. They therefore need to have the capacity to develop influential relationships at a range of levels inside and outside their school.

In addition to building the culture of data accountability, instructional leaders have been pivotal in the provision of targeted professional learning opportunities for both school executive and classroom teachers through a wide range of approaches including peer observation, structured feedback on lesson observation one-on-one mentoring and coaching in specific aspects of pedagogy including the use of data for planning targeted learning experiences for students. They need, therefore, to have in-depth theoretical knowledge of the pedagogical principles underpinning the Action Plan as well as the ability to translate these principles into practice within their schools' context.

Ensuring a focus on quality teaching and learning in classrooms

Successful Action Plan schools implicitly accepted that it is the quality of teaching and learning that "makes the difference" in students' outcomes, rather than blaming poor results on the students' social backgrounds. In successful schools, the executive, the Instructional Leader and classroom teachers worked with student achievement data honestly, openly and collaboratively.

They accepted that every student and every teacher brings a set of complementary skills and attributes into the school setting and worked from this base, whatever it may be, with the explicit intention of developing these skills further. Importantly, this strength-based approach towards collaboration also provided the platform for highly targeted and individualised professional capacity building of teachers. Successful Action Plan schools saw learning as a journey that may have some high and low points, but always has the end point in mind. They saw setbacks as an opportunity to identify what was working for each individual and what was not, rather than an opportunity for criticism or blame.

Ensuring this focus on learning is therefore a key role for principals and instructional leaders, even when initial results are disappointing. They must ensure that high expectations for learning remain at the forefront of all stakeholders' minds, and not allow other issues and priorities to become a distraction from learning. They must ensure that systems to promote student well-being and pastoral care support learning rather than being ends in themselves.

The pervasive impact of classroom teachers on student learning achievement

The more successful Action Plan schools understood that improving student learning often required a completely different way of doing business. Such schools made this change by valuing collaborative processes, recognizing the impact of evidence as a source of informed decision making, using data to diagnose student learning needs and track student progress.

Building teacher confidence and competence needs to remain the highest priority of the Action Plan. Teachers in successful Action Plan schools understood how to effectively differentiate lessons to address student needs. They understood when whole class teaching was appropriate and when individual or small group activities were required. They also understood when withdrawal from the classroom to facilitate one-on-one instruction was necessary to address specific learning difficulties. Effective teachers understood that it is their pedagogical and management skills, rather than the resources available that have the greatest impact on students' learning.

Perhaps a significant change in successful Action Plan schools was readily evident in the organisation of human and physical resources in classrooms. The physical layout of classrooms varied, depending on the design of the school but in every case, classrooms reflected an attractive, stimulating and engaging array of learning areas. Usually, there were multiple learning spaces located throughout the room, some for small group learning opportunities, while others are for one-on-one intensive teaching. In each case, there was a variety of adults including the classroom teacher, commonly Instructional Leader, as well as teacher support staff, other paraprofessionals and in some cases, speech pathologists and parents supporting the teaching and learning process. Principals need to ensure that school funds are used effectively to support new pedagogical approaches, that teachers have the skills necessary to work effectively with paraprofessionals, volunteers and specialist teachers to implement differentiated and personalised learning programs.

While the focus of the Action Plan was initially on the early years of schooling, successful Action Plan schools understood the broader applicability of Action Plan approaches K-6, as well as the need to ensure consistency and continuity of approach across the whole school.

Teachers in successful Action Plan schools understood that not only did teaching need to be different from the past, but learning needed to be different as well. They appreciated the importance of students taking greater responsibility for their own learning, thereby deliberately building a culture of self-regulation among students. Teachers therefore needed to understand what explicit teaching really meant and how this could be used to empower students to develop deeper understand the purpose of their learning and the standards that are associated with and expected of successful learning at their stage of development.

Increased focus on data as the basis of planning and pedagogy

Without doubt, one of the strongest outcomes for teachers and school executives across all sectors has been a substantial increase of focus on data analysis as the basis for planning at whole school, grade/stage and classroom levels. From a starting position where regular, systematic assessment of K-2 students was rarely seen, the Action Plan has led to the situation in targeted schools across all sectors where data collection and analysis now occur on a regular cycle. Importantly, assessment and analysis are integrated into teachers' normal practice, rather than an add-on to it. Further, the Action Plan has increased teachers' sense of collegiality, collective responsibility for student performance, and acceptance of transparency and accountability for student learning. The emphasis on student learning data has undoubtedly helped many schools to move closer to a stage where evidence-based practice is the norm. The use of the Literacy and Numeracy Continua has led to greater emphasis on the concept of learning progressions, and spurred the commencement of work to develop new learning progressions aligned with the Australian Curriculum, which have strong psychometric properties.

Conclusion

The Action Plan has demonstrated that improving the quality of teaching and learning in the classroom can be achieved through enhancing teacher and school leader's capacity to implement the key priorities areas emphasised during the Action Plan, including enhanced diagnostic assessment, greater application of differentiated teaching and personalised learning, and tiered interventions when required. The focus on building teacher and executive capacity has been fundamental to the emerging success of the Action Plan to date.

The results suggest that it has been responsible for improvement of a scope and scale not obtained from other specific interventions or broad based funding programs. If current trends hold, there is

good cause to believe that significantly more students will be achieving stronger K-2 and NAPLAN results in future, and in turn, better long-term educational outcomes.

In this regard, the following points summarise the key lessons learned from the Action Plan that have relevance to future initiatives:

- School improvement requires changing school culture, not simply adding additional programs. There should be no doubting the profound nature of the cultural change that is required in for example, expectations for performance, of how teachers work together as colleagues, how classrooms are structured, how students are engaged in their own learning.
- Achieving enhanced teacher quality requires a different approach to teacher professional learning than in the past: it must be focussed on developing the teachers' confidence and competence to address identified student needs. This teacher professional learning is best delivered on the school site and preferably in the classroom, with an emphasis on modelling by colleagues, and with strong expectations that teacher practice will change as a result. Reflection on instructional practices must become routine, and not an add-on to teacher's work but an integral part of it.
- The strong focus on enhanced instructional leadership K-2 has been essential for enhancing the quality of teaching and learning in classrooms.
- The additional time given for collaborative teacher planning and the additional expertise for intervention in classrooms are necessary for successful implementation. The way in which schools choose to apply these ingredients may not always be the same, but unless these elements are structurally embedded into schools' operation, the level of impact will be smaller than has been observed thus far.
- The strong support and accountability provided as a result of the Action Plan have been essential for providing consistency and coherency to schools' efforts, and are a far more powerful way of achieving the scale and durable sustainability of change required than, for example, simply providing disadvantaged schools with additional funds. The provision by sectors of tailored pressure through accountability for student results and simultaneous professional support, in accordance with school needs, continues to be a key ingredient in each school's ongoing success both in the short and mid-term.

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7. APPENDICES

7. Appendices

Appendix 1: Action Plan Program Logic

The Program Logic identifies the four key areas of the Action Plan. More particularly in terms of each of the areas, it identifies the specific inputs and processes that are integral to the Action Plan and are designed to achieve the ultimate outcomes of the Action Plan highlighted at the bottom of Table A1. Furthermore, it enables the reader to identify the progressive achievement of potential outcomes in each of the areas over the life of the Action Plan.

Table A1: Action Plan Program Logic

	Student learning needs	***Teacher classroom practice***	***Whole school Instructional Leadership***	***Parent/community participation***
Inputs	• FTE equivalent funding for use by each sector in accordance with number of schools participating • Number of schools (by sector) participating in the Action Plan • Number of students (by sector) participating in the Action Plan			
Activities	• Provision of tailored professional learning opportunities • Student access to quality teaching and learning in relation to literacy and numeracy • Personalised learning/tailored programs in accordance with student need • Use of tiered interventions.			
Immediate outcomes (0 to 12 months)	***Early student engagement***	***Teacher awareness***	***Whole school leadership influence***	***Parent awareness***
	K-2 students' areas of strength and areas of future development identified by teachers. Identified students engage in a targeted program or strategy to enhance literacy and numeracy skills. Students matched to appropriately tiered interventions in accordance with their learning needs. Individual students' learning targets established.	Increased teacher awareness of early diagnostic assessment tools. Teachers have increasing understanding of the link between diagnosis, pedagogy and student learning. Initial teacher exploration of strategies for personalising learning according to identified need. Preliminary use by teachers of data as the determinant for planning. Teacher exploration of effective pedagogical practices. Teachers' increased understanding of the development of children's growth in literacy and numeracy.	Student progress and achievement monitored against the *Literacy and Numeracy Continua* School leadership teams undertake professional learning. School leadership teams plan and deliver targeted professional learning. School leadership teams actively engage staff in whole school planning. School leadership teams actively build school community commitment to K-2 reform. School leadership teams demonstrate commitment to improved school performance. Principals demonstrate stronger instructional leadership in relation to K-2 learning.	Parents/local community members demonstrate - awareness of schools' approach to literacy and numeracy teaching. Parents are assisted to identify ways to support their children in relation to literacy and numeracy.

Intermediate outcomes (12 to 24 months)	*Active student participation in literacy/numeracy*	*Enhanced teacher pedagogical practices*	*Targeted leadership practices to enhance student literacy and numeracy learning*	*Parents/community engagement in student literacy and numeracy learning*
	Increased positive student attitudes towards literacy/numeracy. Students demonstrate enhanced engagement in literacy/numeracy (both in class and at home). Students are regularly involved in monitoring their own literacy and numeracy progress. Students show growth in literacy and numeracy.	Teachers regularly use student data to drive decision making about student learning. Teachers use a broad range of personalised strategies. Teachers target resources according to student need. Teachers regularly use systematic approaches towards monitoring of student achievement K-2. Teachers plan tiered interventions as an integral component of quality teaching and learning in classrooms.	School leaders (government) incorporate planning for "Early Action for Success" into school plans. School leadership provides regular feedback on student performance K-2. School leadership teams incorporate literacy and numeracy targets and monitoring strategies into school plans. School leadership actively builds whole school commitment to school plan for literacy and numeracy. School leadership team employ increased focus on data across K-2 as a key tool for decision making.	Community and non-government agency support for literacy and numeracy teaching is identified. Community and non-government agency resources are effectively matched to identified student literacy and numeracy need. Community and parents' representatives proactively support student literacy and numeracy learning. Increased engagement of parents and the community in school activity supporting literacy and numeracy learning.
Ultimate outcomes (2 to 4 years)	• Improved literacy and numeracy performance of students in targeted schools. • Sustainable school cultures that reflect a collective responsibility for collaborative planning and a professional accountability for student outcomes. • Enhanced teacher capacity to tailor learning experiences according to identified student need. • Evidence informed practice, personalised and student-centred learning. • Emerging partnerships among all stakeholders within the school community to enhance student literacy and numeracy outcomes.			

Appendix 2: Composition and Terms of Reference for the Ministerial Advisory Group on Literacy and Numeracy

Role

The Ministerial Advisory Group on Literacy and Numeracy (Advisory Group) was established in June 2011 to provide expert advice to the Minister for Education on early literacy and numeracy learning with its first meeting having taken place on 28 July 2011. The terms of reference at this time included:

- the preparation of an *Initial Framework* for the *Literacy and Numeracy Action Plan* (*Framework*)
- the development of a *Literacy and Numeracy Action Plan (Action Plan)*
- reporting on the performance of the Action Plan
- overseeing the conduct of the independent evaluation of the Action Plan.

Terms of reference

The initial terms of reference for the Advisory Group were amended in September 2013 to reflect the establishment of a Steering Committee for the independent evaluation of the Literacy and Numeracy Action Plan and to outline reporting arrangements between the Steering Committee and the Advisory Group.

In February 2014, following the appointment of sectoral representatives as members of the Advisory Group the Steering Committee of the evaluation ceased to operate with the Advisory Group subsuming its responsibilities.

From March 2014, the Advisory Group's responsibilities were:

- establishing annual priorities and targets for the three education sectors under the Literacy and Numeracy Action Plan
- reporting on the appropriateness of the three sectoral Annual Implementation Plans
- reviewing progress made by the three sectors in meeting targets included in Annual Implementation Plans
- identifying possible strategies needing to be taken to ensure the three education sector milestones are met so that funding to the sectors can be released accordingly
- managing contractual issues associated with publicly tendered work of the Advisory Group
- consulting with key external stakeholders with interests in improving literacy and numeracy learning in schools, in particular stakeholders operating nationally and in the not-for-profit sector, and advising on the outcomes of such consultations
- managing the conduct of an independent evaluation of the Literacy and Numeracy Action Plan, including:
  - monitoring the conduct of the evaluation ensuring adherence to the Evaluation Plan, including the measurement framework
  - providing ongoing advice on issues emerging from the conduct of the evaluation
  - providing feedback on evaluation methods and instruments, including whether the Action Plan Program Logic (Appendix 1, Table A1) intended outcomes are being progressively achieved by schools targeted under the Action Plan
  - supporting the conduct of the evaluation, including where appropriate, disseminating relevant information related to the evaluation

- providing timely feedback on draft evaluation report(s), as required
- approving final reports for submission to the Minister.

Key activities of the Advisory Group

In August 2011, the Minister approved the *Initial Framework* in order to progress the development of the Action Plan. Step 1 of the Framework included a structured process to seek evidence from the three education sectors, stakeholders and providers of literacy and numeracy intervention programs. In addition to three education sectors some 20 stakeholders and providers of literacy and numeracy intervention programs submitted evidence regarding the range of and effectiveness of literacy and numeracy interventions being implemented in the early years in NSW schools. The Report on the Outcomes of Consultation: Literacy and Numeracy Action Plan – Initial Framework noted NSW and international evidence regarding the steps needed to produce growth in literacy and numeracy performance, notably:

- Identify, on entry at Kindergarten, the level of attainment in literacy and numeracy for each child, and tailor a specific program of learning to meet that child's needs.
- Change teaching practice from a focus on the whole class to a focus on the needs of the individual
- Where remediation in literacy or numeracy is needed, use tiered interventions according to need.

On the basis of its consultation and consideration of evidence, the Advisory Group recommended that resourcing equivalent to 200 full time teaching positions available for 2012 under the Literacy and Numeracy Action Plan should focus strategically on personalised learning for each student, diagnostic assessment of student need, use of a tiered intervention approach to addressing student need and teacher professional development in the classroom, under the direction of an instructional leader.

The Advisory Group also commissioned, following a public tender process, the Australian Council of Educational Research to undertake a more comprehensive literature review of the research evidence for the efficacy and effectiveness of a range of literacy and numeracy interventions in the early years of schooling. The report of this review, Literacy and Numeracy Interventions in the Early Years of Schooling: A Literature Review, noted the range of evidence available and noted six recommendations to improve the evidence base thereby assisting teachers to have the information needed to be able to make appropriate decisions regarding the interventions to be implemented to meet the individual needs of students.

In 2013, following another public tender, Erebus International was appointed as independent evaluators of the Action Plan. The Advisory Group in accordance with its brief assumed responsibility for managing the conduct of the evaluation and ensuring milestones were met.

Over the life of the Action Plan, each year, the Advisory Group responded to findings of the evaluation and provided the Minister with advice on suggested directions and strategies that could be adopted by targeted schools and sectors to continue to improve student literacy and numeracy learning outcomes. This advice also took into account the outcomes achieved by sectors as reported through annual sector reports.

The advice offered to the Minister over this five-year period included recommendations on extending the scope of any future Action Plan beyond Kindergarten to Year 2, and including more schools with underachievement in literacy and numeracy.

As the work of the Advisory Group drew to a close, in late 2015, the Minister also asked the Advisory Group to develop a proposal to encourage existing Action Plan schools to continue its strategies beyond the five years, and to encourage other schools with identified need to adopt the same strategies. The Advisory Group's advice was accepted with a Phase 2 Action Plan being incorporated into the Literacy and Numeracy Strategy, 2017 – 2020.

Membership

Name	Position	Term of appointment	Appointment criteria
Dr Ken Boston, AO	Chairman	22/06/2011 – 31/03/2017	Independent
Dr John Ainley	Principal Research Fellow, Australian Council for Educational Research	22/06/2011 – 31/03/2017	Education expert at professorial level
Ms Jane Cameron	Principal, Glenroi Heights Public School	22/06/2011 – 31/03/2017	Public school principal nominee
Dr Meredith Martin	Consultant and member of NSW Board of Studies, Teaching and Educational Standards	22/06/2011 – 31/03/2017	Education expert at professorial level
Mrs Cheryl McBride, OAM	Principal, Smithfield Public School	22/06/2011 – 31/03/2017	Public school principal nominee
Mrs Tina Roworth	Curriculum Advisor, Wagga Wagga office, Department of Education	22/06/2011 – 31/03/2017	Public school teacher nominee
Mrs Mandy Westgate	Principal, St Patrick's School, Mortlake	22/06/2011 – 31/03/2017	Catholic school principal nominee
Ms Robyn Yates, OAM	Senior Director, Government Relations, Association of Independent Schools, NSW	22/06/2011 – 31/03/2017	Independent school teacher nominee
Adjunct Professor Paul White	Australian Catholic University	14/11/2011 – 31/03/2017	Education expert at professorial level
Dr Christine Edwards-Groves	Senior Lecturer, Charles Sturt University	1/07/2013 - 31/03/2017	Education expert at professorial level
Dr David Cullen	Director, Early Childhood and Primary Education, Department of Education and Communities	24/02/2014 - 31/03/2017	Government sector representative
Mrs Margaret McKay	Division Head, Student Services, Association of Independent Schools, NSW	24/02/2014 - 31/03/2017	Independent sector representative
Ms Rosalie Nott	Assistant Director, Education Policy, Catholic Education Commission, NSW	24/02/2014 - 31/03/2017	Catholic sector representative
Mr Jason Miezis	Director, Early Childhood and Primary Education, Department of Education and Communities	1/01/2016 - 31/03/2017	Government school sectoral representative

Name	Position	Term of appointment	Appointment criteria
Professor Peter Freebody	Professorial Research Fellow, University of Sydney	22/06/2011 – 24/04/2013	Education expert at professorial level
Ms Cindy Berwick	President, Aboriginal Education Consultative Group (AECG) Incorporated.	22/06/2011 - 30/06/2014	AECG Inc. nominee
Mr Jim Munro	Chief Operating Officer The Exodus Foundation	22/06/2011 – 22/08/ 2012	Non-government organisation

Appendix 3: Survey Response Rates

Table A2: Principal responses to survey by length of experience in current school, 2013-2016, all sectors*

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Less than 6 months	12	3	2	4
Less than 1 year	5	14	14	7
3 years	23	27	21	26
3-5 years	11	16	23	22
5-10 years	28	20	24	25
More than 10 years	21	19	17	16
N=	**105**	**237**	**287**	**411**

*For breakdown of length of principal experience by sector 2013-2015 see 2015 Progress Report Appendices

Table A3: Principal responses to survey by school location, 2013-2016, All sectors*

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
Metropolitan	38	28	30	28
Regional City	20	23	22	23
Rural	37	43	39	39
Remote	5	9	9	10
N=	**136**	**240**	**295**	**405**

Table A4: Principal responses to survey by school enrolment, 2013-2016, All sectors

	2013 (%)	2014 (%)	2015 (%)	2016 (%)
10 or less	2	6	8	5
11 to 30	13	14	11	15
31 to 50	12	11	12	13
51 to 70	11	12	6	8
71 to 90	10	10	8	9
91 or more	54	47	54	50
N=	**136**	**241**	**294**	**410**

Table A5: Instructional Leader responses by length of experience in current school

	2013		2014		2015		2016	
	Govt (%)	Catholic (%)	Govt (%)	Catholic (%)	Govt (%)	Catholic (%)	Govt (%)	Catholic (%)
Less than 6 months	38	10	37	0	5	1	4	0
Less than 1 year	53	10	37	15	31	10	8	6
3 years	7	25	8	21	38	20	55	17
3-5 years	0	10	6	15	12	13	16	18
5-10 years	2	20	3	15	5	13	7	15
More than 10 years	0	25	9	34	9	44	10	44
N=	**45**	**40**	**66**	**47**	**192**	**94**	**223**	**87**

Table A6: Before you commenced as Instructional Leader, how familiar were you with the school/s in which you work and their local communities?

	2013		2014		2015		2016	
	Govt (%)	Catholic (%)	Govt (%)	Catholic (%)	Govt (%)	Catholic (%)	Govt (%)	Catholic (%)
Very familiar	18	23	30	60	58	71	39	67
Some familiarity	43	57	50	28	21	20	39	22
Not familiar	39	20	20	12	21	9	22	11
N=	**51**	**65**	**192**	**60**	**47**	**95**	**227**	**85**

Table A7: Position Titles of Instructional Leader Equivalents, Catholic Schools, 2016

Position Title	Per cent responses
Teacher Educator	10
Literacy/Numeracy Focus teacher	16
Literacy/Numeracy Instructional Leader	13
Lead Teacher	12
State Action Plan Teacher	14
Numeracy Intervention Teacher	1
Literacy and Numeracy Project Facilitator	14
Project teacher	9
Literacy Coach/Numeracy Specialist	1
Action Plan Facilitator	1
Reading Recovery teacher	2
Other	7
N=	**88**

Appendix 4: K-2 Assessment Disaggregated Data

Disaggregated data relating to students' achievements K-2 as assessed by their teachers against the standards represented in the Literacy and Numeracy Continua 2012-2016 are shown in Appendix 4. A summary of the key points arising from analysis of these data are shown below.

4.1: K-2 Literacy Disaggregated Data for Government schools

K-2 Reading (Aspects of Text) by Gender in Government LNAP schools

- At each Year level K-2, a larger percentage of female students were rated as at or above grade level than male students at the end of each year 2012-2016, reflecting the pattern which is also evident in NAPLAN data for Year 3 (refer to Table A8).
- In 2016, 73 per cent of Kindergarten girls were at or above the end-of-year standard compared to 64 per cent of boys. At Year 2 level in 2016, 72 per cent of girls were at or above the end of-year standard compared to 65 per cent of boys.
- The gap in performance between boys and girls has not changed significantly since 2012.

Table A8: Percentage of K–2 students below, at or above relevant standard in Reading (Aspects of Text), by Gender, Government LNAP schools, 2012-2016

	Girls			Boys		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Reading Texts						
2012	51	27	22	60	25	15
2013	33	39	27	44	35	21
2014	32	40	28	39	37	25
2015	26	45	29	33	43	23
2016	27	50	23	36	45	19
Year 1 Reading Texts						
2012	52	29	20	60	26	14
2013	38	33	29	51	30	19
2014	39	34	27	48	29	23
2015	23	38	38	32	36	32
2016	25	36	39	33	36	32
Year 2 Reading Texts						
2012	48	34	18	55	30	15
2013	41	36	23	52	31	17
2014	46	38	16	56	32	12
2015	30	50	19	38	45	17
2016	28	53	19	35	49	16

K-2 Reading by Aboriginal and non-Aboriginal students in Government LNAP schools

The data in relation to K-2 Aboriginal students in Action Plan schools need to be interpreted with caution as the number of such students is relatively small. The following trends are noted:

- The percentage of Aboriginal students reading at or above the K-2 end-of-year standards has increased between 2012 and 2016. At Kindergarten level, in 2012, 31 per cent of Aboriginal students were rated as at or above the expected Reading standard compared to 59 per cent

in 2016. At Year 2 level, 40 per cent of Aboriginal students were rated at or above the Reading standard in 2012 but in 2016 this had increased to 57 per cent (refer to Table A19).

- While the percentage of Aboriginal students reading at or above the end of year standard has increased, a substantial gap remains between Aboriginal and non-Aboriginal students' K-2 Reading outcomes. In 2016, 58 per cent of Aboriginal Kindergarten students were rated as at or above the expected end-of-year standard for Reading, compared to 71 per cent of non-Aboriginal students. At Year 2 level, 57 per cent of Aboriginal students were at or above the expected end-of-year standard for Reading, compared to 71 per cent of non-Aboriginal students in 2016.
- The gap between Aboriginal and non-Aboriginal students has not changed substantially over time. The gap between Aboriginal and non-Aboriginal students in Kindergarten in 2012 was 18 percentage points, and was 13 percentage points in 2016. For Year 2 students, the gap was 11 percentage points in 2012 and 14 points in 2016.

Table A9: Percentage of K–2 students below, at or above relevant standard in Reading, by Aboriginal and non-Aboriginal students, Government LNAP schools, 2012-2016

	Aboriginal students			non-Aboriginal students		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Reading Texts						
2012	69	19	12	51	29	20
2013	49	31	19	37	38	25
2014	47	37	16	32	38	30
2015	41	41	18	27	45	28
2016	42	45	12	29	48	23
Year 1 Reading Texts						
2012	65	20	16	53	30	17
2013	55	30	15	42	32	26
2014	57	27	16	39	33	28
2015	42	36	22	23	38	39
2016	41	34	25	26	36	38
Year 2 Reading Texts						
2012	60	22	18	49	35	16
2013	56	27	17	44	35	21
2014	65	28	8	47	37	16
2015	47	41	12	31	49	20
2016	43	46	11	29	52	19

K-2 Reading by school location in Government LNAP schools

- Across all year levels, there were no significant differences between the percentage of students in Metropolitan schools rated as at or above the expected end-of-year Reading standard each year than non-Metropolitan students (the difference each year is in the order of 2-4 percentage points). (Refer to Table A10)

Table A10: Percentage of K–2 students below, at or above relevant standard in Reading, by Location, Government LNAP schools, 2012-2016

	Metropolitan			non-Metropolitan		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Reading Texts						
2012	58	26	17	55	26	19
2013	38	43	19	40	31	29
2014	40	43	17	35	37	28
2015	31	43	26	28	46	26
2016	33	46	21	30	50	20
Year 1 Reading Texts						
2012	56	29	15	58	25	17
2013	44	32	24	45	32	23
2014	44	33	23	43	31	27
2015	27	38	35	29	36	34
2016	30	36	34	28	35	37
Year 2 Reading Texts						
2012	54	37	9	49	25	26
2013	47	37	16	47	29	24
2014	51	36	14	52	34	15
2015	33	49	18	35	46	18
2016	33	49	17	29	53	18

K-2 Writing by Gender in Government LNAP schools

- At each grade level from Kindergarten to Year 2, a higher proportion of girls were rated as at or above the expected end-of-year grade standard for Writing each year from 2012 to 2015 than boys. (Refer to Table A11).
- In 2016, 69 per cent of Kindergarten girls were rated as at or above the Writing end-of-year standard compared to 57 per cent of boys. In 2016, 42 per cent of Year 2 girls were at or above the end of year grade standard compared to 29 per cent of boys.
- The gap between girls and boys in K-2 writing has not decreased significantly since 2012.
- At every grade level, the percentage of boys rated as at risk (i.e. more than one cluster behind the expected end of year standard) is greater than for girls. In 2016, there is a 12 percentage point difference between boys and girls who are more than one cluster behind the expected standard at the Year 2 level. The gap between the percentage of boys who were more than one cluster behind at Year 1 level is 15 percentage points higher than for girls in 2016 (refer to Table A12).

Table A11: Percentage of K–2 students below, at or above relevant standard in Writing by Gender, Government LNAP schools, 2012-2016

	Girls			Boys		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Writing						
2012	55	37	8	67	28	5
2013	40	44	16	52	40	9
2014	40	46	14	51	39	10
2015	30	54	16	42	48	10
2016	31	55	14	43	49	9
Year 1 Writing						
2012	63	30	7	74	22	4
2013	54	34	12	68	26	6
2014	63	28	9	72	22	6
2015	46	41	13	59	33	9
2016	46	42	12	61	33	7
Year 2 Writing						
2012	66	31	4	74	22	4
2013	60	35	6	73	23	4
2014	69	27	4	82	15	3
2015	61	34	6	72	24	4
2016	58	36	6	71	25	4

Table A12: Distribution of Writing scores by Continuum Cluster and Gender, Government LNAP schools, 2014-2016

		Per cent of students										
Year	Cluster	1	2	3	4	5	6	7	8	9	10	11
		Kindergarten										
2014	Girls	2	11	27	47	13	1	0	0	0	0	0
	Boys	3	15	33	39	9	1	0	0	0	0	0
2015	Girls	1	8	21	54	15	1	0	0	0	0	0
	Boys	2	13	27	48	9	1	0	0	0	0	0
2016	Girls	1	9	21	55	13	1	0	0	0	0	0
	Boys	2	13	28	49	8	1	0	0	0	0	0
		Year 1										
2014	Girls	0	1	5	18	38	28	8	1	0	0	0
	Boys	0	3	9	25	35	22	5	1	0	0	0
2015	Girls	0	1	4	12	29	41	10	2	0	0	0
	Boys	0	3	6	18	32	33	7	1	0	0	0
2016	Girls	0	1	3	12	30	42	10	2	0	0	0
	Boys	0	2	6	19	34	33	6	1	0	0	0
		Year 2										
2014	Girls	0	0	2	6	13	21	27	27	4	0	0
	Boys	0	1	4	10	18	23	25	15	2	0	0
2015	Girls	0	0	1	4	9	16	29	34	5	1	0
	Boys	0	1	3	7	14	21	27	24	3	0	0
2016	Girls	0	1	1	4	9	17	27	36	5	0	0
	Boys	0	1	2	7	14	20	27	25	3	0	0

K-2 Writing for Aboriginal and non-Aboriginal students in Government LNAP schools

- The percentage of Aboriginal students rated as at or above the Kindergarten end-of-year standard for Writing has increased from 28 per cent in 2012 to 52 per cent in 2016. At Year 1 level, 24 per cent of Aboriginal students were rated as at or above the expected end-of-year standard in 2012 compared to 34 per cent in 2016. There has been no significant change in the percentage of Year 2 Aboriginal students at or above the Writing standard (25% in 2012 and 2016). (Refer to Table A13)
- Despite these increases, a smaller percentage of Aboriginal students than non-Aboriginal students were rated as at or above the expected end-of-year Writing grade standard at all year levels and in each year 2012-2016.
- The gap in K-2 Writing outcomes between Aboriginal and non-Aboriginal students has not closed substantially since 2012. More than two-thirds of Aboriginal students still leave Year 2 at least one cluster behind the expected standard. An increased focus on Writing skills across K-2 and particularly, effective Tier 2 and Tier 3 Writing interventions for Indigenous students appears to be warranted.

Table A13: Percentage of K–2 students below, at or above relevant standard in Writing, by Aboriginal and non-Aboriginal status, Government LNAP schools, 2012-2016

	Aboriginal students			non-Aboriginal students		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Writing						
2012	72	24	4	50	27	23
2013	55	38	7	44	43	13
2014	58	35	7	42	45	13
2015	48	45	8	33	53	14
2016	48	47	6	35	53	12
Year 1 Writing						
2012	76	21	3	49	30	21
2013	73	22	5	58	32	10
2014	79	18	3	65	27	9
2015	66	29	5	48	39	13
2016	65	28	6	51	39	10
Year 2 Writing						
2012	76	23	2	44	35	21
2013	74	23	3	64	31	5
2014	85	14	1	73	23	4
2015	77	21	1	63	31	6
2016	75	23	2	63	32	5

K-2 Writing by school location in Government LNAP schools

- At all year levels, there are no significant differences in the percentage of students at or above the expected end-of-year standard for Writing between schools in Metropolitan and non-Metropolitan areas in 2016. (Refer to Table A14)

Table A14: Percentage of K–2 students below, at or above relevant standard in Writing, by Location, Government LNAP schools, 2012-2016

	Metropolitan			non-Metropolitan		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Writing						
2012	61	33	6	64	30	6
2013	43	47	10	48	38	14
2014	46	43	11	46	42	12
2015	38	49	14	34	55	11
2016	39	50	11	34	55	11
Year 1 Writing						
2012	70	25	5	68	27	5
2013	58	32	9	59	33	8
2014	69	25	6	67	25	8
2015	52	36	12	53	37	10
2016	55	36	9	52	38	10
Year 2 Writing						
2012	69	24	7	68	27	5
2013	66	30	3	60	34	6
2014	76	21	3	76	21	4
2015	64	30	5	69	28	4
2016	66	30	5	64	32	4

K-2 Disaggregated data for Numeracy in Government schools

K-2 Numeracy by Gender, Government LNAP schools

- In 2015 and 2016, there were no significant differences between Numeracy (EAS) outcomes between boys or girls at any year level K-2. (Refer to Table A15).

Table A15: Percentage of K–2 students below, at or above relevant standard in Numeracy by Gender, Government LNAP schools, 2012-2016

	Female			Male		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Numeracy						
2012	30	45	25	33	44	23
2013	14	52	34	18	47	35
2014	3	40	57	4	37	59
2015	4	41	55	3	42	55
2016	3	45	52	4	43	53
Year 1 Numeracy						
2012	34	48	19	41	40	19
2013	24	37	39	27	35	38
2014	13	32	56	14	27	58
2015	9	25	65	9	27	64
2016	9	26	64	10	24	66

Year 2 Numeracy						
2012	41	46	14	37	44	19
2013	26	51	23	29	44	26
2014	17	50	33	18	43	39
2015	14	41	45	12	50	37
2016	12	48	40	12	40	48

K-2 Numeracy by Aboriginal and non-Aboriginal students, Government LNAP schools

- There has been an increase in the percentage of both Aboriginal and non-Aboriginal students rated as at or above the expected end-of-year standard in Numeracy since 2012. The percentage of Aboriginal Kindergarten students rated as at or above the expected end-of-year standard increased from 73 per cent in 2012 to 95 per cent in 2016. At Year 2 level, the percentage of Aboriginal students at or above the end-of-year standard increased from 66 per cent in 2012 to 80 per cent in 2016. (Refer to Table A16)
- A greater proportion of ATSI students were rated as below grade standard than non-ATSI at each grade, Kindergarten to Year 2, in every year 2012-2016. The size of the gap is decreasing over time. In 2012, the gap between Aboriginal and non-Aboriginal Kindergarten students in Numeracy was 17 percentage points but only 2 percentage points in 2016. At Year 1, the gap was 13 points in 2012 and 8 percentage points in 2016. For Year 2 students, the gap decreased from 17 percentage points in 2012 to 10 percentage points in 2016.

Table A16: Percentage of K–2 students below, at or above relevant standard in Numeracy by Aboriginal and non-Aboriginal students, Government LNAP schools, 2012-2016

	Aboriginal students			non-Aboriginal students		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Numeracy						
2012	45	39	16	28	45	27
2013	20	50	30	16	49	36
2014	7	49	45	3	35	62
2015	5	51	44	3	40	58
2016	5	53	42	3	42	55
Year 1 Numeracy						
2012	48	39	14	35	44	21
2013	35	34	30	22	38	40
2014	22	35	43	11	28	61
2015	16	30	54	7	25	68
2016	16	31	54	8	24	68
Year 2 Numeracy						
2012	54	36	10	35	47	18
2013	36	45	19	25	48	27
2014	26	49	25	15	45	40
2015	21	51	28	11	44	45
2016	20	47	34	10	43	47

K-2 Numeracy by geographic location, Government LNAP schools

- There has been a substantial decrease in the gap in K-2 Numeracy outcomes between Metropolitan and Non-Metropolitan students in government schools since 2012. In 2012, the

gap in the percentage of Metropolitan and non-Metropolitan students rated as at or above the expected end-of-year standard was 11 percentage points but one percentage point different in 2016. At Year 1 level, the gap was 6 percentage points in 2012 and 1 percentage point different in 2016. For Year 2 students, the gap was 13 points in 2012 but in 2016 had reduced to 2 percentage points. (Refer to Table A17).

Table A17: Percentage of K–2 students below, at or above relevant standard in Numeracy by Location, Government LNAP schools, 2012-2016

	Metropolitan			non-Metropolitan		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Numeracy						
2012	27	48	26	38	40	22
2013	14	53	34	19	46	35
2014	3	36	60	4	41	55
2015	3	40	56	3	44	62
2016	4	43	53	3	44	53
Year 1 Numeracy						
2012	35	43	21	41	43	16
2013	24	36	40	27	36	36
2014	12	29	59	15	30	55
2015	8	24	68	10	28	62
2016	9	25	66	10	25	64
Year 2 Numeracy						
2012	34	48	18	47	39	14
2013	27	48	25	29	47	25
2014	17	47	36	18	46	36
2015	12	46	42	14	45	40
2016	11	44	45	13	44	43

Matched vs Unmatched students, Government schools

- Unmatched students", are those who were present in the school at the time of assessment. These figures do not take account of student mobility, and the end-of-year assessments will include data from some students who may have been relatively new to the school and thus had no real length of exposure to the Action Plan. Table A18 compares whether the results for students who have been continuously enrolled in the same Action Plan school between Kindergarten and the end of Year 2 (matched) are different from those who have not been continuously enrolled in the same Action Plan school (unmatched).
- Table A18 shows that in the government schools targeted by the Action Plan in 2015, there was a difference of up to 16 per cent in the size of the two samples. In other words, only about 85-91 per cent of the students were likely to have been continuously present in the same school. In 2016, the percentage of students rated as at or above the expected end-of-year standard was in the order of 2-3 percentage points higher for matched students in Reading, Writing and Numeracy. Continuous enrolment in the same school, on average, does appear to make a small but positive difference to students' achievement in the Government school sector.

Table A18: Number of "matched" vs "unmatched" students in government LNAP schools, 2015-2016 (Aspects of Text)

	2015 Number of students		
	"Unmatched"	"Matched"	Difference
Kindergarten	9,720	8,883	837 (9%)
Year 1	5,768	4,869	899 (16%)
Year 2	5,880	4,991	889 (15%)
	2016 Number of students		
	"Unmatched"	"Matched"	Difference
Kindergarten	9,714	8,915	799 (8%)
Year 1	9,410	8,069	1,341 (14%)
Year 2	9,403	7,940	1,463 (15%)

- Table A19 below shows that the results at each year level and for each aspect of Reading, Writing and Numeracy examined, the percentage of students in 2015 rated as at or above the expected end-of-year standard was about 2 per cent higher for the "matched" student sample. In 2016, the percentage of students rated as at or above the expected end-of-year standard was in the order of 2-3 percentage points higher for matched students in Reading, Writing and Numeracy.

Table A19: Per cent of Students Below, at and above end-of-year standard, Matched vs Unmatched students, Government LNAP Schools, 2015-16

	Per cent of Students			
	2015		2016	
	Unmatched	Matched	Unmatched	Matched
	At or above	At or above	At or above	At or above
Reading				
Kindergarten	70	72	68	70
Year 1	72	74	71	74
Year 2	66	68	68	71
Writing				
Kindergarten	64	66	63	65
Year 1	48	50	46	49
Year 2	34	35	35	37
Numeracy				
Kindergarten	97	97	97	97
Year 1	91	92	90	92
Year 2	87	88	88	90

4.2 Disaggregated K-2 Continua data for Catholic LNAP schools

K-2 Reading by Gender in Catholic LNAP schools

- In Catholic schools, K-2 Reading (Aspects of Text) Continua data show a higher percentage of girls at all levels K-2 are rated as at or above the expected standard (by 7 percentage points at Year 1 level and 5 percentage points at Year 2) in 2016 (Refer to Table A20). Girls also outperform boys at every year level in Comprehension. The percentage of both male and female students below the end-of-year standard has decreased at Kindergarten and Year 1 level in 2016, but has increased slightly for Year 2 students. (Refer to Table A21).

Table A20: K-2 Reading Texts Assessment data by Gender by Catholic LNAP schools

	Girls			Boys		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Reading Texts						
2015	24	34	42	32	30	37
2016	22	35	44	28	36	37
Year 1 Reading Texts						
2015	28	27	45	34	27	40
2016	22	30	48	29	29	42
Year 2 Reading Texts						
2015	30	26	44	35	28	37
2016	29	29	42	34	27	39

Table A21: K-2 Reading Comprehension Assessment by Gender, 2015-16, Catholic LNAP schools

	Females			Males		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Reading Comprehension						
2015	36	43	22	44	38	18
2016	33	45	23	40	42	18
Year 1 Reading Comprehension						
2015	40	32	28	45	30	25
2016	35	37	28	40	34	26
Year 2 Reading Comprehension						
2015	43	35	21	49	33	18
2016	47	36	16	52	34	15

K-2 Reading by Language Background in Catholic LNAP schools

- In 2016, a higher percentage of LBOTE students are rated as at or above the expected standards in Reading (Texts) in at each year level, and have improved significantly over the 2015 results. Non-LBOTE Reading has not improved to the same extent. (Refer to Table A22).

Table A22: K-2 Reading Aspects of Text Assessment data by LBOTE, Catholic LNAP schools

	LBOTE			non-LBOTE		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Reading (Aspects of Text)						
2015	25	32	43	33	32	36
2016	17	32	51	28	36	36
Year 1 Reading (Aspects of Text)						
2015	27	28	45	34	26	40
2016	16	26	57	29	30	40
Year 2 Reading (Aspects of Text)						
2015	28	30	42	36	25	39
2016	22	21	57	35	31	34

Table A23: K-2 Reading Comprehension Assessment data by LBOTE, Catholic LNAP schools

	LBOTE			non-LBOTE		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Reading (Comprehension)						
2015	33	42	25	53	34	13
2016	37	42	21	36	43	21
Year 1 Reading (Comprehension)						
2015	36	32	32	57	25	18
2016	39	33	28	37	36	27
Year 2 Reading (Comprehension)						
2015	39	39	22	54	29	17
2016	50	36	14	49	34	16

K-2 Reading for Aboriginal and Non-Aboriginal Students in Catholic LNAP schools

- A lower percentage of Aboriginal students in Catholic schools were rated as at or above the expected standard in Reading at all levels K-2 in 2016. The difference is around 18 percentage points for Year 2 and 32 percentage points for Kindergarten. (Refer to Table A24). Aboriginal students also perform significantly worse in Comprehension than non-Aboriginal students.

Table A24: K-2 Reading Text Assessment data by Aboriginality, 2015-2016, Catholic LNAP schools

	Aboriginal			Non-Aboriginal		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Reading (Aspects of Text)						
2015	51	29	19	27	32	41
2016	54	29	16	23	35	42
Year 1 Reading (Aspects of Text)						
2015	52	26	22	29	27	44
2016	54	21	25	24	30	47
Year 2 Reading (Aspects of Text)						
2015	53	23	24	32	26	42
2016	48	25	27	30	28	41

Table A25: K-2 Reading Comprehension data by Aboriginality, 2015-2016, Catholic LNAP schools

	Aboriginal			Non-Aboriginal		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Reading (Comprehension)						
2015	52	38	11	40	40	20
2016	63	28	9	34	44	21
Year 1 Reading (Comprehension)						
2015	65	25	9	43	30	27
2016	51	35	14	37	35	28
Year 2 Reading (Comprehension)						
2015	64	24	12	46	35	20
2016	60	21	18	49	36	15

K-2 Reading by school location in Catholic LNAP schools

- While Metropolitan students tended to outperform non-Metropolitan students at all year level in 2015, in 2016, the differences due to location in Catholic schools were not consistent, with no significant difference at Kindergarten and Year 1 level but a 7-percentage point difference in favour of Metropolitan students at Year 2). (Refer to Table A26).

Table A26: K-2 Reading Text Assessment data by School Location, 2015-16, Catholic LNAP schools

	Metropolitan			Non-Metropolitan		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Reading (Aspects of Text)						
2015	24	33	43	35	31	34
2016	22	35	43	30	35	35
Year 1 Reading (Aspects of Text)						
2015	26	25	49	38	31	32
2016	21	29	50	34	29	37
Year 2 Reading (Aspects of Text)						
2015	26	23	51	42	34	24
2016	27	26	47	40	32	28

Table A27: K-2 Reading Comprehension data by School Location, 2015-16, Catholic LNAP schools

	Metropolitan			Non-Metropolitan		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Reading (Comprehension)						
2015	42	39	19	35	43	22
2016	37	42	21	36	45	20
Year 1 Reading (Comprehension)						
2015	42	31	28	44	31	25
2016	37	36	27	39	35	26
Year 2 Reading (Comprehension)						
2015	45	33	21	48	35	18
2016	51	35	14	46	33	21

K-2 Writing in Catholic LNAP schools

- A higher percentage of girls continue to be judged as at or above the expected Writing standards at all grade levels K-2 in Catholic schools in 2016. The difference is around 12 percentage points at each year level. Only 29 per cent of Year 2 boys in Catholic schools in 2016 were rated as at or above the expected Writing standards. (Refer to Table A28).

Table A28: K-2 Writing Assessment data by Gender, 2015-2016, Catholic LNAP schools

	Girls			Boys		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Writing						
2015	34	47	19	49	39	12
2016	30	48	21	42	43	15
Year 1 Writing						
2015	54	33	13	65	27	8
2016	46	37	17	58	32	11
Year 2 Writing						
2015	55	34	11	70	25	25
2016	59	32	9	71	23	6

K-2 Writing by Aboriginal and Non-Aboriginal students in Catholic LNAP schools

- A greater percentage of non-Aboriginal students continue to be judged as at or above the expected Writing Standards in Catholic schools in 2016 (by 34 percentage points in Kindergarten and by 15 percentage points at Year 2. Only 23 per cent of Aboriginal students in Year 2 are rated as at or above the expected standard. (Refer to Table A29).

Table A29: K-2 Writing Assessment data by Aboriginality, 2015-2016, Catholic LNAP schools

	Aboriginal			non-Aboriginal		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Writing						
2015	63	31	6	39	43	17
2016	63	30	7	29	48	23
Year 1 Writing						
2015	75	22	3	57	31	11
2016	74	19	7	52	34	14
Year 2 Writing						
2015	78	18	4	62	30	8
2016	77	20	3	62	28	10

K-2 Writing Assessment data by LBOTE, 2015-2016, Catholic LNAP Schools

- In 2016, the data in relation to LBOTE students shows no significant differences to the results of ESB students at any year level. The percentage of non-LBOTE students below standard was significantly reduced in 2016. (Refer to Table A30).

Table A30: K-2 Writing Assessment data by LBOTE, 2015-2016, Catholic LNAP Schools

	LBOTE			non-LBOTE		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Writing						
2015	36	46	18	58	31	11
2016	33	49	18	37	45	18
Year 1 Writing						
2015	55	33	12	70	22	8
2016	49	37	14	53	33	14
Year 2 Writing						
2015	68	25	8	64	28	8
2016	49	37	14	53	33	14

K-2 Writing by school location in Catholic LNAP Schools

- Differences due to geographic location for Writing in Catholic schools are small at all Kindergarten and Year 1 levels in 2016. The differences are greater at Year 2 level (by 7 percentage points). (Refer to Table A31).

Table A31: K-2 Writing Assessment data by Location, 2015-2016, Catholic LNAP Schools

	Metropolitan			non-Metropolitan		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Writing						
2015	43	42	15	38	46	16
2016	37	47	16	33	44	23
Year 1 Writing						
2015	58	32	10	60	30	11
2016	52	36	12	52	32	16
Year 2 Writing						
2015	61	31	8	67	26	7
2016	67	26	7	60	31	10

Disaggregated K-2 Numeracy Data for Catholic schools

- Gender differences are small in Catholic school Numeracy in both 2015 and 2016 at all Year levels K-2. (Refer to Table A32).
- Differences between Aboriginal and non-Aboriginal students' numeracy results have been significantly reduced in 2016 (although caution is needed in interpretation due to the small number of Aboriginal students involved. A higher percentage of non-Aboriginal students continue to be rated as at or above the expected Numeracy standard at all levels K-2 in 2016 (by 10 percentage points at Year 2). (Refer to Table A33).
- Differences due to language background are not significant in reporting Catholic schools in 2016 at any year level (Refer to Table A34).
- There are only non-significant differences in Numeracy outcomes for Metropolitan and non-Metropolitan students in Catholic schools in 2016, apart from a 7-percentage point improvement in Year 1 non-Metropolitan schools). (Refer to Table A35).

Table A32: K-2 Numeracy Assessment data by Gender, 2015-2016, Catholic LNAP schools

	Female			Male		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Numeracy						
2015	2	30	68	3	29	75
2016	2	34	64	3	34	63
Year 1 Numeracy						
2015	9	24	67	9	22	69
2016	11	24	64	12	21	68
Year 2 Numeracy						
2015	15	38	47	13	33	55
2016	15	44	41	14	35	50

Table A33: K-2 Numeracy Assessment data by Aboriginality, 2015-2016, Catholic LNAP Schools

	Aboriginal			non-Aboriginal		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Numeracy						
2015	17	23	61	3	30	74
2016	5	46	49	2	33	64
Year 1 Numeracy						
2015	26	26	48	10	23	66
2016	19	30	51	11	22	67
Year 2 Numeracy						
2015	33	33	34	12	32	55
2016	24	38	38	14	40	46

Table A34: K-2 Numeracy Assessment data by LBOTE, 2015-2016, Catholic LNAP Schools

	LBOTE			non-LBOTE		
Year	Below standard (%)	At standard (%)	Above standard (%)	Below standard (%)	At standard (%)	Above standard (%)
Kindergarten Numeracy						
2015	2	23	74	3	29	76
2016	2	28	70	3	36	62
Year 1 Numeracy						
2015	8	25	67	8	21	71
2016	12	25	64	11	21	68
Year 2 Numeracy						
2015	11	33	56	20	37	43
2016	16	40	44	14	39	47

Table A35: K-2 Numeracy Assessment data by Location, 2015-2016, Catholic LNAP Schools

	Metropolitan			non-Metropolitan		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Numeracy						
2015	2	32	66	4	26	68
2016	2	34	64	3	34	63
Year 1 Numeracy						
2015	8	20	72	11	28	61
2016	14	21	65	7	23	70
Year 2 Numeracy						
2015	13	37	50	15	32	53
2016	16	42	42	12	36	52

4.3 Disaggregated K-2 Continua data, Independent LNAP schools

K-2 Reading in Independent LNAP schools

- In Independent schools, K-2 Reading (Aspects of Text) Continua data show only small differences between boys and girls in 2015 (Refer to Table A36). Differences are also small in relation to Comprehension (Refer to Table A37).

Table A36: K-2 Reading Texts Assessment by Gender, 2014-2016, Independent LNAP schools

	Girls			Boys		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Reading Texts						
2014	59	24	17	62	21	17
2015	37	34	29	49	27	24
2016	45	33	22	41	38	21
Year 1 Reading Texts						
2014	62	17	21	58	22	20
2015	46	26	28	43	23	34
2016	42	23	34	45	26	36
Year 2 Reading Texts						
2014	57	23	20	58	22	20
2015	47	28	25	49	30	20
2016	44	29	27	44	31	25

Table A37: K-2 Reading Comprehension Assessment data by Gender, 2014-2016, Independent LNAP schools

	Males			Females		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Reading Comprehension						
2014	69	24	7	69	24	7
2015	50	38	11	55	32	14
2016	47	41	13	47	44	9
Year 1 Reading Comprehension						
2014	68	21	11	67	23	14
2015	60	27	13	56	30	14
2016	53	30	17	54	30	16
Year 2 Reading Comprehension						
2014	72	16	12	70	21	9
2015	56	33	10	60	29	11
2016	56	31	12	56	31	13

K-2 Reading by LBOTE in Independent LNAP schools

- In 2016, a higher percentage of LBOTE students are rated as at or above the expected standards in Reading in Kindergarten (by about 11 percentage points, but not in Year 1 or Year 2. The differences between Year 1 and Year 2 results by language background has continued to reduce since 2015 (Refer to Table A38).

Table A38: K-2 Reading Texts Assessment data, by LBOTE, Independent LNAP schools

	LBOTE			Non-LBOTE		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Reading (Aspects of Text)						
2015	39	36	25	45	28	27
2016	36	40	24	47	33	20
Year 1 Reading (Aspects of Text)						
2015	56	27	17	42	24	34
2016	44	28	28	43	23	34
Year 2 Reading (Aspects of Text)						
2015	56	32	11	45	28	26
2016	47	27	27	43	31	26

K-2 Reading by Aboriginal and Non-Aboriginal students in Independent LNAP schools

- A lower percentage of Aboriginal students in Independent schools were rated as at or above the expected standard in Reading in 2016. The difference is slightly greater at Kindergarten (41 percentage points in 2015, reduced to 22 percentage points in 2016) than for Year 2 (26 percentage points in 2016), and while the overall percentage of Aboriginal students below the expected standard has reduced at each year level between 2015 and 2016, the difference remains substantial. (Refer to Table A39). Note the number of Aboriginal students in Independent schools is small relative to the total.

Table A39: K-2 Reading Texts Assessment data, Aboriginality, Independent LNAP schools

	Aboriginal*			non-Aboriginal		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Reading (Aspects of Text)						
2015	80	12	7	41	32	28
2016	64	31	6	42	36	22
Year 1 Reading (Aspects of Text)						
2015	70	18	12	43	25	32
2016	66	21	14	42	25	33
Year 2 Reading (Aspects of Text)						
2015	67	24	9	47	30	23
2016	69	14	17	43	31	27

K-2 Reading by School Location in Independent LNAP schools

- A higher percentage of K-2 Metropolitan students in Independent schools were rated as at or above the expected Reading standard in both 2015 and 2016. The difference is 6 points at Kindergarten level and 7 percentage points at Year 2 level). (Refer to Table A40).

Table A40: K-2 Reading Texts Assessment data by School Location, Independent LNAP schools

	Metropolitan			Non-Metropolitan		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Reading (Aspects of Text)						
2015	39	38	23	46	25	29
2016	44	38	18	42	34	24
Year 1 Reading (Aspects of Text)						
2015	49	24	27	41	25	34
2016	43	28	28	44	22	35
Year 2 Reading (Aspects of Text)						
2015	52	31	17	45	28	27
2016	48	26	26	41	32	26

Disaggregated K-2 Writing Data for Independent schools

- A higher percentage of girls were rated as at or above the expected Writing standards at all grade levels K-2 in Independent schools in 2015. The difference was 11 points at Kindergarten level and 8 points at Year 2 level. In 2016, there was no difference between Kindergarten boys' and girls' results, but girls continued to outperform boys in Writing at Year 1 level (by 9 percentage points) and Year 2 level (4 percentage points) (Refer to Table A41). The overall percentage of both boys and girls scoring above expected standards remains very small.
- A greater percentage of non-Aboriginal students are rated as at or above the expected Writing Standards in Independent schools in 2016 (by 8 percentage points in Kindergarten and by 28 percentage points at Year 1 and 21 percentage points at Year 2). Only 5 per cent of Aboriginal students in Year 2 are rated as above the expected Year 2 standard. (Refer to

Table A42). The results for Aboriginal students in Kindergarten in targeted Independent schools improved substantially between 2015 and 2016, but did not improve for those in Year 1 or Year 2.

- In 2016, a lower percentage of LBOTE students were rated as at or above the Writing standard in Independent schools at Year 1 and Year 2 levels (by 7 percentage points at Year 2). There are only small differences at Kindergarten level (Refer to Table A43).
- Differences due to geographic location are small at K-1 level in Writing in 2016, but a higher percentage of non-Metropolitan students were rated as below the expected standard. Only 28 per cent of non-Metropolitan students in Independent school students were rated as at or above the Writing standard in 2016. (Refer to Table A44).

Table A41: K-2 Writing Assessment data by Gender, 2015-2016, Independent schools

	Girls			Boys		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Writing						
2015	35	50	15	46	43	11
2016	42	44	14	42	44	13
Year 1 Writing						
2015	62	28	9	69	22	9
2016	59	33	8	68	27	5
Year 2 Writing						
2015	68	25	7	76	20	80
2016	67	23	10	71	23	6

Table A42: K-2 Writing Assessment data by Aboriginality, 2015-2016, Independent schools

	Aboriginal			non-Aboriginal		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Writing						
2015	63	37	0	39	47	14
2016	50	44	6	42	44	14
Year 1 Writing						
2015	82	15	3	65	26	10
2016	90	7	3	62	31	7
Year 2 Writing						
2015	91	9	0	71	23	77
2016	89	6	6	68	24	8

Table A43: K-2 Writing Assessment data by LBOTE, 2015-2016, Independent Schools

	LBOTE			non-LBOTE		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Writing						
2015	39	47	14	41	46	13
2016	39	41	20	44	46	10
Year 1 Writing						
2015	74	20	6	63	26	10
2016	65	28	7	62	31	7
Year 2 Writing						
2015	77	22	1	71	23	77
2016	64	22	13	71	23	5

Table A44: K-2 Writing Assessment data by Location, 2015-2016, Independent Schools

	Metropolitan			non-Metropolitan		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Writing						
2015	36	50	13	44	44	13
2016	44	40	16	41	47	12
Year 1 Writing						
2015	66	23	10	65	27	8
2016	65	29	7	62	31	7
Year 2 Writing						
2015	73	20	7	71	24	76
2016	65	20	15	72	25	3

Disaggregated K-2 Numeracy Data for Independent schools

- Gender differences are small in Independent school Numeracy in 2016, with slightly more (1%) males than females below the standard. (Refer to Table A45).
- A higher percentage of non-Aboriginal students were rated as at or above the expected Numeracy standard at all year levels in 2016 but differences are small (a gap of 5 percentage points for Kindergarten and Year 1, and 3 percentage points for Year 2). (Refer to Table A46).
- Differences between ESB and LBOTE students' Numeracy in targeted Independent schools in 2016 are also not significant (Refer to Table A47).
- Likewise, differences between Metropolitan and non-Metropolitan students' Numeracy are small in targeted Independent schools in 2016. (Refer to Table A48).

Table A45: K-2 Numeracy Assessment data by Gender, 2014-2016, Independent LNAP schools

	Female			Male		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Numeracy						
2014	0	38	62	1	39	60
2015	1	22	77	0	22	84
2016	2	22	76	1	21	78
Year 1 Numeracy						
2014	10	29	61	10	35	65
2015	4	20	77	5	16	79
2016	1	28	71	4	16	80
Year 2 Numeracy						
2014	13	35	52	16	39	45
2015	12	33	56	8	28	64
2016	5	31	65	8	21	71

Table A46: K-2 Numeracy Assessment data by Aboriginality, 2015-2016, Independent LNAP Schools

	Aboriginal			non-Aboriginal		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Numeracy						
2015	0	27	73	1	22	81
2016	6	25	69	1	21	77
Year 1 Numeracy						
2015	6	21	73	4	18	78
2016	7	17	76	2	22	76
Year 2 Numeracy						
2015	18	36	45	10	30	60
2016	9	37	54	6	25	69

Table A47: K-2 Numeracy Assessment data by LBOTE, 2015-2016, Independent LNAP Schools

	LBOTE			Non-LBOTE		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Numeracy						
2015	0	29	71	1	19	82
2016	2	28	70	2	18	81
Year 1 Numeracy						
2015	4	23	73	4	17	79
2016	3	37	60	3	14	84
Year 2 Numeracy						
2015	18	32	49	8	30	63
2016	7	27	66	6	25	69

Table A48: K-2 Numeracy Assessment data by Location, 2015-2016, Independent LNAP Schools

	Metropolitan			Non-Metropolitan		
Year	**Below standard (%)**	**At standard (%)**	**Above standard (%)**	**Below standard (%)**	**At standard (%)**	**Above standard (%)**
Kindergarten Numeracy						
2015	0	24	76	1	21	82
2016	1	25	73	2	19	79
Year 1 Numeracy						
2015	5	20	75	3	17	80
2016	3	33	65	3	14	83
Year 2 Numeracy						
2015	16	34	50	6	28	66
2016	10	26	64	4	26	70

Matched vs Unmatched students, Independent LNAP schools

- The difference between the "matched" sample of students and "unmatched" students in Independent schools is negligible (less than 1% of the total number of students in these schools), and consequently, no difference in the performance of these two groups in 2015 and 2016 for Reading and Numeracy (See Table A49).
- It would appear that student mobility is a much less significant factor in Independent schools than it is in the government sector, where 10 per cent of the sample students are not present in the same school for the whole year.

Table A49: Matched vs Unmatched students, Independent LNAP schools, 2015-16

	Matched students			Unmatched students			
	Below (%)	At (%)	Above (%)	Below (%)	At (%)	Above (%)	
2015 Reading (Aspects of Text)							
Kinder (N=641)	43	30	27	43	30	27	N=655
Year 1 (N=631)	44	25	31	44	25	31	N=639
Year 2 (N=643)	47	30	23	48	29	23	N=660
2016 Reading (Aspects of Text)							
Kinder (N=653)	43	36	21	43	36	21	N=660
Year 1 (N=614)	43	25	32	43	25	32	N=631
Year 2 (N=628)	44	30	26	44	30	26	N=644
2015 Numeracy (Early Arithmetic Strategies)							
Kinder (N=641)	1	22	77	1	22	77	N=655
Year 1 (N=631)	4	18	78	4	18	78	N=639
Year 2 (N=643)	10	30	60	10	30	60	N=660
2016 Numeracy (Early Arithmetic Strategies)							
Kinder (N=653)	2	22	77	2	22	77	N=660
Year 1 (N=614)	3	22	76	3	22	76	N=631
Year 2 (N=628)	6	26	68	6	26	68	N=644

Appendix 5: NAPLAN Mean scores and Standard Errors

Table A50: Year 3 NAPLAN Reading Results, Action Plan vs Rest of NSW, 2010-2016

	Reading							
	Action Plan				Rest of NSW			
	No. students	Mean score	S.D	S.E	No. students	Mean score	S.D	S.E
2010	5,337	388.3	85.2	1.2	78,094	424.9	88.1	.3
2011	5,294	382.8	86.7	1.2	78,642	426.5	90.7	.3
2012	5,123	390.6	89.7	1.3	79,646	429.2	91.9	.3
2013	6,334	388.4	82.1	1.0	79,545	427.7	84.8	.3
2014	9,189	380.8	87.8	.9	80,765	428.3	89.0	.3
2015	13,290	384.8	88.9	.8	80,220	438.0	92.7	.3
2016	13,245	384.7	85.3	.7	82,326	436.2	87.4	.3

Table A51: Year 3 NAPLAN Writing Results, Action Plan vs Rest of NSW, 2011-2016

	Writing							
	Action Plan				Rest of NSW			
	No. students	Mean score	S.D	S.E	No. students	Mean score	S.D	S.E
2011	5,232	401.5	75.0	1.0	78,617	431.1	66.5	.2
2012	5,135	400.7	71.1	1.0	79,589	426.5	66.2	.2
2013	6,334	395.1	76.3	1.0	79,484	424.9	69.3	.2
2014	9,192	375.7	79.6	.8	80,687	412.8	70.7	.2
2015	13,298	390.5	73.6	.6	80,166	428.6	63.5	.2
2016	13,223	397.5	66.2	0.6	82,276	428.4	60.1	0.2

Table A52: Year 3 Numeracy NAPLAN Results, Action Plan vs Rest of NSW, 2010-2016

	Numeracy							
	Action Plan				Rest of NSW			
	No. students	Mean score	S.D	S.E	No. students	Mean score	S.D	S.E
2010	5,308	368.7	74.1	1.0	77,954	404.6	80.0	.3
2011	5,282	370.8	69.3	1.0	78,468	409.0	76.9	.3
2012	5,097	370.0	74.4	1.0	79,404	408.0	78.8	.3
2013	6,299	369.1	67.9	.9	79,361	407.4	73.7	.3
2014	9,181	369.9	77.2	.8	80,580	412.3	79.8	.3
2015	13,190	362.8	78.0	.7	79,987	409.1	83.2	.3
2016	13,184	366.4	72.4	.6	82,150	413.2	83.2	.3

Appendix 6: Disaggregated Year 3 NAPLAN Data

Year 3 NAPLAN scores by gender

- There has been a substantial and persistent gender difference in **Reading** at Year 3 level from 2012-2016. Girls significantly outperform boys, both in the Action Plan schools, and in non-targeted schools across NSW as a whole. (Refer to Table A53).
- The gap between the highest scoring group (girls in non-targeted schools) and boys in Action Plan schools is substantial and appears to be widening, (being on average around 54 scale points in 2012 and 71 scale points in 2016). The gap between boys and girls in both targeted and no-targeted schools in 2016 was on average 19 scale points.
- Boys, on average, score significantly lower than girls in **Writing** regardless of whether they attend Action Plan schools or not. The gap between girls in non-targeted schools and boys in targeted schools is 57 scale points in 2016, (reduced from 64 points in 2015), due to a substantial increase in boys mean scores in targeted schools in 2016. The gender gap is wider in Action Plan schools in 2016 (29 points) than in non-targeted schools (22 points). (Refer to Table A54). The gender gap in NAPLAN Writing is predictable from the K-2 Continua data, which shows a persistent significant gap at Year 2 level. While K-2 Writing has improved in both 2015 and 2016 for both boys and girls, this gap is likely to persist into the future. The lower scores achieved by boys generally and in targeted schools in particular in Writing suggest that a continuing focus in this area is warranted. The gender differentials in NAPLAN performance in all subject areas at the Whole-of-State level should be of considerable ongoing concern for educators in all sectors.
- Boys have outscored girls in Year 3 NAPLAN **Numeracy** in non-targeted schools by between 6 and 12 points since 2012 (the gap being greater in 2016 than in previous years). In Action Plan schools, the difference in performance by gender is small, with girls' performance roughly equalling that of boys in Action Plan schools over the same period (although the gender gap in Action Plan schools had increased to 6 scale points in 2016). Both boys and girls in Action Plan schools scored on average more than 50 points below the rest of state average in 2016. (Refer to Table A55). The recommendations made in previous evaluation Progress Reports in relation to a continuing focus on Numeracy in Action Plan schools, and further refinement of the Numeracy Continuum would appear to have continuing justification.

Table A53: Year 3 average NAPLAN scores in Reading, by Gender, 2012-2016

	Action Plan schools*		Rest of NSW		Whole of State	
	Male	Female	Male	Female	Male	Female
2012	382	400	423	436	421	434
2013	381	396	420	436	417	433
2014	373	390	424	433	419	429
2015	374	396	430	447	422	439
2016	375	394	427	446	420	439

Table A54: Year 3 average NAPLAN scores in Writing, by Gender, 2012-2016

	Action Plan schools*		Rest of NSW		Whole of State	
	Male	Female	Male	Female	Male	Female
2012	387	416	414	440	412	438
2013	380	410	412	438	410	436
2014	359	394	400	426	396	423
2015	376	406	417	440	412	435
2016	383	412	418	440	413	436

Table A55: Year 3 NAPLAN average scores in Numeracy, by Gender, 2012-16

	Action Plan schools*		Rest of NSW		Whole of State	
	Male	Female	Male	Female	Male	Female
2012	372	368	412	404	409	402
2013	369	369	410	404	407	402
2014	369	371	416	409	411	405
2015	364	362	414	404	407	398
2016	369	363	419	407	412	401

Year 3 NAPLAN by Language Background Other than English

- LBOTE students' Year 3 NAPLAN **Reading** average scores across non-targeted schools in NSW as a whole tend to be slightly, but not significantly higher than for ESB students at Year 3 level in every year since 2014. Similarly, the gap between LBOTE students and non-LBOTE students in Action Plan schools is small and has tended to be non-significant, and has not changed substantially over time. LBOTE students in Action Plan schools have tended to continuously score significantly lower than similar students elsewhere in NSW. (Refer to Table A56). ESB students in Action Plan schools have by far the lowest Year 3 Reading performance, with average scores nearly 60 scale points below the mean for LBOTE students in non-targeted schools in 2016.
- LBOTE students have generally performed better on average than ESB students in both targeted schools and non-targeted schools in Year 3 NAPLAN Writing. In 2016, LBOTE students score on average 14 points higher than ESB students in Action Plan schools, and 21 points in the rest of NSW. While the gap has decreased in Action Plan schools since the 2012 baseline, (by 5 points), this change is not statistically significant. (Refer to Table A57) The apparent significant increase in ESB performance in Action Plan schools in 2016, while welcome, has thus far only corrected for declining scores in this cohort since 2012.
- LBOTE students in targeted schools on average scored significantly less well in Numeracy than LBOTE students in the rest of NSW from 2010-2016. In non-targeted schools, LBOTE students on average outperform ESB students by about 10-13 scale points This gap has been relatively consistent since 2012 (even though the 2016 average scores for LBOTE students in non-targeted schools increased by 6 points). In Action Plan schools, the gap between Numeracy scores for ESB and LBOTE students is not significant (generally being no more than 2 scale points) and has remained relatively unchanged over time. (Refer to Table A58)

Table A56: Year 3 average NAPLAN scores in Reading, LBOTE vs ESB students, 2012-2016

	Action Plan schools*		Rest of NSW		Whole of State	
	ESB	LBOTE	ESB	LBOTE	ESB	LBOTE
2012	389	394	430	428	427	426
2013	386	393	428	426	425	423
2014	380	382	429	426	424	421
2015	384	387	437	440	430	432
2016	383	389	434	441	427	434

Table A57: Year 3 average NAPLAN scores in Writing, LBOTE vs ESB, 2012-2016

	Action Plan schools*		Rest of NSW		Whole of State	
	ESB	LBOTE	ESB	LBOTE	ESB	LBOTE
2012	394	418	422	436	421	435
2013	385	417	421	435	418	434
2014	369	391	409	421	405	418
2015	384	403	424	439	418	434
2016	392	411	424	438	419	437

Table A58: Year 3 average NAPLAN scores in Numeracy, students from language background other than English, 2012-2016

	Action Plan schools*		Rest of NSW		Whole of State	
	ESB	LBOTE	ESB	LBOTE	ESB	LBOTE
2012	369	373	405	414	402	412
2013	367	374	405	413	403	410
2014	370	370	411	415	407	411
2015	362	364	406	416	400	409
2016	367	366	409	422	403	415

Year 3 NAPLAN by Aboriginal and non-Aboriginal students

- The average Year 3 NAPLAN **Reading** scores of Aboriginal students have increased in 2015 in both targeted and non-targeted schools across NSW, and in 2016 are substantially higher on average than in 2012 (by 12-15 scale points). The gap between Aboriginal and non-Aboriginal students, remains significant, being 96 scale points on average in 2016. The gap between Aboriginal and non-Aboriginal students in Year 3 Reading was smaller in Action Plan schools in 2016 (48 scale points) than the gap in non-targeted schools (64 points). (Refer to Table A59)
- Average Year 3 NAPLAN **Writing** scores for Aboriginal students are significantly lower than those of non-ATSI students in both targeted schools and non-targeted schools, the gap between Aboriginal and non-Aboriginal students has significantly decreased in 2016 (to 36 points compared to 55 points difference in 2012), continuing the trend observed in 2016. Aboriginal students in Action Plan schools are scoring significantly higher in Writing in 2016 than they were in 2012(15 scale points higher). While the gap has also decreased for students in non-targeted schools, the rate of decrease has not been as great (44 points in 2016 compared to 57 points in 2012). (Refer to Table A60)
- Aboriginal students' Year 3 NAPLAN **Numeracy** scores in Action Plan schools are lower compared to either Aboriginal students in other schools, or non-Aboriginal students in either

targeted or non-targeted schools, even though the 2016 results for Aboriginal students in targeted schools were the highest recorded since 2012 (12 points higher). The difference between Aboriginal and non-Aboriginal Numeracy scores is significant, with Aboriginal average scores being on average 59 scale points lower across the whole of NSW in 2016. The gap between Aboriginal and non-Aboriginal performance in Action Plan schools in 2016 is less than that across the rest of NSW (36 points compared to 55 points in non-targeted schools) and is reducing, but remains a cause for concern. (Refer to Table A61)

Table A59: Year 3 average NAPLAN scores in Reading, by Aboriginal and non-Aboriginal students, 2012-2016

	Action Plan schools*		Rest of NSW		Whole of State	
	Aboriginal	non-Aboriginal	Aboriginal	non-Aboriginal	Aboriginal	non-Aboriginal
2012	331	398	362	432	369	428
2013	337	396	371	430	364	428
2014	330	390	367	431	356	427
2015	344	392	376	440	363	434
2016	343	392	377	439	364	433

Table A60: Year 3 average NAPLAN scores in Writing, by Aboriginal and Torres Strait Islander (ATSI) status, 2012-2016

	Action Plan schools*		Rest of NSW		Whole of State	
	Aboriginal	non-Aboriginal	Aboriginal	non-Aboriginal	Aboriginal	non-Aboriginal
2012	352	407	372	429	369	428
2013	340	404	374	427	367	426
2014	330	384	360	415	351	412
2015	356	396	382	430	372	426
2016	367	403	386	430	379	427

Table A61: Year 3 average NAPLAN scores in Numeracy, by Aboriginal and non-Aboriginal students 2012-2016

	Action Plan schools*		Rest of NSW		Whole of State	
	Aboriginal	non-Aboriginal	Aboriginal	non-Aboriginal	Aboriginal	non-Aboriginal
2012	324	375	347	411	344	409
2013	326	376	356	410	350	407
2014	331	377	357	415	349	411
2015	328	369	355	411	344	406
2016	336	372	360	415	351	410

* It must be kept in mind that as the number of Aboriginal students is relatively small, the significance of changes from year-to-year must be viewed with caution as the mean scores are subject to a larger measurement error than for the state as a whole.

Year 3 NAPLAN by school geographic location

- Students in metropolitan schools score higher on average in Year 3 NAPLAN Reading than students in other locations. In all cases, students in targeted schools score on average lower than their non-targeted counterparts in the same location category. Students in non-metropolitan Action Plan schools scored on average 61 scale points lower than metropolitan, non-targeted students in 2016. The gap between Metropolitan and non-Metropolitan students in Action Plan schools was lower in Action Plan schools in 2015 (4 points) compared to earlier years (17 points in 2012) and is smaller than the equivalent gap in non-targeted schools (28 points in 2016). (Refer to Table A62)
- Students in non-metropolitan schools have lower average Writing scores than students in metropolitan schools in both targeted and non-targeted schools every year since 2012. Continuing earlier trends, in 2016, students in metropolitan Action Plan schools scored almost as well on average as non-metropolitan students in the rest of NSW. The gap between metropolitan and non-metropolitan students is lower in 2016 in Action Plan schools than in non-targeted schools (9 points compared to 22 points in the rest of NSW). The gap has reduced in Action Plan schools since 2012 (then 23 point in Action Plan schools and 29 points in the rest of NSW). It must be remembered that the apparent decline in 2014 in all locations may well have been due to a difference in the 2014 NAPLAN Writing task. (Refer to Table A63)
- While Metropolitan schools have historically tended to consistently perform higher on average than Metropolitan schools in Year 3 NAPLAN Numeracy in both targeted and non-targeted schools over time, this no longer appears to be the case in 2015/16. While the gap in Numeracy results has persisted in the rest of NSW (being around 26 points lower on average in non-metropolitan schools), in Action Plan schools in 2015 and 2016, the difference in Action Plan schools was not statistically significant (3 scale points different in 2016). (Refer to Table A64)

Table A62: Year 3 average NAPLAN scores in Reading, by location, 2012-2016

	Action Plan schools*		Rest of NSW		Whole of State	
	non-metro	Metro	non-metro	Metro	non-metro	Metro
2012	380	397	410	435	407	433
2013	379	394	411	432	407	430
2014	375	385	412	433	405	429
2015	381	387	416	444	408	437
2016	382	386	415	443	407	436

Table A63: Year 3 average NAPLAN scores in Writing, by location, 2012-2016

	Action Plan schools*		Rest of NSW		Whole of State	
	non-metropolitan	Metro	non-metropolitan	Metro	non-metropolitan	Metro
2012	386	409	404	433	402	432
2013	375	408	402	431	399	430
2014	363	385	393	418	388	416
2015	381	396	408	434	402	430
2016	392	401	412	434	407	430

Table A64: Year 3 average NAPLAN scores in Numeracy, by location, 2012-2016

	Action Plan schools*		Rest of NSW		Whole of State	
	non-metropolitan	Metro	non-metropolitan	Metro	non-metropolitan	Metro
2012	363	374	387	414	385	412
2013	362	374	389	413	386	410
2014	366	373	395	417	390	414
2015	361	364	390	414	383	408
2016	365	368	393	419	387	413

Year 3 NAPLAN results by Socio-Economic Status

- Students from schools in the lowest ICSEA national quartile perform significantly lower than those in the highest ICSEA quartile. (The same trend is seen when other measures of socio-economic status including parental education and occupation are considered. The gap is lower in Action Plan schools than in the rest of NSW in 2015 and lower than in previous years (in 2015 the gap was 62 points in Action Plan schools and 95 points in rest of NSW). The performance of the students in the very bottom ICSEA quartile in Action Plan schools improved on average by 19 scale points between 2012 and 2016, compared to an 8-point improvement by the same cohort in non-targeted schools. (Refer Table A65). The results for students in the highest ICSEA quartiles in Action Plan schools are better on average than those for students in the lowest quartiles in non-targeted schools, indicating that the effects of SES are pervasive across NSW and remain a significant contributor to students' NAPLAN performance.
- Similarly, there is a strong relationship existing between SES and Year 3 NAPLAN Writing performance in both targeted and non-targeted in schools. The gap between students in the highest ICSEA quartiles and lowest ICSEA quartile has reduced in both Action Plan schools (from 73 scale points in 2015 to 57 scale points in 2016) and in non-targeted schools (68 points in 2015 to 51 points in 2016). Average Writing performance in the most socio-economically advantaged schools across NSW is significantly greater than in the least disadvantaged schools (by 62 points in 2016), although the difference is reducing over time. Students in the lowest ICSEA quartile have improved by 12 scale points between 2012 and 2016 in targeted schools and 10 scale points in non-targeted schools. (Refer Table A66).
- There is a strong linear relationship between ICSEA quartile and average Year 3 NAPLAN Numeracy performance in non-targeted schools, with the difference between the most socio-economically advantaged schools and the least advantaged schools being 77 scale points in 2016 (80 points in 2015). The same trend is evident in Action Plan schools. The difference between the highest and lowest quartile Action Plan schools in 2015 is still significant, but may be reducing somewhat since 2012 (by 14 points), while remaining relatively similar in the rest of NSW (5-point change in 2016). (Refer Table A67).
- The same trends are evident when considering the relationship between other measures of socio-economic status and Year 3 NAPLAN outcomes such as parent occupation and education (see Appendix 8, Table A74 and A75). There is a strong linear relationship across NSW between

Year 3 NAPLAN Reading scores and both parents' education levels and parents' occupation, with children whose parents have the lowest measures on this scale (i.e., those with Year 9 education level and those not in paid work) having average NAPLAN results more than 90 points lower than parents at the highest SES bands. The trend is present in both Action Plan and non-targeted schools, with students in Action Plan schools typically scoring around 30 scale points less than students whose parents are of equivalent SES in non-targeted schools. The strength of the relationship in Action Plan schools has not diminished since 2011/12, and if anything, has slightly increased in 2016.

Table A65: Year 3 NAPLAN Reading Mean Scores by School ICSEA Quartile, 2012-2016

	ICSEA Quartile							
	Action Plan schools*				Rest of State			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2012	350	402	419	-	377	404	429	468
2013	358	397	419	437	379	401	427	463
2014	360	394	413	426	374	398	426	465
2015	369	397	424	431	383	404	431	478
2016	369	399	425	448	385	405	431	468

***** Students in all schools participating in Action Plan in that calendar year, regardless of the year the school commenced participation. Quartile 1 represents schools with the lowest ICSEA scores and Quartile 4 schools with the highest ICSEA scores. Note there are no schools in 2012 with an ICSEA score in the 4th Quartile. The number of such schools in the Action Plan sample in 2013-2015 is very low and the results for this group should be viewed with caution.

Table A66: Year 3 NAPLAN Writing Mean Scores by School ICSEA Quartile, 2012-2016

	ICSEA Quartile							
	Action Plan schools				Rest of State			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2012	371	412	420	-	384	411	430	452
2013	365	412	421	438	382	405	427	451
2014	354	395	404	415	367	391	413	439
2015	377	404	421	415	386	407	427	451
2016	385	414	424	442	396	410	428	447

***** Quartile 1 represents schools with the lowest ICSEA scores and Quartile 4 schools with the highest ICSEA scores. Note there are no schools in 2012 with an ICSEA score in the 4th Quartile. The number of such schools in the Action Plan sample in 2013-2015 is very low and the results for this group should be viewed with caution.

Table A67: Year 3 NAPLAN Numeracy Mean Scores by School ICSEA Quartile, 2012-2016

	ICSEA Quartile							
	Action Plan schools				Rest of State			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2012	340	379	391	-	362	386	408	442
2013	345	380	392	401	364	383	406	440
2014	352	383	395	399	364	385	410	445
2015	350	372	396	397	361	380	403	441
2016	354	377	396	425	367	383	407	444

***** Students in all schools participating in Action Plan in that calendar year, regardless of the year the school commenced participation. Quartile 1 represents schools with the lowest ICSEA scores and Quartile 4 schools with the highest ICSEA scores. Note there are no schools in 2012 with an ICSEA score in the 4th Quartile. The number of such schools in the Action Plan sample in 2013-2015 is very low and the results for this group should be viewed with caution.

Year 3 NAPLAN by school enrolment

- There is a direct relationship between Year 3 Reading results and size of school enrolment in both Action Plan and non-targeted schools, although school size *per se* may not be the only factor that is the cause of the noted differences in average performance. School size effects may also be influenced by other factors including school location and percentage of Aboriginal students. (Refer to Table A68)
- Students in larger schools have higher average Reading scores than those in smaller schools. In 2016, the gap between small schools and those with enrolments of more than 100 was 6 points, compared to 31 points in the rest of NSW. The gap between the Year 3 Reading performance of students in the smallest and largest Action Plan schools has narrowed considerably since 2012, when the difference was 26 points. The average scores of students in the smallest Action Plan schools has increased by 21 scale points since 2012. The gap has also reduced in non-targeted schools in the same period (from 47 points in 2012 to 30 points in 2016). (Refer to Table A68)
- Students in schools with larger enrolments perform better on average than those in smaller schools in Year 3 NAPLAN Writing. In 2015, the gap between the largest and smallest Action Plan groups of schools was 27 points, compared to 46 points in 2012. The gap has remained essentially the same in the rest of NSW over the same time-period. (Refer to Table A69)
- In non-targeted schools, there has been a consistent relationship between school enrolment and Year 3 NAPLAN Numeracy performance. Non-targeted schools with the smallest enrolments achieved on average Numeracy outcomes more than 30 points lower than the largest schools in 2016. Overall, the average results of students in larger schools have tended to decrease over time in Action Plan schools but have increased since 2012 in non-targeted schools by 9 scale points. (Refer to Table A70)

Table A68: Year 3 NAPLAN Reading Mean Scores by School Year 3 Enrolment, 2012-2016

	School Enrolment Size							
	Action Plan schools*				Rest of State			
	1-20	21-50	51-99	100+	1-20	21-50	51-99	100+
2012	384	369	387	410	409	424	430	441
2013	366	377	394	401	410	422	428	442
2014	379	375	389	382	412	423	428	442
2015	380	384	384	392	417	433	439	447
2016	385	381	388	391	419	431	436	450

* The size ranges were chosen to reflect schools that typically had only one Year 3 class. (enrolments between 1 and 20 students), 2 classes (21-50 students) 3 classes (51-90 students) and more than 3 classes as would be seen in a large school).

Table A69: Year 3 NAPLAN Writing Mean Scores by School Year 3 Enrolment, 2012-2016

	School Enrolment Size							
	Action Plan schools				Rest of State			
	1-20	21-50	51-99	100+	1-20	21-50	51-99	100+
2012	370	334	401	416	396	419	429	443
2013	363	382	404	410	396	416	426	442
2014	366	370	385	385	388	406	415	427
2015	377	386	394	404	407	422	430	441
2016	391	394	403	404	411	423	429	441

***** Students in all schools participating in Action Plan in that calendar year, regardless of the year the school commenced participation.

Table A70: Year 3 NAPLAN Numeracy Mean Scores by School Year 3 Enrolment, 2012-2016

	School Enrolment							
	Action Plan schools				Rest of State			
	1-20	21-50	51-99	100+	1-20	21-50	51-99	100+
2012	370	354	367	384	388	403	408	422
2013	357	358	374	380	391	401	407	422
2014	372	365	375	372	397	406	412	429
2015	364	363	360	369	392	402	410	420
2016	370	364	367	371	399	407	412	431

Year 3 NAPLAN by Connected Communities schools

- Year 3 NAPLAN tests Reading performance in *Connected Communities* schools remain significantly lower than in other Action Plan schools, and from schools in the rest of NSW (110 scale points lower on average in 2016). (Refer to Table A71) The 2016 NAPLAN Reading scores for Connected Communities schools are the highest recorded for this cohort in the time period considered. It must be remembered that the size of the Year 3 cohort is quite small in *Connected Communities* schools compared to the Rest of NSW and the margin for chance variation on an annual basis is high. The increase in the most recent NAPLAN scores is consistent with increases in Year 2 Reading outcomes observed for Connected Communities schools in 2014 and 2015.

- The gap in Year 3 NAPLAN Numeracy between students in Connected Communities schools and other Action Plan schools, as well as schools elsewhere in NSW remains significant (81 points lower in 2016). The most recent Numeracy results in Connected Communities schools are considerably higher than in previous years (an improvement of 17 scale points since 2013). (Refer to Table A72)

Table A71: Year 3 NAPLAN Reading Mean Scores by Connected Communities schools, 2013-2016

	Connected Communities schools	Other Action Plan schools	Whole of State
2013	309	382	430
2014	291	378	428
2015	317	386	438
2016	319	385	429

Table A72: Year 3 NAPLAN Numeracy Mean Scores by Connected Communities schools, 2013-2016

	Connected Communities schools	Other Action Plan schools	Whole of State
2013	309	365	409
2014	306	367	412
2015	332	363	409
2016	326	366	407

Appendix 7: Year 3 NAPLAN Percentile Distribution

Table A73: NAPLAN Performance by Percentile bands, 2010-2016

Target Schools										
	Decile	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**
2010	**Reading**	278	306	331	355	378	400	421	455	492
	Writing	296	340	371	387	419	419	434	465	480
	Numeracy	273	309	331	341	362	383	404	426	463
2011	**Reading**	278	305	330	352	374	394	426	458	494
	Writing	300	344	374	388	415	428	441	453	477
	Numeracy	283	309	333	344	365	376	397	428	460
2012	**Reading**	273	308	329	350	380	400	431	453	505
	Writing	300	344	374	388	402	415	441	453	477
	Numeracy	274	299	323	345	366	388	399	433	458
2013	**Reading**	295	321	346	357	380	402	424	457	493
	Writing	300	344	374	388	402	415	441	453	477
	Numeracy	290	313	335	345	365	385	396	416	450
2014	**Reading**	282	307	342	364	386	408	431	454	493
	Writing	285	329	344	374	388	402	415	441	466
	Numeracy	287	317	331	357	369	393	416	439	475
2015	**Reading**	283	310	336	360	384	408	420	456	496
	Writing	300	344	359	388	402	415	428	453	477
	Numeracy	275	290	318	344	357	381	405	429	467
2016	**Reading**	286	307	337	355	383	402	431	452	488
	Writing	316	358	372	387	402	416	431	445	472
	Numeracy	277	304	328	339	362	384	395	418	454

Non-Target Schools										
	Per centile	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**
2010	**Reading**	319	355	378	400	421	444	467	506	536
	Writing	355	387	403	419	434	450	465	480	509
	Numeracy	309	341	362	383	404	415	438	463	507
2011	**Reading**	305	352	374	405	426	447	481	507	536
	Writing	359	388	415	428	441	453	466	477	501
	Numeracy	321	344	365	386	407	428	449	472	509
2012	**Reading**	308	350	380	410	431	453	478	505	557
	Writing	344	388	402	415	428	453	466	477	501
	Numeracy	311	345	366	388	410	433	445	471	514
2013	**Reading**	321	357	380	402	424	446	469	506	534
	Writing	344	374	402	415	428	453	466	477	501
	Numeracy	313	345	365	385	406	427	438	462	504
2014	**Reading**	319	353	375	408	431	454	479	507	540
	Writing	329	359	388	402	415	441	453	466	489
	Numeracy	317	344	369	393	416	428	451	475	514
2015	**Reading**	323	360	384	408	432	456	482	510	559
	Writing	359	388	402	415	441	453	466	477	501
	Numeracy	304	344	369	381	405	429	454	480	509
2016	**Reading**	327	365	392	411	442	464	488	517	553
	Writing	358	387	402	416	431	445	458	472	497
	Numeracy	316	339	362	384	406	429	454	480	529

Appendix 8: NAPLAN SES Analysis

Table A74: Year 3 Reading NAPLAN Results by Parents Occupation, 2012-2016

Reading – Rest of NSW					
Parental Occupation	**2012 mean**	**2013 mean**	**2014 mean**	**2015 mean**	**2016 mean**
Senior management	469	464	466	475	470
Other business manager	442	438	440	446	445
Tradesman/woman, clerks, sales and service staff	416	413	411	417	418
Machine operators	396	396	393	400	400
Not in paid work	374	378	368	376	376
Unknown	393	395	395	408	430
Reading – Action Plan schools					
Parental Occupation	**2012 mean**	**2013 mean**	**2014 mean**	**2015 mean**	**2016 mean**
Senior management	438	426	425	429	428
Other business manager	4133	412	409	414	415
Tradesman/woman, clerks, sales and service staff	400	394	389	395	392
Machine operators	372	376	372	374	372
Not in paid work	340	367	346	344	342
Unknown	357	363	349	361	362

Table A75: Year 3 Reading NAPLAN Results by Parents Education

Reading – Rest of NSW					
Parental Education	**2012 mean**	**2013 mean**	**2014 mean**	**2015 mean**	**2016 mean**
Bachelor degree or above	469	463	464	473	453
Diploma or advanced diploma	429	423	425	428	418
Cert I to IV	406	404	401	406	399
Year 12 or equivalent	406	406	401	409	403
Year 11 or equivalent	382	388	375	384	380
Year 10 or equivalent	375	376	369	377	371
Year 9 or equivalent or below	356	361	353	365	364
Reading – Action Plan schools					
	2012 mean	**2013 mean**	**2014 mean**	**2015 mean**	**2016 mean**
Bachelor degree or above	445	428	427	430	422
Diploma or advanced diploma	410	400	401	401	392
Cert I to IV	382	385	379	384	379
Year 12 or equivalent	378	386	367	375	378
Year 11 or equivalent	355	347	350	360	356
Year 10 or equivalent	351	357	344	351	354
Year 9 or equivalent or below	330	340	329	344	345

Table A76: Percentage in Year 3 NAPLAN Bands for Reading in Action Plan and non-Action Plan schools, 2010-2016

Year	Group	Band 1 (%)	Band 2 (%)	Band 3 (%)	Band 4 (%)	Band 5 (%)	Band 6 (%)
2010	Action Plan	7	17	19	26	16	15
	Non Action Plan	3	10	14	24	20	29
2011	Action Plan	8	19	23	20	13	16
	Non Action Plan	3	10	18	21	18	30
2012	Action Plan	7	17	20	21	19	15
	Non Action Plan	3	10	15	21	24	27
2013	Action Plan	6	17	22	25	15	15
	Non Action Plan	3	9	16	25	19	29
2014	Action Plan	11	15	19	24	15	15
	Non Action Plan	4	8	14	23	20	31
2015	Action Plan	10	11	27	23	15	14
	Non Action Plan	3	5	18	21	20	33
2016	Action Plan	7	17	24	21	18	13
	Non Action Plan	2	8	16	19	25	31

Table A77: Percentage in Year 3 NAPLAN Bands for Writing in Action Plan and non-Action Plan schools, 2011-2016

Year	Group	Band 1 (%)	Band 2 (%)	Band 3 (%)	Band 4 (%)	Band 5 (%)	Band 6 (%)
2011	Action Plan	4	8	19	24	36	9
	Non Action Plan	2	4	12	20	43	19
2012	Action Plan	3	9	20	27	34	8
	Non Action Plan	2	5	13	22	42	16
2013	Action Plan	5	10	22	26	29	9
	Non Action Plan	2	5	15	23	38	18
2014	Action Plan	7	13	28	23	25	5
	Non Action Plan	3	6	18	23	38	12
2015	Action Plan	5	9	26	26	28	6
	Non Action Plan	1	4	15	22	40	18
2016	Action Plan	3	10	20	30	30	7
	Non Action Plan	1	4	12	26	39	18

Table A78: Percentage in Year 3 NAPLAN Bands for Numeracy in Action Plan and non-Action Plan schools, 2010-2016

Year	Group	Band 1 (%)	Band 2 (%)	Band 3 (%)	Band 4 (%)	Band 5 (%)	Band 6 (%)
2010	Action Plan	7	20	30	21	16	6
	Non Action Plan	3	12	23	23	24	15
2011	Action Plan	7	21	26	24	15	7
	Non Action Plan	3	11	19	27	22	18
2012	Action Plan	8	17	27	26	15	8
	Non Action Plan	4	9	20	28	22	18
2013	Action Plan	6	15	30	28	15	5
	Non Action Plan	3	8	21	29	26	15
2014	Action Plan	7	20	26	23	16	8
	Non Action Plan	3	10	19	24	26	19
2015	Action Plan	10	22	26	22	13	8
	Non Action Plan	4	11	20	24	20	21
2016	Action Plan	7	20	33	20	12	8
	Non Action Plan	2	10	23	23	20	22

Appendix 9: Year 3 Student Attitude Survey Results 2013-2015

The following section presents an analysis of the results from the online survey of Year 3 student attitudes, distributed to all Action Plan schools across the state from 2013 to 2015. The survey was designed to test both attitudes towards school in general and specific attitudes towards learning in literacy and numeracy. The survey was not conducted in 2016.

Table A79 shows very little difference in the 2015 results from those in earlier administrations in the percentages of students responding positively to each survey item (per cent of students who agreed with the item "Always" or "Most of the time"). The Table shows that in the targeted LNAP schools, student attitudes towards school in general were largely positive. As noted in earlier administrations, there was clearly room for improvement across a number of indicators—especially with regard to maintaining students' enjoyment of school and engagement with learning once it becomes challenging. The survey results also suggest, in what was probably an honest response from this age group, that around two-thirds of students think that playing outside is more fun than learning in class.

Table A79: Student attitudes to school and learning in LNAP schools, May 2013 –December 2015

	Per cent of students			
	2013 May Baseline	December 2013	December 2014	December 2015
	Always/ Most of the time	Always/ Most of the time	Always/ Most of the time	Always/ Most of the time
It's fun to learn new things at school.	85	85	85	87
I like to go to school.	78	78	78	79
I try my hardest in the classroom.	89	89	90	91
When learning is hard, I like extra help from my teacher.	63	59	61	61
When learning is hard, I like working in a group with my friends.	71	66	70	69
I enjoy school even when it is hard.	71	73	71	74
I give up when it is too hard.	20	17	17	17
I want to do well at school.	95	95	96	95
Learning in class is as much fun as playing outside.	67	65	65	67

Table A79 suggests that the majority of Year 3 students surveyed in the targeted schools found school to be engaging experience. More than 85 per cent of students in 2015 considered learning new things to be fun always or most of the time and over 95 per cent of students always wanted to do well in school, and by far the majority of students said they tried their hardest in the classroom always or most of the time. The survey data above also consistently showed that when learning was hard, a greater percentage of students always like working with friends than getting extra help from the teacher.

Table A80 also suggests that student attitudes towards reading, writing and spelling show a high degree of enthusiasm as well as a desire to improve outcomes in literacy. There was very little change in the scores for 2015 from the results recorded in 2014. More than 80 per cent of students found

reading to be fun always or most of the time at each survey administration, and a similar per cent reported that borrowing a new book from the library was exciting. While positive attitudes towards reading at home were strong—with only 15 per cent of students considering it good to read at home just some of the time or not very often—students expressed less confidence in receiving help from their parents. Just over 50 per cent of students always liked it when parents help them to read, whereas close to 30 per cent only enjoyed help some of the time or not very often.

The area that increased most since the commencement of surveying students in 2013 was in regard to having assistance from the teacher. In 2013, only 53 per cent of students said that when reading is hard, it helps if the teacher sits with them, but this had increased to 67 per cent in 2015.

Table A80: Student attitudes to Reading, Writing and Spelling in LNAP schools, May 2013–Dec. 2015

	Per cent of students			
	2013 May Baseline	December 2013	December 2014	December 2015
	Always/ Most of the time	Always/ Most of the time	Always/ Most of the time	Always/ Most of the time
It is fun to read.	84	83	83	84
It is exciting to borrow a new book from the library.	81	80	83	81
It is good to read at home.	80	83	81	81
I like it when my parents help me to read.	71	65	67	65
It is important for me to be good at spelling.	90	93	92	93
When reading is hard, it helps if my teacher sits next to me.	60	53	58	67
I want to become better at reading and writing.	90	93	92	93
I enjoy writing stories.	77	79	80	81

Some of the strongest positive attitudes towards learning in literacy concerned recognition that it is important to be good at Spelling (92% in 2014 and 93% in 2015) and a desire to become better at reading and writing (93% in 2015). It appears that many students appreciate the importance of learning and want to achieve, a finding that was apparent in classrooms where student involvement in goal setting and self-regulation of learning occurred.

Table A81 below suggests that, students generally had positive attitudes towards numeracy, with at least 85 per cent of students considering learning Maths to be fun. This high percentage of students expressing enjoyment in learning in numeracy was not matched with a similarly strong sense of confidence that they were performing well. Approximately one quarter of students responding to the survey considered they could only do Maths in their head sometimes or not very often.

Table A81: Student attitudes to Numeracy in LNAP schools, May 2013–December 2015

	Per cent of students			
	2013 May Baseline	December 2013	December 2014	December 2015
	Always/ Most of the time	Always/ Most of the time	Always/ Most of the time	Always/ Most of the time
It is fun to learn Maths.	87	85	86	86
I try my best to do well in Maths.	94	95	95	96
It is good to do Maths at home.	79	77	78	80
I like it when my parents help me to learn Maths.	78	76	77	76
I can do Maths in my head.	74	75	76	78
When I have trouble with Maths, it helps if my teacher sits next to me.	61	60	61	73
I want to be better solving Maths problems.	90	91	92	92
Playing number games with my friends is fun.	90	89	91	91

While close to 80 per cent of students had positive attitudes towards doing maths at home, about 20 per cent only considered this to be good sometimes or not very often. A similar distribution of responses was evident regarding the question of whether students liked to receive help from parents when learning in Maths.

Encouragingly, in 2015 almost 95 per cent of students considered that they do try their best in Maths all or most of the time, and the significant majority wanted to be better at solving Maths problems (92% in 2015). This reinforced the observation that students' motivation to improve and perform well was fairly strong but not always commensurate with the same degree of confidence. As with Reading, attitudes towards receiving personalised help from a teacher increased the most, from 61 per cent to 73 per cent in 2015.

While the school visits and principal and Instructional Leader survey results for 2012-2015 suggested that student attitudes towards school and literacy and numeracy learning in K-2 were generally positive and showed increased engagement and more positive classroom behaviours, these changes are not reflected in the student survey results. The fact that there were few year-to-year changes in the student attitude results, and did not vary significantly when disaggregated by starting year, suggests that the set of attitude questions lacked discriminant ability, and reflected largely what students believed were socially acceptable responses. It was therefore decided that the survey be discontinued in 2016.

Appendix 10: Writing and Comprehension Markers

Writing Cluster 8 markers

- Creates longer texts (at least one page) that achieve the intended purpose and are appropriate for less familiar audiences.
- Experiments with producing/publishing texts using an increasing range of mediums and modes.
- Writing shows evidence of revision, editing and proof-reading.
- Writes for a wider range of purposes, including to explain and to express an opinion.
- Demonstrates a range of spelling strategies to spell unfamiliar words.
- Uses quotation marks for direct speech and commas in lists.
- Produces a range of grammatically accurate sentences.
- Fluently writes letters of consistent size and formation in NSW Foundation Style

Comprehension Cluster 7 and 8

- Responds to texts by referring to prior experiences.
- Refers to prior knowledge and experiences to build understanding of a text.
- Responds to and analyses a text by discussing a point of view presented in the text.
- Justifies predictions about sections of a text.
- Analyses and evaluates how visual images support print to create meaning in texts.
- Builds understanding of a text by using knowledge of text organisation and features, e.g. referring to headings and sub-headings to locate information.
- Interprets and responds to texts by skimming and scanning to confirm predictions and answer questions posed by self and others while reading.
- Draws conclusions by using clues in a text.
- Identifies more than one perspective or point of view when represented in texts.

Appendix 11: Cost Assessment Matrix

Table A82: Categorisation of Cost of Educational Programs in Australian Teaching and Learning Toolkit (2016) Technical Appendix

Cost	Description
$	Very low, less than $160 per pupil per year
$$	Low: up to $320 per pupil per year
$$$	Moderate up to $1,200 per pupil per year
$$$$	High up to $2,000 per pupil per year
$$$$$	Very high, over $2,000 per pupil per year

Appendix 12: Analysis of schools visited in relation to selected dimensions

This analysis uses a methodology similar to that used by Louden in 2015 to categorise school practices in his study on *High performing primary schools: What do they have in common?* (Louden 2015). The categorisation of schools below according to performance gain is based on change in mean aggregate Year 3 Reading, Writing and Numeracy NAPLAN scores for 2012-2013 compared to 2016, expressed as an effect size. Data in relation to the dimensions of practice is derived from information provided by the 18 schools visited by the evaluation team in 2016. Only 16 schools are included in the tables below as data from two schools could not be included due to either the number of students in a school sitting Year 3 NAPLAN being smaller than 5 or students within a cohort had not participated in the Year 3 NAPLAN testing regime.

Table A83: Analysis of 18 schools visited in 2016 in relation to School Leadership: Model of Instructional Leadership employed*

Dimension: School Leadership																
		Greatest gain……Least or negative gain														
	School	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Model of instructional leadership	Stand-alone IL			X				X	X				X	X	X	X	
	Shared IL		X									X					
	Lit/Num Facilitator/Co-ordinator (Instructional Leader equivalent) with limited diocesan support					X											
	Instructional Leader Equivalent + active diocesan consultant	X			X		X			X							X
	Principal + Consultant support																
	Executive staff member +consultant support										X						

Key Observations:

- A variety of models was employed for implementation.
- Stand-alone Instructional Leader appears to be the most common model for implementation.
- Stand-alone model appears to be no less or more popular among higher achieving schools in contrast to lower achieving schools.
- Within the Catholic sector the most common model was the Instructional Leader equivalent with the ongoing assistance of the diocesan consultant.

Table A84: Analysis of 18 schools visited in 2016 in relation to School leadership: Leadership mobility

Dimension: School Leadership																	
		Greatest gain……Least or negative gain															
	School	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Leadership mobility	Same Principal 2012-2016				X	X		X		X			X			X	
	Same Instructional Leader 2012-2016				X	X		X	X	X	X				X	X	
	Change in Principal 2012-2016	X	X	X			X		X			X		X	X		X
	Change in Instructional Leader 2012-2016						X					X	X	X			
	More than one change in leadership 2012-2016										X						X
	Explicit improvement agenda in school plan	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Key Observations:

- Within the sample of schools, there was a change of principal in 9 of the 16 schools
- Within the sample of schools, there was a change of Instructional Leader in 4 of the 16 schools
- Every school was driven by an explicit improvement agenda, irrespective of sector
- Trends in leadership mobility were no different for higher performing schools in contrast to lower performing schools
- The top three performing schools experienced change in both principal and Instructional Leader during Action Plan implementation (however, it would be simplistic to assume that the schools showed great improvement because the principal changed in these 3 schools. It may have been that the current principal continued the legacy provided by the previous principal. The lesson to be drawn from this experience is that in each of the 3 schools involved, the new appointment was fully committed to the Action Plan.

Table A85: Analysis of 18 schools visited in 2016 in relation to use of tiered interventions: Delivery approach employed for Tier 1 interventions

Dimension: Tiered interventions																	
		Greatest gain……Least or negative gain															
	School	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Class teacher only					X	X			X	X						
Delivery approach employed for Tier 1 interventions	Team teaching	X	X	X		X	X	X	X		X	X	X	X	X	X	X
	Class teacher +support staff	X	X	X	X			X	X			X	X	X	X	X	X

Key Observations:

- It was more common during Tier 1 delivery for the classroom teacher to be accompanied by support staff in the classroom in 12 of the 16 schools.
- Almost 88 per cent of schools in the sample make reference to the use of team teaching as a key element of delivery for Tier 1 intervention.
- Class teacher only in the classroom during delivery for Tier 1 intervention is reported to occur in 4 of the 16 schools visited.

Table A86: Analysis of 18 schools visited in 2016 in relation to use of tiered interventions: Delivery approach employed for Tier 2 interventions

Dimension: Tiered interventions																	
		Greatest gain……Least or negative gain															
	School	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Delivery approach employed for Tier 2 interventions	Class teacher only									X		X	X	X	X	X	
	Class teacher +support staff		X	X	X	X		X	X			X	X	X	X	X	
	Class teacher and specialist team teaching in classroom	X	X	X		X		X	X	X	X	X	X	X	X	X	X
	Specialist teacher in withdrawal setting						X										
	Support staff within withdrawal setting	X															X

Key Observations:

- Most common approaches to Tier 2 interventions is class teacher + support staff (9 of 16 schools) and class teacher with specialist team teaching in classroom (88 per cent). Note a combination of both approaches in 63 per cent of schools.
- Delivery of Tier 2 interventions by the class teacher only is more common in lower achieving schools.
- A withdrawal approach for Tier 2 intervention is rarely employed in this sample of schools..

Table A87: Analysis of 18 schools visited in 2016 in relation to use of tiered interventions: Delivery approach employed for Tier 3 interventions

Dimension: Tiered interventions																	
		Greatest gain……Least or negative gain															
	School	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Delivery approach employed for Tier 3 interventions	Class teacher only																
	Class teacher +support staff																
	Class and specialist team teaching														X		
	Specialist teacher in withdrawal setting	X	X	X		X		X	X	X	X	X	X	X		X	X
	Support staff within withdrawal setting	X	X	X	X	X	X		X			X	X	X		X	X

Key Observations:

- Specialist teacher in withdrawal setting (13 of 16 school) and support staff within withdrawal setting (12 of 16 schools) are the most common strategies used by schools, irrespective of sector.
- Most schools (9 of 16 schools) within this subgroup employ both specialist and support staff in a withdrawal setting.
- There is no apparent relationship between the nature of the delivery approach employed by schools for Tier 3 intervention and student performance, largely because all schools in the sample employed similar approaches.

Table A88: Analysis of 18 schools visited in 2016 in relation to Use of tiered interventions: Interventions used for Tier 2

Dimension: Tiered interventions																	
		Greatest gain……Least or negative gain															
	School	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Interventions used for Tier 2	School developed program		lit num	lit num		lit num			lit num	lit num		lit num			lit num		num
	MiniLit						lit				lit						lit
	L3		lit	lit				lit				lit	lit		lit		
	TEN		num	num				num				num	num	num	num		
	Reading Recovery				lit									lit			
	Succeeding Together as Readers (STAR)	lit															
	TOWN				num												
	Number Worlds						num				num						
	EMU (Extending Mathematical Understanding)	num															

Key Observations:

- Extensive use is reported to be made by most government schools of both L3 and TEN (78 per cent).
- L3 and TEN are also part of a school developed program to facilitate delivery in many cases.
- School developed programs represent the approach employed by 8 of 16 of the sample of schools.
- There is little reliance on Reading Recovery among the sample of schools to facilitate delivery of Tier 2 interventions.

Table A89: Analysis of 18 schools visited in 2016 in relation to Use of tiered interventions: Interventions used for Tier 3

Dimension: Tiered interventions																
		Greatest gain……..Least or negative gain														
	School	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Interventions used for Tier 3	School developed program	num	num	num	lit num	num		num	num		num	num	num	lit num	num	lit num	num
	Reading Recovery	lit	lit	lit		lit		lit	lit	lit		lit	lit		lit	lit	lit
	EMU									num							
	Number Worlds						num										
	Mini-Lit						lit				lit						

Key Observations:

- Irrespective of sector, school developed programs are employed by 88 per cent of schools for delivery of Tier 3 interventions in relation to numeracy.
- Irrespective of sector, Reading Recovery is employed by 75 per cent of schools for delivery of Tier 3 interventions in relation to literacy.

Table A90: Analysis of 18 schools visited in 2016 in relation to parent and community engagement

Dimension: Tiered interventions																	
		Greatest gain……Least or negative gain															
	School	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Parent and community engagement	Informed	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Involved - class or individual student level	X	X	X		X				X		X	X	X	X		
	Involved - transition or prior to school programs	X		X								X		X			
	Participating -whole school decision making																

Key observations:

- 100 per cent of schools keep parents informed about what is happening in relation to the Action Plan through the school Newsletter, website and to a lesser extent, meetings.
- Schools report that only 56 per cent of parents or community members are actively engaged in classrooms.
- Schools reported that no parents or community members were engaged in whole school decision making.

Appendix 13: Longitudinal Case Study Snapshots

School A

School A is a government school located in a remote town in western NSW, enrolling around 236 students K-6. The school draws students from a range of backgrounds from the local community with approximately 25 per cent being of Aboriginal or Torres Strait Islander descent. The school enrolls a significant number of children with diagnosed developmental delays, believed to be due to environmental factors. Almost all students in the school will have received one or more Tier 3 interventions during their primary school career.

The school commenced participation in the Action Plan in 2012. It has had the same principal throughout this period (although this person was on leave for significant periods of time in 2016). The originally-appointed Instructional Leader left in early 2014 to take up a position as principal in another school. A new Instructional Leader was appointed in 2014. There has traditionally been a high annual turnover of teaching staff, with the majority being relatively inexperienced or beginning teachers. The assistant principal for K-2 is in her first executive appointment.

The school has not yet achieved significant or sustained improvement in either its K-2 assessment data or NAPLAN results over the life of the Action Plan. The school believes that its experience of the Action Plan has been beneficial and that the quality of teaching and learning now provided has been enhanced. The staff has embraced the key concepts of using data to better diagnose student learning needs and to plan teaching programs that are more appropriately differentiated, and to use structured literacy and numeracy blocks. They have achieved greater consistency of teaching K-2 through a heavy emphasis on teacher professional learning, particularly in relation to L3. The school is using its own RAM funding to appoint a Quality Teaching Mentor in 2016, who performs a similar function to the Instructional Leader but at the Year 3-6 level. The aim is to provide stronger continuity of approach across the whole school. The focus of Action Plan implementation has changed over time in this school. In 2016, the biggest change has been a shift in focus from individual teacher needs to use of weekly coaching sessions for all teachers to address joint needs, and delivered in a way that encourages greater teacher collegiality.

The principal believes that to build on the Action Plan experience, there is a continuing need to increase the capacity of teachers to deliver quality teaching across all KLAs and at all year levels, not only in Literacy and Numeracy. To this extent, EAfS in the school has focused more on enhancing teachers' pedagogical knowledge, understanding of data and capacity to work together as a collaborative and collegial team. The school has invested heavily in the *How to Learn* program, in partnership with five other local schools. This program, which involves 10-12 days training for teachers, aims to build resilience and a growth mindset for students and teachers, through an emphasis on developing teachers' understanding of how language reinforces behaviour, increased provision of quality feedback and understanding how to teach problem-solving processes.

To continue the improvement journey, the school believes that while EAfS has given teachers greater direction, confidence, and positive attitudes towards students' capacity to learn, there remains a need for them to know how to apply specific teaching strategies for targeting teaching to individual students.

School B

School B is a Catholic school located in suburban Sydney. Its enrolment is declining, and had 183 students K-6 in 2016. The school's enrolment includes 91 per cent of students coming from a language background other than English. One per cent of the students is from an Indigenous background. Half of the K-6 classes are taught by part-time teachers. There has been considerable executive staff turnover in this school during the life of the Action Plan. The previous principal, who was appointed in 2013, retired due to ill-health at the beginning of 2016, replaced by a new principal who had previously been an assistant principal in the school. At the commencement of the Action Plan, the school had a diocesan-appointed Teacher Educator (phased out in 2014), but received support from a diocesan-funded Literacy and Numeracy Coach in 2015. The Action Plan funds were used to release a class teacher to act as Literacy and Numeracy Facilitator. The same Facilitator has been in place since the commencement of the Action Plan but her role and capacity has changed significantly over this period.

Student outcomes in this school have been inconsistent, with K-2 Continua results generally showing improvement over time, but Year 3 NAPLAN declining over the same period. The cohort size in this school is small, so results can be influenced by the performance of a few students.

The Action Plan has produced some positive changes in the school. There has been a significant shift in terms of teacher capacity to implement differentiated teaching. Teachers also have a greater understanding of the need to respond to the needs of students, based on data. This was not the case five years ago. The withdrawal of specialist ESL support initially had a negative impact through the loss of highly skilled and effective teachers. Teacher capacity building process over time has increased teachers' sense of accountability for outcomes and provided them with skills to address all students' needs.

In 2015-2016, the school began to use the Literacy and Numeracy Continua with more confidence following considerable professional learning. The concept of pre- and post-testing to determine the effectiveness of instruction, rarely undertaken before the Action Plan, is now firmly embedded into teachers' practice. Likewise, teachers' approach to programming is now totally different. Five years ago, the usual practice was to implement an annual program, year after year, with no recognition that the program should respond to individual needs. Now, programs are developed on a shorter time span and structured around the Tiered Intervention model. There is a belief that the schools' total resources are now being better used than in the past, with teachers taking greater responsibility for student learning at all Tier levels.

During the period of Action Plan, there have been many changes in the operating environment for this school that have impacted on teachers' workload. The Action Plan has helped to maintain focus on teaching throughout these changes. The Action Plan implementation has necessitated a change in the school timetable to support a case management approach, adopted in 2016 to strengthen teachers' collective sense of responsibility for learning and to foster deeper understanding of students' needs and what to do in response to the data. From the facilitator's perspective, the major lessons learned from this experience are the importance of knowing what best practice is, not how to use a particular resource, and how to adapt, accept and work with students and staff, regardless of their starting point.

School C

This government school is situated in western Sydney. Its culturally diverse school population includes 24% Aboriginal and 21% Pacific Islander students. The school also operates a transition to school program for families with pre-school age children. The school currently enrolls around 314 students from K-6. Many of these students are participating in intensive intervention programs (Reading Recovery and Targeted Early Numeracy (TEN). The principal at the time of commencement of the Action Plan left the school in late 2015, and was not substantively replaced until mid-2016. The original Instructional Leader, appointed in late 2012 also left the school in early 2016, but had been on extended leave for some time before that. She was replaced by an existing assistant principal on the school's staff. The teaching staff, while relatively unexperienced at the start of the Action Plan, has generally remained in the school for the past five years and has benefitted from the extensive professional learning provided by the Instructional Leader. All K-2 teachers are currently temporary appointments.

K-2 Continua outcomes in this school have increased substantially at all Year levels and in all subject areas measured between 2012 and 2016. As with the Action Plan cohort across NSW, a substantial proportion of the K-2 students do not achieve the expected standards. NAPLAN results have declined slightly in Literacy and declined significantly in Numeracy since 2013.

In 2016, the teaching of Literacy and Numeracy in K-2 has continued to be consolidated and refined, building on the teacher capacity building that occurred in previous years, with an increasing focus on embedding structures that foster sustainable practices. Teacher acceptance of the Action Plan increased due to the new approaches having a positive impact on student engagement and behaviour in class. Engagement of executive staff, which was not a priority in the early years of the Action Plan, was much stronger in 2016.

Many of the processes that were introduced in 2013 and 2014 (common to all EAfS schools) have continued in 2015 and 2016, for example, classroom observations, shared planning sessions and analysis of data sessions, but processes for scheduling these activities have become more formalised within the school's timetable. Personalised learning and differentiated teaching were a key focus of teacher capacity building in 2016. Processes such as case management, use of data walls, have become firmly embedded into the school's culture and it is believed will continue. The perceived success of the Action Plan has convinced the principal to use the RAM funding to appoint an Instructional Leader 3-6 to consolidate the new processes on a whole school level. Key programs such as Focus on Reading, L3, TEN and Reading Recovery have continued to be used to provide Tier 2 and Tier 3 interventions.

This school has throughout the life of the Action Plan attempted to increase engagement of parents, and has a strong transition to school program in place, working with the local pre-school to provide strong exposure of literacy and numeracy experiences with the pre-Kindergarten students and will continue.

The school's previous involvement in a hub model has largely been discontinued, which now operates more as a loose network of instructional leaders and principals, bought together to share costs of professional learning and facilitation of participation in a joint school improvement process based on Sharratt and Fullan's (2012) 14 parameters of school effectiveness.

School D

This government school is situated in an outer metropolitan setting south of Sydney. Its enrolment has been declining considerably in the past decade, but has started to increase again during the Action Plan, as the community now perceive it to be a school that is welcoming and inclusive. Since 2015, approximately 24 additional students have been enrolled in the school, with total school enrolments now reaching 156 students from K-6. Of those students, more than 25 per cent are Indigenous.

The current principal was appointed in mid-2014. The Instructional Leader was one of the first appointed in NSW, and has been in place until mid-2016. Although notionally full-time, she has since 2015 spent several days per week as an L3 trainer and working with another school. In late 2016 she took up a principal's position in another school and had not been substantively replaced at the time of the case study visit. Since the commencement of the Action Plan, there has been almost total replacement of teaching staff in this school. The current K-2 teaching staff is mostly young and consists of temporary appointments. Teachers are enthusiastic and have received extensive professional learning and mentoring from the Instructional Leader.

A new assistant principal was also employed in 2015, who has embraced the Action Plan and its pedagogical principles and has taken leadership in this area, for example in introducing technology into the school's assessment, goal setting and student self-regulation processes. The positive aspect of this staff turnover has been the opportunity to build a new culture of teaching and learning in the school, in which all staff shares common goals for itself and the students.

Both the K-2 assessments against the Literacy and Numeracy Continua and Year 3 NAPLAN results have improved significantly in this school since the commencement of the Action Plan. This success is based on perseverance with the Action Plan model, a genuine commitment to the philosophy of high expectations and focus on learning, and achieving greater consistency and continuity of teaching. Importantly, the school also focussed on student behaviour management through the Positive Behaviour for Learning program at the same time as the focus on classroom pedagogy. The behaviour of some students, particularly out of school and newcomers to the area remains challenging.

Throughout the Action Plan, this school used all of the methodologies expected of participating schools, ensuring teachers knew how to collect and analyse student data to plan lessons, creating stimulating classroom environments, using paraprofessionals and specialist teachers to deliver better differentiation in the classroom, and introducing weekly joint planning time. The way in which the Instructional Leader supported individual teachers changed over time, with much of the role now taken over by other staff in the school. The Instructional Leader in 2016 acted mostly as a mentor rather than direct provider of professional learning. The emphasis given to student engagement, independent learning, understanding of learning intentions and self-monitoring of their learning is notable, as is the intensity and quality of planning for each lesson. The phrase "a relentless focus on learning" has a tangible and genuine meaning in this school – something that could not have been said prior to the Action Plan. The school has built capacity among staff as TEN and IL trainers to ensure sustainability of the Action Plan outcomes into the future, and will use its RAM to continue to provide relief days to support the new practices adopted during the Action Plan.

School E

This Catholic school is located in a small rural town in Western NSW. It currently enrols 41 students, an increase over the 2015 enrolment of 35. The school has no indigenous students and only one LBOTE family.

The principal has been in place since the commencement of the Action Plan. The current Instructional Leader equivalent (Literacy/Numeracy coordinator) has been in the school for the last two years in a part-time role (also part-time support teacher). Action Plan funds have been used to release the principal from class to provide intervention support and pedagogical leadership to the other staff. Many of the teachers are part-time and there has been some turnover during the life of the Action Plan. Indeed, one of the challenges facing the school is the quality of beginning teacher that the school attracts.

Because of the small number of students and impact of one or two students, it is not possible to generalise about the impact of the Action Plan on student K-2 or NAPLAN results. For most of the period of the Action Plan, NAPLAN results have been close to the state average.

The major benefit of the Action Plan seen by the school is the possibility of access to professional development that would not otherwise have been possible. This has provided access to expertise and ideas about teaching and learning that has allowed the staff's capacity to grow considerably. This has been assisted by growth in support from the Catholic Education Office. Teachers have been challenged to think differently about what they are doing in class.

This change in thinking has led to a way that the school is structured, with all classes now multi-grade and some multi-stage. All classes are small. Teachers are forced by necessity to personalise the learning for each individual student. Each student has an Individual Education Program. Discussions take place several times each month about how students have progressed, as part of a professional learning community of teachers. The use of data and tools for learning has increased considerably over the course of the Action Plan.

The school has developed systems for sharing these data among teachers and has helped teachers better understand learning needs. Five years ago, teachers saw the test results as scores, rather than a source of data on which to base planning. Teachers now hold much higher expectations for children's' learning, as a consequence of understanding and employing explicit teaching, which comes from now understanding the learning progressions and criteria in the Literacy and Numeracy Continua.

The major learning of this school has been that teachers did not understand the context for learning as well as they thought they did. They were not able to analyse data properly, and did not understand what it meant let alone what to do with it. All teachers in the school now have ownership of all students' results, and see themselves as all part of a learning community. The level of support from parents has increased, perhaps as a result of a change in the style of information conveyed to them, which is now much more explicit about how children have been benchmarked against the Continua criteria. All of these changes have helped the school overcome the sense of isolation that it feels, due to its geographic location and feel connected to the wider educational community.

School F

This Independent school is located in the outer western suburbs of Sydney. It is a K-12 school, which currently enrols around 277 students, most of whom come from a language background other than English and are learning English as an additional language. The school is constantly challenged to maintain non-classroom staff in a very low SES community in which unemployment is high.

The school has had several changes of principal during the Action Plan, with the current principal in place since 2015. The deputy principal for the junior school has been the *de facto* Instructional Leader for the Action Plan implementation, and has been in the school for the entire project apart from a period of maternity leave. Action Plan funds have allowed her to be released from her previous teaching load. There has been some turnover of teaching staff during the Action Plan but this is considered to have been positive. The current staff has been described as dynamic and willing to adapt to new practices. There is an attitude now that it is possible to try new things that might not work, rather than a fear of failing.

The K-2 assessment results and NAPLAN results have been inconsistent, reflecting the impact of individual teacher quality in this relatively small school.

The start of the Action Plan in this school was slow, partly due to the changes in leadership at critical points. The initial direction was uncertain and much of the staff was not committed to change. The school has relied heavily on the advice of AIS consultants, which has helped to provide some consistency of teaching approach. There has been a big change in the culture of the school as a consequence of the professional learning made available through the Action Plan. In the past, it was described as very introspective, but the opportunity to access external expertise, the time available (using Action Plan funds) for classroom observation of teaching by the deputy principal, and consultant have all provided critical feedback to the school and staff.

The deputy principal now provides targeted assistance to all K-2 teachers in accordance with their professional learning needs. Various forms of assistance are used to help teachers, including modelling of lessons for observation by classroom teachers, mentoring of teachers in relation to ideas for teaching and learning and stage based meetings to discuss data relating to student achievement in both literacy and numeracy.

The capacity of staff to understand data and move towards evidence based planning has slowly been built, but has not been as strong as in some other schools. The teachers are now able to see data as non-threatening and a tool for identifying students' needs. Teachers have increased their curriculum knowledge through the professional learning made possible by the Action Plan, although understanding of the full implications of differentiated teaching and individualised learning have been hampered by the adoption of the direct instruction model, and the school's lack of funds to employ support staff.

The Action Plan experience is considered to have brought positive benefits to the school that would not otherwise have been possible. Most notably, the culture of teaching and learning has been transformed, and positioned the school to benefit from further support in the future.

Appendix 14: 2016 Data Collection Instruments

14.1 Key sector informant questions for education representatives

1. Implementation of the Literacy and Numeracy Action Plan

1.1. Briefly describe how your sector/system has implemented the priorities of the Action Plan over the life of the Action Plan, 2012 - 2016, noting any changes and reasons for such.

1.2. Describe the ways your sector/system has supported (excluding funding) the Action Plan changed since its commencement in 2012.

1.3. From a sector/system perspective what factors have facilitated the implementation of the Action Plan since its commencement?

1.4. From a sector/system perspective what factors have hindered its implementation since its commencement?

1.5. How has your sector/system aligned the Action Plan with:

- broader educational reforms announced by the NSW Government since 2012
- school improvements undertaken by your sector/system?

1.6. In what ways has this alignment impacted on the implementation and outcomes achieved of the Action Plan within your sector/system?

1.7. How have you monitored the impact of the implementation of the Action Plan in your schools? How is this information being used to improve literacy and numeracy teaching and learning (a) in Action Plan schools (b) more generally with all schools? Does your sector/system intend to continue these arrangements following the cessation of the Action Plan (2016)?

1.8. What steps are in place to ensure the sustainability of outcomes achieved from the Action Plan both within targeted schools and more broadly?

1.9. What formal evaluation strategies were undertaken to determine the effectiveness of the Action Plan? How was this information used?

2. Key elements of the Action Plan

2.1 How has your sector/system facilitated the implementation of the following key elements of the Action Plan over the period 2012 – 2016:

· personalised learning

· diagnostic assessment?

2.2 Describe the nature of this facilitation over the life of the Action Plan, noting any changes.

3. Improvements in literacy and numeracy outcomes

3.1 What student learning outcomes do you believe have been achieved as a consequence of the Action Plan?

3.2 How do you explain these outcomes?

3.3 Are there other student outcomes achieved as a result of the Action Plan? Please describe.

4. Literacy and Numeracy Interventions supported

Please complete the two tables below providing information on the literacy and numeracy interventions supported by your sector/system for implementation in targeted schools. What was the rationale behind the choice of these interventions?

Literacy Interventions

Name	Reasons for supporting the intervention	Number of schools implementing each intervention	What sector/system support is provided for the implementation of the intervention?	Has this intervention been effective in lifting literacy and numeracy outcomes of students? What evidence does your sector/system have to support your conclusion?	How cost effective has this intervention been? How has this been measured?

Numeracy Interventions

Name	Reasons for supporting the intervention	Number of schools implementing each intervention	What sector/system support is provided for the implementation of the intervention?	Has this intervention been effective in lifting literacy and numeracy outcomes of students? Evidence to support conclusion?	How cost effective has this intervention been? How has this been measured?

5. Sector/system level operational arrangements

5.1 Describe the arrangements that have been put in place to support the day to day management of the Action Plan in your sector/system. How effective do you believe these arrangements were? In retrospect, would you have done anything differently?

5.2 What resources/guidelines were produced to assist schools understand the Action Plan? How useful have these been in guiding practice in teaching and learning?

5.3 Have the reporting arrangements for the Action Plan contributed to a culture of accountability within participating schools? YES/NO If yes, provide some examples. If no, are there any reasons?

5.4 How has professional learning for teachers/principals/instructional leaders been tailored to support the Action Plan in 2016? In what ways has this support changed over the life of the Action Plan? How do you measure the success of such initiatives?

6. Costs associated with the implementation of the Action Plan

Please complete the tables below for your sector/system.

Table 1: Sector/system allocation versus expenditure

	Total Action Plan funding allocated to sector	Total Funds expended
2012		
2013		
2014		
2015		
2016		
Sector Total		

Table 2: School and sector expenditure

	Action Plan funding allocated to schools $$	Number of schools allocated funds	Sectoral support funded from the Action Plan $$	In-kind support (non-Action Plan funds) provided by the sector $$
2012				
2013				
2014				
2015				
2016				

Table 3: Areas of Sector/system expenditure

Area of sector/system expenditure *	2012	2013	2014	2015	2016	Total $$
TOTAL						

*Area of sector/system expenditure: These areas may include salary cost for providing consultancy support; professional leaning support at sector; development of resources etc.

6.1 What if any conditions were placed on school expenditure of funds from the Action Plan
6.2 If you identified sector/system in-kind contribution in Table 2, please provide details of the nature of this in-kind support.
6.3 Does your sector/system consider that the Action Plan and its major elements have provided value for money? If Yes, why? If No, why
6.4 Are there any elements of this Action Plan that were considered to have provided better value for money (or not)? How else could the funds available for the Action Plan have been expended to produce better results?

7. Instructional Leadership

7.1 What role has instructional leadership played in enhancing teaching and learning since the commencement of the Action Plan? Was the priority given to instructional leadership an effective strategy for enhancing literacy and numeracy in schools?
7.2 Has the appointment of instructional leaders been an effective strategy? Why or why not? (DoE only)
7.3 In retrospect, has the model(s) of instructional leadership adopted by your system/sector been the most appropriate way of supporting improvements to literacy and numeracy teaching? If not, what would you have done differently?
7.4 Describe the ways in which Instructional leaders (or equivalent) have been accountable for achieving the Action Plan outcomes.
7.5 What have been the key benefits and limitations of instructional leadership?

8. Quality of teaching and learning

8.1 How has the quality of literacy and numeracy teaching changed over the life of the Action Plan implementation? What evidence can you provide? What were the catalysts for the changes?

9. Related Issues

9.1 How has your sector supported greater engagement of parents in literacy and numeracy learning in targeted schools? How effective has this support been in changing school practice?
9.2 What other factors have impacted on the implementation of the Literacy and Numeracy Action Plan?

1. Lessons from the Action Plan

10.1 Describe any impacts the Action Plan has made on non-targeted schools and on your sector/system.
10.2 What lessons can be learned by systems/sectors from the implementation of the Action Plan?
10.3 What lessons can be learned about the role of networks/Dioceses/sectors in supporting the improvement of literacy and numeracy in schools?
10.4 What recommendations would you make for how the implementation of the Action Plan can be refined in future, if further funding were available?

14.2 Structured interview questions for use in school visits

Questions for principals and instructional leaders

1. Implementation of the Literacy and Numeracy and Numeracy Action Plan

1.1 Describe how your school has implemented the priorities of the Action Plan, noting any changes, since commencement.

1.2 What factors have facilitated the implementation of the Action Plan in your school since its commencement?

1.3 What factors have hindered the implementation of the Action Plan in your school since its commencement?

1.4 Describe the way in which school Action Plan activities have been aligned with other school improvement strategies. Has the implementation of the Action Plan led to any changes to evidence based practice?

1.5 How have you monitored the impact of the implementation of the Action Plan in your school? How is this information being used to improve literacy and numeracy teaching and learning in your school? Does your school intend to continue these arrangements following the cessation of the Action Plan (2016)?

1.6 What steps are in place to ensure the sustainability of outcomes achieved from the Action Plan both within targeted schools and more broadly?

2. Key elements of the Action Plan

2.1. Describe the way in which your school has implemented personalised learning, noting any changes, over the period of implementation of the Action Plan.

2.2. Describe the way in which your school has implemented diagnostic assessment, noting any changes, over the period of implementation of the Action Plan.

2.3. What support has your school received from your system/sector to develop your understandings of personalised learning and diagnostic assessment?

3. Improvements in literacy and numeracy outcomes

3.1. What student learning outcomes in K-2 have been achieved as a consequence of the Action Plan? How do you explain these outcomes?

3.2. Describe any other student learning outcomes achieved as a result of the Action Plan (e.g., behavioural, student attitudes, engagement).

4. Literacy and Numeracy Interventions supported

In-depth information about the way in which the school is implementing Tier 2 and Tier 3 interventions in K-2 literacy and numeracy is being sought.

4.1. Describe your understanding of a tiered intervention approach to the teaching of literacy and numeracy.

4.2. Describe the way in which your school uses Tier 2 and Tier 3 interventions for K-2 Literacy and Numeracy, noting any changes that have occurred over the period of implementation of the Action Plan.

Please provide details of the most commonly used **Tier 2 literacy and numeracy** approaches/interventions being implemented at your school:

	Tier 2 Literacy	**Tier 2 Numeracy**
Name of intervention or approach (if not a commercial program but a school developed approach, please specify)		
Why was this particular intervention/approach chosen?		
How were students targeted?		
How and where is the intervention delivered?		
How long are students typically engaged with intervention/approach?		
Who is involved in delivering the intervention?		
What professional learning has been necessary to effectively deliver this form of intervention/approach?		
How is student progress monitored and reported?		
How effective has this approach/intervention in increasing student outcomes in a sustained way?		
Is the intervention/approach specifically funded by the Action Plan or school funds? If Action Plan, how sustainable is this intervention post the Action Plan?		
Other comments		

Please provide details of the most commonly used **Tier 3 literacy and numeracy** approaches/interventions being implemented at your school:

	Tier 3 Literacy	Tier 3 Numeracy
Name of intervention or approach (if not a commercial program but a school developed approach, please specify)		
Why was this particular intervention/approach chosen?		
How were students targeted?		
How and where is the intervention delivered?		
How long are students typically engaged with intervention/approach?		
Who is involved in delivering the intervention?		
What professional learning has been necessary to effectively deliver this form of intervention/approach?		
How is student progress monitored and reported?		
How effective has this approach/intervention in increasing student outcomes in a sustained way?		
Is the intervention/approach specifically funded by the Action Plan or school funds? If Action Plan, how sustainable is this intervention post the Action Plan?		
Other comments		

5. School operational arrangements

5.1. Describe the way in which your school uses data for school level and class/grade level planning and programming, noting any changes that are a consequence of the Action Plan.

5.2. Describe the ways in which your school measures student growth, noting any changes that have taken place as consequence of the Action Plan.

5.3. Has the way in which your school identifies specific targets for student learning at individual student level, class/grade level and stage level changed since the inception of the Action Plan? If yes, please describe. What benefits has this provided?

5.4. How has your school used the Literacy and Numeracy Continua in K-2 classrooms, noting any changes to their use for assessment and reporting purposes over the life of the Action Plan?

5.5. How has the implementation of the Action Plan enhanced or strengthened accountability in your school? Please describe.

5.6. (For principals only) As principal, how have you supported the implementation of the Action Plan since its inception? What is the most important change in your practice as principal as a result of your participation in the Action Plan?

5.7. How has professional learning for teachers/principals/instructional leaders been tailored to support the Action Plan in 2016? How do you measure the success of the professional learning provided?

6. Costs associated with the implementation of the Action Plan

6.1 In-depth information is sought about the ways in which the school has used resourcing provided under the Action Plan. Please provide details of the following:

	Approximate $ allocation for 2016	Percentage of total allocation
Providing additional staff to support interventions		
Providing teacher release days		
Purchasing classroom resources		
Purchasing professional packages		
Purchasing and implementing specific programs e.g., Multi-lit		
Supporting parent and community engagement activities		
Purchasing consultancy services		
Other (please describe)		
Total allocation from Action Plan		

6.2 (For government schools only) Please describe how you have used your allocated professional training funds. What was achieved from this expenditure?

6.3 (For government schools only) Please describe how you have used your allocated Innovations Grant. What was achieved from this expenditure?

6.4 How has your expenditure of Action Plan funds represented value for money, noting any elements regarded as being particularly valuable?

6.5 Could the resources provided to the school (or purchased by the school) under the Action Plan been used differently? If yes, describe how these resources could have been better used.

7. Instructional Leadership

Principals only are to provide answers to questions 7.1 to 7.6

7.1 Describe your school's approach to instructional leadership, noting any changes that have occurred over the life of the Action Plan.

7.2 In what specific ways has your instructional leader (or equivalent) enhanced the quality of teaching and learning in literacy and numeracy in your school? Please provide examples.

7.3 How has your school supported the instructional leader to fulfil their intended role?

7.4 In retrospect, would you have used the instructional leader (or equivalent) in different ways to support literacy and numeracy teaching and learning in your school? If yes, please describe these ways.

7.5 From your perspective how effective have the following activities been in relation to the Instructional Leader (or equivalent): induction, initial training and ongoing professional learning?

7.6 How does your school intend to sustain its focus on instructional leadership following the cessation of the Action Plan?

Instructional leaders only are to answer questions **7.7 to 7.12**

7.7 How has your role as an Instructional Leader (or equivalent) developed over time?

7.8 What actions have you taken to implement the priorities and aims of the Action Plan in this school? How successful have these efforts been?

7.9 In what specific ways do you believe you have enhanced the quality of teaching and learning in literacy and numeracy in your school? Please provide examples.

7.10 In what aspects of your role have you experienced the greatest success?

7.11 Describe the support have you received to assist you in your role from both within and outside school over the life of the Action Plan. What other support would you have benefited from?

7.12 Are there any other comments you would like to make about the implementation of the priorities of the Action Plan?

8. Quality of teaching and learning

8.1. What changes have occurred to the quality of literacy and numeracy teaching in your school as a result of its participation in the Action Plan? To what can these changes be attributed?

8.2. How have teachers' confidence and ability in teaching literacy and numeracy changed over the period of the implementation of the Action Plan?

8.3. Outline the range of professional learning opportunities has been provided for K- 2 teachers to improve the quality of literacy and numeracy teaching. How has the Action Plan impacted on teacher professional learning? What have been the benefits?

9. Related Issues

9.1. How has the engagement of parents in literacy and numeracy learning been enhanced by the Action Plan in your school?

9.2. What other factors have impacted on the implementation of the Literacy and Numeracy Action Plan in your school?

10. Lessons from the Action Plan

10.1. What lessons can be learned from the implementation of the Action Plan?

10.2. What recommendations would you make to improve literacy and numeracy outcomes of students in Kindergarten to Year 2 in NSW in the future?

Questions for teachers of K-2 students

1. Key elements of the Action Plan

1.1 How long have you been teaching at this school?

- ☐ Less than 6 months
- ☐ Less than 1 year
- ☐ 3 years
- ☐ 3 to 5 years
- ☐ 5 to 10 years
- ☐ More than 10 years

1.2 How long have you been teaching Kindergarten to Year 2 students at this school?

- ☐ Less than 6 months
- ☐ Less than 1 year
- ☐ 3 years
- ☐ 3 to 5 years
- ☐ 5 to 10 years
- ☐ More than 10 years

1.3 Describe the ways in which you have implemented personalised learning in your classroom, noting any changes, over the period of implementation of the Action Plan.

1.4 Describe the ways in which you have implemented diagnostic assessment in your classroom, noting any changes, over the period of implementation of the Action Plan.

1.5 What support has your school provided to develop your understandings of personalised learning and diagnostic assessment?

2. Improvements in literacy and numeracy outcomes

2.1 What literacy and numeracy outcomes have been achieved by your students in 2016? How do you explain these outcomes?

2.2 Describe any other student learning outcomes achieved in 2016 (e.g., behavioural, student attitudes, engagement).

3. Literacy and Numeracy Interventions

3.1 Describe your understanding of a tiered intervention approach to the teaching of literacy and numeracy.

3.2 Describe the ways in which you identify students who require additional support in literacy and numeracy learning?

3.3 Describe the ways in which you use Tier 2 and Tier 3 literacy and numeracy interventions to meet the needs of all students, including at risk and high performing students.

4. Quality of teaching and learning

4.1 Describe the ways in which you have received support in your school to improve the quality of your literacy and numeracy teaching.

4.2 In what specific ways has your Instructional Leader (or equivalent) assisted you? Please provide examples.

4.3 What changes have occurred to the quality of literacy and numeracy teaching in your school as a result of its participation in the Action Plan? To what can these changes be attributed?

5. Related Issues

5.1 How have you engaged parents in their children's literacy and numeracy learning in 2016?

5.2 What lessons can be learned from the implementation of the Action Plan at your school?

5.3 What recommendations would you make to improve literacy and numeracy outcomes of students in Kindergarten to Year 2 in NSW in the future?

Questions for parents

1. How are you involved in your child's learning of literacy or numeracy?
2. How do you think you could be further involved?
3. How has the school supported you in your efforts to be involved in your child's learning? What further support do you think would help you and other parents?
4. Do you feel that you are being provided with enough information about how your child is progressing in literacy and numeracy? What other information would you find useful?

14.3 Online survey of school leaders and instructional leaders

2016 LITERACY AND NUMERACY ACTION PLAN – SCHOOL LEADER SURVEY

Part 1: Background information

In answering questions please consider your answers in light of the implementation of the Action Plan within your school in 2016. Please note that the Action Plan is known as Early Action for Success (EAfS) in government schools.

1. School name:

(Please note: school name is requested for administrative purposes only. Schools will not be named in any project reporting and results from the survey will be presented in aggregate form).

2. Is your school a:

☐	Government school	☐	Catholic school	☐	Independent school

3. How long have you been working at this school?

☐	Less than 6 months	☐	3-5 years
☐	Less than 1 year	☐	5 to 10 years
☐	1 to 3 years	☐	More than 10 years

4. If less than one year please provide start date in current position:

5. Is your school?

☐	Metropolitan	☐	Rural
☐	Regional city	☐	Remote

6. Please indicate student enrolment K-2 for 2016?

☐	10 or fewer	☐	51-70
☐	11-30	☐	71-90
☐	31-50	☐	91 or more

7. When did the Action Plan/Early Action for Success commence in your school?

☐	Term 1, 2012	☐	Term 3, 2013	☐	Term 4, 2014
☐	Term 2, 2012	☐	Term 4, 2013	☐	Term 1, 2015
☐	Term 3, 2012	☐	Term 1, 2014	☐	Term 2, 2015
☐	Term 4, 2012	☐	Term 2, 2014	☐	Term 3, 2015
☐	Term 1, 2013	☐	Term 3, 2014	☐	Term 4, 2015
☐	Term 2, 2013				

Part 1: Implementing the NSW Literacy and Numeracy Action Plan (Early Action for Success)

8. What are the major areas for your school this year under the Action Plan/Early Action for Success? (Please mark all that apply)

☐	Literacy	☐	Instructional leadership	☐	Use of tiered interventions
☐	Numeracy	☐	Diagnostic assessment	☐	Personalised learning
☐	Both Literacy and Numeracy	☐	Professional learning of teachers		

Please indicate whether the focus has changed since your school's participation in the Action Plan/Early Action for Success commenced (e.g. has the focus of your work expanded or narrowed?

9. Which of the following factors have had the most important in-school influence on your school's approach to the teaching of literacy and/or numeracy K-2 in 2016? Please mark all that apply.

☐	Analysis of student literacy and numeracy data
☐	Student diagnostic data
☐	Staff/executive decision
☐	Outcomes of specific literacy and numeracy interventions
☐	Availability of resources
☐	Community Support
☐	Principal's area of interest
☐	Instructional Leader area of interest
☐	Instructional Leader expertise
☐	Other (please specify)

10. Have the key priorities within Literacy and Numeracy changed within your school in 2016?

☐	Yes	☐	No

If "Yes", please describe the changes that have been made, e.g. greater emphasis given to Writing, increased focus on place value.

11. Does your school have specific targets for student performance in Literacy and Numeracy K-2?

☐	Yes both Literacy and Numeracy	☐	Yes, Numeracy only
☐	Yes Literacy only	☐	No

12. If your school has targets for Literacy or Numeracy, how are these targets measured? (Please mark all that apply)

☐	NAPLAN
☐	Literacy or Numeracy Continua data
☐	Other diagnostic tools (eg BURT Reading Test)
☐	Teacher developed assessments for use in class

Other (please specify)

13. If your school does have targets for Literacy or Numeracy, were these achieved in 2015?

	Yes	No
Literacy	☐	☐
Numeracy	☐	☐

Please briefly describe the reasons for the answers provided.

14. Has your school adjusted its targets for Literacy and Numeracy in 2016 as a result of the school's results?

	Yes	No
Literacy	☐	☐
Numeracy	☐	☐

If so, please explain why you choose not to adjust your targets.

15. How has your school used funding from the Action Plan/Early Action for Success? (Please mark all that apply)

☐	Hiring additional staff to provide interventions
☐	Hiring an additional instructional leader or equivalent
☐	Providing teachers with additional release days
☐	Purchasing classroom resources
☐	Purchasing professional learning packages or courses for teachers
☐	Purchasing or implementing specific Literacy or Numeracy interventions (e.g. Multilit)
☐	Purchasing specific intervention support eg speech therapy
☐	Community engagement activities
☐	Purchasing services from non-government agencies
☐	Purchasing additional consultancy support
☐	Collaborating or sharing with other schools
☐	Other (please specify)

16. What aspect of Action Plan/ Early Action for Success resourcing has produced the greatest benefit for your staff?

17. What aspect of Action Plan/Early Action for Success resourcing has produced the greatest benefit for your students?

18. How has your school used its Early Action for Success innovation grant in 2016 to improve Literacy and Numeracy? (Government schools only)

19. What was achieved from this expenditure? (Government schools only)

20. In retrospect, would you have used these funds differently? (Government schools only)

21. How has your school used its Early Action for Success professional learning grant in 2016 to improve provision of Literacy and Numeracy? (Government schools only)

22. What was achieved from this expenditure? (Government schools only)

23. In retrospect, would you have used these funds differently? (Government schools only)

24. If you used any non-Action Plan/ Early Action for Success funding to support implementation of the Action Plan, please provide below details of the nature and approximate amount of expenditure for each item/activity and the rationale for this expenditure.

25. Has there been any change in LITERACY practices in your school as a result of the Action Plan/ Early Action for Success? (Please mark all that apply).

☐	Yes, at whole school level
☐	Yes, at grade/stage level
☐	Yes, at individual l\teacher level
☐	No

Please briefly describe any changes that have occurred

26. Has there been any change in NUMERACY practices in your school as a result of the Action Plan/Early Action for Success? (Please mark all that apply).

☐	Yes, at whole school level
☐	Yes, at grade/stage level
☐	Yes, at individual l\teacher level
☐	No

Please briefly describe any changes that have occurred

27. Has your school implemented new strategies in 2016 to encourage parent and community participation in literacy and numeracy learning as a result of the school's involvement in the Action Plan/Early Action for Success?

☐	Yes, new strategies introduced in 2016
☐	No new strategies introduced in 2016
☐	No, continued strategies introduced in 2015 or earlier

28. If Yes, please indicate the new strategies the school has adopted in 2016. Please mark all that apply.

☐	Introduced new communication strategies
☐	New way of conducting parent//teacher interviews
☐	Conducted information sessions, including guest speakers
☐	Provided training workshops in literacy and numeracy for parents and community members
☐	Trained parents to assist in the delivery of specific literacy interventions
☐	Trained parents to assist in the delivery of specific numeracy interventions
☐	Increased opportunities or patents to participate in classroom observations
☐	Introduced strategies to support home literacy and numeracy practices
☐	Other (please specify)

29. To what extent have the following capacity building initiatives assisted implementation of the Action Plan/Early Action for Success in your school in 2016?

	Great extent	Moderate extent	Little extent	Not at all
State level professional development opportunities (Government schools)	☐	☐	☐	☐
Network initiatives (Government schools)	☐	☐	☐	☐
Diocesan consultancy support (Catholic schools)	☐	☐	☐	☐
AIS consultancy support (Independent schools)	☐	☐	☐	☐
Professional learning provided by Instructional Leaders/equivalent	☐	☐	☐	☐
Local school collaboration	☐	☐	☐	☐
Cross sectoral collaboration	☐	☐	☐	☐
Other	☐	☐	☐	☐
If “Other”, please describe				

30. As a result of your school being targeted for participation in Action Plan/ Early Action for Success, to what extent do you believe the following changes have occurred at your school?

	Great extent	Some extent	Little extent	Not at all
I spend more time on planning and whole school improvement	☐	☐	☐	☐
I am able to use the School Plan to drive changes to improve student, teacher and school performance	☐	☐	☐	☐
I am better able to use evidence from a range of sources to inform decision-making and/or strategic decision setting	☐	☐	☐	☐
I spend more time on teaching and learning issues	☐	☐	☐	☐

	Great extent	Some extent	Little extent	Not at all
I have a better understanding of the issues impacting on quality literacy teaching and learning	☐	☐	☐	☐
I have a better understanding of the issues impacting on quality numeracy teaching and learning	☐	☐	☐	☐
The professional needs of staff are better met	☐	☐	☐	☐
I am better able to support targeted professional development	☐	☐	☐	☐
I am better able to influence the direction in which the school is moving	☐	☐	☐	☐
I have a better understanding of the professional strengths, weaknesses and needs of my staff	☐	☐	☐	☐
I believe that teachers are better equipped to apply differentiated teaching and personalised learning in meeting the needs of K-2 students	☐	☐	☐	☐
I believe that K-2 teachers are better equipped to diagnose students'' literacy and numeracy needs	☐	☐	☐	☐
I believe that teachers implement targeted approaches to improve the literacy and numeracy outcomes of students	☐	☐	☐	☐
I believe that K-2 teachers are better at using student assessment and other data to identify student need	☐	☐	☐	☐

PART 3: Personalised learning and tiered interventions

31. To what extent is differentiated teaching being implemented across K-2 classrooms?

☐	Great extent	☐	Moderate extent	☐	Little extent	☐	Not at all

If differentiated teaching is being used in your school K-2, please briefly describe how it is being implemented.

32. Please describe how you are implementing Tier 1 learning in K – 2 classrooms. Who is involved in delivering the teaching? (e.g. classroom teacher, intervention specialist, parent volunteers, paraprofessionals)

Reasons for adopting this approach

33. In summary, in what ways has participation in the Action Plan/ Early Action for Success enhanced the quality of Tier 1 teaching and learning in your school?

34. Please describe how you are implementing Tier 2 learning in K – 2 classrooms. Who is involved in delivering the teaching? (e.g. classroom teacher, intervention specialist, parent volunteers, paraprofessionals)

Name of the most frequently used literacy and numeracy intervention programs used for Tier 2 (NOTE: It may be possible that your intervention does not have a specific name. If appropriate, please list as a "school developed response to intervention".)

Reasons for adopting this approach

Mode of delivery – eg whole class, team teaching, students withdrawn to participate in specific interventions

35. In summary, in what ways has participation in the Action Plan/ Early Action for Success enhanced the quality of Tier 2 teaching and learning in your school?

36. Please describe how you are implementing Tier 3 learning in K – 2 classrooms. Who is involved in delivering the teaching? (e.g. classroom teacher, intervention specialist, parent volunteers, paraprofessionals)

Name(s) of the most frequently used literacy and numeracy Tier 3 interventions you are using in your school

Reasons for adopting this approach

Mode of delivery – eg whole class, team teaching, students withdrawn to participate in specific interventions

37. In summary, in what ways has participation in the Action Plan/ Early Action for Success enhanced the quality of Tier 3 teaching and learning in your school?

PART 4: Facilitating and hindering factors

38. How important have the following forms of assistance been in supporting implementation of the Action Plan/ Early Action for Success in your school in 2016?

	Very important	Moderately important	Little importance	Not important	N/A
Instructional leader support	☐	☐	☐	☐	☐
Funding to appoint additional staff (eg. Intervention teacher)	☐	☐	☐	☐	☐
Funding to purchase teacher release time	☐	☐	☐	☐	☐
Professional learning for teachers provided by consultants	☐	☐	☐	☐	☐
Coaching or mentoring support	☐	☐	☐	☐	☐
Support for data analysis	☐	☐	☐	☐	☐
Funding to purchase additional teaching resources	☐	☐	☐	☐	☐
Support for school self-evaluation processes, priority and target setting	☐	☐	☐	☐	☐
Professional learning for principals and executive leadership teams to facilitate school capacity building	☐	☐	☐	☐	☐
Networking with other schools to share effective practices in literacy and numeracy	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐
Other (please specify)					

39. What, if any, factors have facilitated the capacity of the Instructional Leader (or equivalent) to play an effective role in the school in 2016?

40. What, if any, factors have hindered the effectiveness of the Instructional Leader (or equivalent) in their role in the school in 2016?

Part 5: Improvements in literacy and numeracy outcomes

41. To what extent are the following measurement tools currently used in determining K-2 students' achievements in literacy and numeracy in your school?

	Great extent	Moderate extent	Little extent	Not at all
Use of the Literacy and or Numeracy Continua	☐	☐	☐	☐
In-class assessments	☐	☐	☐	☐
Standardised tests	☐	☐	☐	☐
Individual Kindergarten entry assessments (eg Best Start Kindergarten Assessment)	☐	☐	☐	☐
Other	☐	☐	☐	☐
If "Other", please specify				

42. Overall, what changes have occurred in student outcomes K-2 have occurred since the Action Plan/ Early Action for Success commenced (according to in-school assessment measures)?

☐	Measured improvements in Literacy	☐	No measured/significant change in Numeracy
☐	Measured improvements in Numeracy	☐	Measured decline in Literacy
☐	No measured/significant change in Literacy	☐	Measured decline in Numeracy
☐	Other (eg Do outcomes vary between classes/grades?)		

43. Overall, to what extent have there been improvements in the following student behaviours K-2 as a consequence of the Action Plan/ Early Action for Success?

	Great extent	Moderate extent	Little extent	Not at all
Increased engagement in class	☐	☐	☐	☐
Increased interest in literacy in class	☐	☐	☐	☐
Increased interest in numeracy in class	☐	☐	☐	☐
Increased interest in literacy out of class (eg Home reading, library borrowing, support for Book Week etc)	☐	☐	☐	☐
Increased interest in numeracy out of class (eg maths club)	☐	☐	☐	☐
Increased student ownership of their learning	☐	☐	☐	☐
Increased attendance	☐	☐	☐	☐
Increased capacity to work in groups with other students	☐	☐	☐	☐
Increased capacity to work independently	☐	☐	☐	☐
Increased individual responsibility for achievement of learning goals	☐	☐	☐	☐
Other	☐	☐	☐	☐
Other (please specify)				

Part 6: Leadership of the Action Plan/Early Action for Success

44. How have you as school leader supported the Action Plan/Early Action for Success in 2016? Please mark all that apply.

☐	Led staff meetings about the Action Plan/Early Action for Success
☐	Developed and or updated school policy documents related to literacy and numeracy
☐	Delegated responsibilities in relation to Action Plan/Early Action for Success
☐	Established committees to develop school strategy to support Action Plan/Early Action for Success
☐	Provided mentoring or coaching support for the Instructional Leader (or equivalent)
☐	Initiated activities to sustain the impact of the Action Plan/Early Action for Success in the school
☐	Facilitated classroom observations to share good practices
☐	Provided teacher release for professional learning
☐	Purchased classroom resources
☐	Other (please specify)

45. If the way in which you have supported the Action Plan/ Early Action for Success has changed since the commencement of the initiative, could you please briefly describe how it has changed?

46. In what ways has your leadership behaviour as a principal been enhanced as a consequence of the Action Plan/ Early Action for Success in 2016? Please mark all that apply.

☐	More collaborative in decision making
☐	Adopted a whole school approach to improving literacy and numeracy student performance
☐	Developed greater understanding of the use of literacy and numeracy data
☐	Developed more specific targets and goals for literacy and numeracy learning
☐	Increased focus on literacy K-2 only
☐	Increased focus on literacy K-6
☐	Increased focus on numeracy K-2 only
☐	Increased focus on numeracy K-6
☐	Built a stronger culture of evidence based decision-making
☐	Increased leadership empowerment across the school
☐	Taken a more “hands on” approach to instructional leadership
☐	None of the above
☐	Other (please specify)

47. Which of the following are you, as principal, using as internal measures of success for your school's implementation of the Action Plan/Early Action for Success in 2016? Please mark all that apply

☐	Enhanced student NAPLAN results
☐	Improved student literacy performance K-2
☐	Improved student numeracy performance K-2
☐	Increased teacher capacity
☐	Enhanced parent commitment to helping children with literacy and numeracy learning
☐	Other (please specify)

48. Have you been supported or received training in 2016 in order to lead the implementation of the Action Plan/ Early Action for Success in your school?

☐	Yes	☐	No

If "Yes", please describe. If "No", what training or support do you believe you require?

49. Is your school's Instructional Leader(s) or equivalent for 2016 the same as for 2015?

☐	Yes
☐	No
☐	Position vacant at the time of survey

If "No", what opportunities and challenges has this created for you?

50. What have been the key benefits and limitations of the role of the Instructional Leader (or equivalent) in your school?

51. In retrospect, do you believe the model of instructional leadership implemented in your school was the most appropriate way to enhance the quality of teaching and learning?

☐	Yes
☐	No
☐	Don't know

Why do you say this?

Part 7: Quality teaching and learning

52. To what extent has the Action Plan/ Early Action for Success improved K-2 teachers' capacity to engage in the following in your school? Please mark all that apply.

	Great extent	Some extent	Little extent	Not at all
Teaching explicitly and systematically	☐	☐	☐	☐
Knowing students' backgrounds and learning needs	☐	☐	☐	☐
Assessing student outcomes data	☐	☐	☐	☐
Analysing student outcomes data	☐	☐	☐	☐
Using student outcomes data for planning teaching and learning programs	☐	☐	☐	☐
Making more effective use of targeted interventions for students	☐	☐	☐	☐
Providing differentiated teaching and learning	☐	☐	☐	☐
Using hands-on learning activities	☐	☐	☐	☐
Encouraging student ownership of their work	☐	☐	☐	☐
Using specialist staff and services	☐	☐	☐	☐
Other (please specify)				

53. To what extent have the following become embedded in K-2 teachers' practice in your school in 2016? Please mark all that apply.

	Great extent	Some extent	Little extent	Not at all
Use of data for tailoring learning experiences for individual students	☐	☐	☐	☐
Collaborative planning and programming	☐	☐	☐	☐
Use of data for tailoring learning experiences for whole class programming and planning	☐	☐	☐	☐
Matching the use of resources to students needs	☐	☐	☐	☐
Identifying individual students at risk of not progressing according to stage appropriate syllabus outcomes	☐	☐	☐	☐
Identifying individual students at risk of not progressing according to the Literacy and Numeracy Continua	☐	☐	☐	☐
Referring students at risk in literacy and numeracy for specialist support	☐	☐	☐	☐
Opportunities for sharing of ideas with other teachers	☐	☐	☐	☐
Peer observation and reflection				
Engaging parents in the learning process				
Use a block of time for literacy teaching and learning	☐	☐	☐	☐
Use a block of time for numeracy teaching and learning	☐	☐	☐	☐
Other (please specify)				

Part 8: Sustainability of outcomes

54. Have strategies to promote the sustainability of outcomes from participating in the Action Plan/ Early Action for Success been developed in your school?

☐	Yes, comprehensive strategies are in place	☐	No, but there are plans to do this in future
☐	Yes, some strategies have been developed	☐	No, plans have not been made as yet

If "Yes", what strategies have you put in place to sustain the impact of the Action Plan/Early Action for Success beyond 2016?

55. To what extent do you believe the following will inhibit sustainability of the Action Plan Early Action for Success in your school beyond 2016? Please mark all that apply.

	Great extent	Moderate extent	Little extent	Not at all	Don't know
School leadership turnover	☐	☐	☐	☐	☐
Reduced or discontinued funding	☐	☐	☐	☐	☐
Loss of Instructional leader/equivalent	☐	☐	☐	☐	☐
Teaching staff turnover	☐	☐	☐	☐	☐
Competing priorities and demands	☐	☐	☐	☐	☐
Student mobility	☐	☐	☐	☐	☐
Changing demographics of the school community	☐	☐	☐	☐	☐
Loss of systemic support	☐	☐	☐	☐	☐
Other (please specify)					

Part 9: Other

56. Overall, to what extent do you believe the Action Plan/Early Action for Success has influenced the following? (Please mark all that apply).

	Great extent	Moderate extent	Little extent	Not at all	Don't know
Teaching and learning practices K-2	☐	☐	☐	☐	☐
Whole school culture	☐	☐	☐	☐	☐
Student outcomes K-2	☐	☐	☐	☐	☐
Teacher capacity	☐	☐	☐	☐	☐
Enhanced quality of instructional leadership in the school	☐	☐	☐	☐	☐
Further developed systems and processes for monitoring student progress	☐	☐	☐	☐	☐
Other, please describe					

57. In what ways has the Action Plan/ Early Action for Success been a catalyst for change in the approach to literacy and numeracy in your school?

58. In your view, to what extent has the Action Plan/ Early Action for Success delivered "value for money" in your school?

☐	Great extent	☐	Moderate extent	☐	Little extent	☐	Not at all

Please explain your answer

59. Any other comments about the Action Plan/ Early Action for Success you would like to make:

2016 LITERACY AND NUMERACY ACTION PLAN - INSTRUCTIONAL LEADER SURVEY

Part 1: Background information

The survey is designed for Instructional Leaders in government schools and their equivalent in Catholic schools. Titles for instructional leaders vary across Catholic Dioceses and may be known as:

- Teacher Educator
- Lead Teacher
- Literacy and Numeracy Project Facilitator
- Literacy and Numeracy Action Plan (LNAP) Facilitator
- Literacy/Numeracy Instructional Leader
- State Action Plan Teacher
- Project Teacher
- Reading Recovery teacher
- Literacy/Numeracy Focus teacher
- Literacy/Numeracy Support
- Literacy Coach/Numeracy Specialist
- Literacy Leading teacher
- Literacy Lead Teacher
- Numeracy Intervention Teacher.

1. School name:

(Please note: school names are requested for administrative purposes only. Your response will be confidential and no schools will be named in any reporting. If you work in more than one school, please respond to this survey in terms of the school you spend most time in, or in reference to a single school

2. Is your school a:

☐	Government school	☐	Catholic school?

3. Please indicate which title best describes your role in the school in 2015 (Catholic schools only):

☐	Teacher Educator
☐	Literacy/Numeracy Focus teacher
☐	Literacy/Numeracy Instructional Leader
☐	Literacy Lead Teacher
☐	Lead Teacher
☐	State Action Plan Teacher
☐	Literacy/Numeracy Support
☐	Numeracy Intervention Teacher
☐	Literacy and Numeracy Project Facilitator
☐	Project teacher
☐	Literacy Coach/Numeracy Specialist
☐	LNAP Facilitator

☐	Reading Recovery teacher
☐	Literacy Leading teacher
☐	Other (please specify)

4. At what level has your appointment as Instructional Leader been?

☐	Classroom teacher
☐	Executive teacher (e.g assistant principal)
☐	Deputy principal
☐	Other (please specify)

5. How long have you been working at this school?

☐	Less than 6 months	☐	3-5 years
☐	Less than 1 year	☐	5 to 10 years
☐	1 to 3 years	☐	More than 10 years

6. When did you commence as Instructional Leader at your school?

☐	Term 1, 2012	☐	Term 3, 2013	☐	Term 1, 2015
☐	Term 2, 2012	☐	Term 4, 2013	☐	Term 2, 2015
☐	Term 3, 2012	☐	Term 1, 2014	☐	Term 3, 2015
☐	Term 4, 2012	☐	Term 2, 2014	☐	Term 4, 2015
☐	Term 1, 2013	☐	Term 3, 2014	☐	Term 1, 2016
☐	Term 2, 2013	☐	Term 4, 2014	☐	Term 2, 2016

7. Please indicate which model best describes the way in which you perform your role:

☐	Work in a single school
☐	Work in a single school with a specific mathematics focus
☐	Support a small cluster or group of schools
☐	Support a number of small and isolated schools that are working in a cluster
☐	Work in a single school with a numeracy focus and being trained in the role
☐	Instructional leader in a small school with training responsibilities in other EAfS schools (Govt schools)
☐	Other arrangements

Please specify whether your role has changed in 2016 (e.g. are you now working with more/fewer schools?)

8. If you work with a group of schools, or an arrangement other than a single school, please describe the challenges and opportunities in this arrangement.

9. Before you commenced as Instructional Leader, how familiar were you with the school/s in which you work and their local communities?

☐	Very familiar	☐	Somewhat familiar	☐	Unfamiliar

10. To what extent has your work focused on the following in 2016?

	Great extent	Moderate extent	Little extent	Not at all
Literacy K-2	☐	☐	☐	☐
Numeracy K-2	☐	☐	☐	☐
Both literacy and numeracy K-2	☐	☐	☐	☐
Literacy K-6	☐	☐	☐	☐
Numeracy K-6	☐	☐	☐	☐
Both literacy and numeracy K-6	☐	☐	☐	☐
Instructional leadership	☐	☐	☐	☐
Diagnostic assessment	☐	☐	☐	☐
Professional learning of teachers	☐	☐	☐	☐
Use of tiered interventions	☐	☐	☐	☐
Personalised learning	☐	☐	☐	☐
Other	☐	☐	☐	☐
Other (please specify)				

Part 2: Leadership of the Action Plan/Early Action for Success

11. To what extent have the following been major responsibilities for you as Instructional Leader (or equivalent) in 2016? Please mark all that apply.

☐	Leading all aspects of the Action Plan (EAfS)	☐	Mentoring and coaching classroom teachers
☐	Facilitating staff professional learning	☐	Mentoring and coaching school executive
☐	Delivering professional learning	☐	Mentoring and coaching the principal
☐	Building an evidenced based culture in your school(s)	☐	Providing expert knowledge in the teaching of literacy
☐	Analysing student performance data	☐	Providing expert knowledge in the teaching of numeracy
☐	Linking student performance data to classroom planning	☐	Providing advice on the choice and delivery of literacy interventions
☐	Challenging and refining classroom practice	☐	Providing advice on the choice and delivery of numeracy Interventions
☐	Monitoring and reporting on K-2 progress in literacy	☐	Delivering intervention support for K-2 students
☐	Monitoring and reporting on K-2 progress in numeracy	☐	Modelling successful teaching strategies in classrooms
☐	Contributing to the development of plans that focus on literacy and numeracy student performance	☐	Facilitating the sharing of effective practice in literacy and numeracy teaching
☐	Other (please specify)		

12. Has your role as Instructional Leader changed since you commenced at this school?

☐	Yes	☐	No

If "Yes", please describe how it has changed.

13. To what extent have the following factors facilitated your role as Instructional Leader in 2016?

	Great extent	Moderate extent	Little extent	Not at all
Principal and/or executive support	☐	☐	☐	☐
Teacher enthusiasm	☐	☐	☐	☐
Professional learning provided by state office (Government schools)	☐	☐	☐	☐
Professional learning provided by Diocese (Catholic schools)	☐	☐	☐	☐
Previous leadership experience	☐	☐	☐	☐
Parent community support for the Action Plan/EAfS	☐	☐	☐	☐
Outcomes of work as Instructional Leader to date within school	☐	☐	☐	☐
Networking with other Instructional Leaders	☐	☐	☐	☐
Other (please specify)	☐	☐	☐	☐

14. What, if any, factors have inhibited you as an Instructional Leader in 2016?

15. Which, if any, of the following strategies have you adopted to measure the success of your role as Instructional Leader in 2016?

	Yes	No	N/A
Enhanced student NAPLAN results	☐	☐	☐
Improved student literacy performance K-2	☐	☐	☐
Improved student numeracy performance K-2	☐	☐	☐
Increased teacher capacity	☐	☐	☐
Enhanced parent commitment to helping children with literacy and numeracy learning	☐	☐	☐
Promotion to other leadership positions	☐	☐	☐
Other	☐	☐	☐

16. In what ways have you exercised instructional leadership in relation to the Action Plan/Early Action for Success within your school during 2016?

	Yes	No
Led staff meetings about the Action Plan/EAfS	☐	☐
Developed or updated school policy documents to focus on Literacy and/or Numeracy	☐	☐
Delegated responsibilities in relation to Action Plan/EAfS	☐	☐
Facilitated formation of collegial networks	☐	☐
Facilitated classroom observations to share good practices	☐	☐
Purchased classroom resources	☐	☐
Provided teacher professional learning	☐	☐
Established consistent K-2 learning outcome data collection	☐	☐
Facilitated strategies to enhance assessment of K-2 student progress against the Literacy and Numeracy Continua	☐	☐
Disseminated information/research related to evidence based literacy and numeracy teaching	☐	☐
Developed shared expectations of targets to be achieved at school level in relation to Action Plan/EAfS	☐	☐
Contributed to alignment of resources provided under Action Plan/EAfS against student learning outcomes in School Plan	☐	☐
Assisted in identifying students K-2 not progressing in literacy and numeracy	☐	☐
Tailored small group and or one-on-one literacy support for identified student K-2	☐	☐
Tailored small group and or one-on-one numeracy support for identified student K-2	☐	☐
Identified literacy intervention programs and strategies appropriate to identified student need K-2	☐	☐
Identified numeracy intervention programs and strategies appropriate to identified student need K-2	☐	☐
Delivered literacy intervention programs and strategies appropriate to identified student need K-2	☐	☐
Delivered numeracy intervention programs and strategies appropriate to identified student need K-2	☐	☐
Mentored K- 2 teachers	☐	☐
Acted as a literacy coach for K-2 teachers	☐	☐
Acted as a numeracy coach for K-2 teachers	☐	☐
Other	☐	☐
If "Other", please specify		

17. To what extent have the following forms of support helped you to develop professionally as an Instructional Leader during 2016?

	Great extent	Moderate extent	Little extent	Not at all
Provision of documentation related to the role of Instructional Leader	☐	☐	☐	☐
Provision of documentation related to the Action Plan/EAfS	☐	☐	☐	☐
Targeted professional learning	☐	☐	☐	☐
Coaching/mentoring from Educational Services team (Gov schools)	☐	☐	☐	☐
Coaching/mentoring from Educational Services team (Gov schools)	☐	☐	☐	☐
State office support	☐	☐	☐	☐
Provision of professional learning sessions via Adobe Connect (Government schools only)	☐	☐	☐	☐
Provision of face to face professional learning workshops	☐	☐	☐	☐
Opportunities for peer observation	☐	☐	☐	☐
Opportunities to participate in collegial groups	☐	☐	☐	☐
Networking with other Instructional Leaders	☐	☐	☐	☐
Coaching/mentoring from principal	☐	☐	☐	☐
Other (please specify)	☐	☐	☐	☐

Part 3: Leadership of the Action Plan/Early Action for Success

18. In what ways have you exercised instructional leadership in relation to the Action Plan/Early Action for Success within your school during 2016?

	Great extent	Moderate extent	Little extent	Not at all
Facilitating classroom observations to share effective practice	☐	☐	☐	☐
Matching classroom resources to student needs	☐	☐	☐	☐
Targeted professional learning	☐	☐	☐	☐
Providing in-class teacher professional learning	☐	☐	☐	☐
Establishing consistent K-2 learning outcome data collection	☐	☐	☐	☐
Establishing processes for using the Literacy and Numeracy Continua K-2 to identify student learning needs	☐	☐	☐	☐
Disseminating research related to quality teaching and learning practices	☐	☐	☐	☐

	Great extent	Moderate extent	Little extent	Not at all
Establishing high expectations for student achievement	☐	☐	☐	☐
Identifying students K-2 at risk of not progressing in literacy	☐	☐	☐	☐
Identifying students K-2 at risk of not progressing in numeracy	☐	☐	☐	☐
Delivering intervention support to students not progressing in literacy	☐	☐	☐	☐
Delivering intervention support to students not progressing in numeracy	☐	☐	☐	☐
Working with teachers to tailor small group and on-on-one support for students	☐	☐	☐	☐
Working with students to identify students at risk K-2	☐	☐	☐	☐
Implementing a student case management approach to improving literacy and numeracy performance	☐	☐	☐	☐
Supporting the transition of students into Kindergarten from pre-school and early childhood settings	☐	☐	☐	☐
Supporting the transition of students from Year 2 into Year 3	☐	☐	☐	☐
Other	☐	☐	☐	☐
If “Other”, please specify				

19. Since your appointment as Instructional Leader, to what extent have the following practices become embedded into school/classroom routines, planning and priorities?

	Great extent	Moderate extent	Little extent	Not at all
A more collaborative approach to decision making	☐	☐	☐	☐
Adopting a whole school approach	☐	☐	☐	☐
Increasing focus on classroom based instructional techniques	☐	☐	☐	☐
Building a stronger culture of evidence based decision making	☐	☐	☐	☐
Increasing emphasis on building teacher capacity	☐	☐	☐	☐
Greater emphasis on assessment of student learning for quality teaching	☐	☐	☐	☐
Greater consistency of teaching within Stage levels	☐	☐	☐	☐
Other	☐	☐	☐	☐
If “Other”, please specify				

Part 4: Outcomes from the Action Plan/Early Action for Success

20. How effectively do you believe you have assisted teachers to undertake the following in 2016?

	Great extent	Moderate extent	Little extent	Not at all
Use data for tailoring learning experiences for individual students	☐	☐	☐	☐
Use data for tailoring learning experiences for whole class programming and planning	☐	☐	☐	☐
Match the use of resources to students needs	☐	☐	☐	☐
Establish systems for recording of student progress	☐	☐	☐	☐
Provide opportunities for sharing of ideas with other teachers	☐	☐	☐	☐
Undertake peer observation and reflection	☐	☐	☐	☐
Engage parents in the learning process	☐	☐	☐	☐
Personalise learning for individual students	☐	☐	☐	☐
Identify interventions for teacher to implement	☐	☐	☐	☐
Facilitate the use of a block of time for literacy teaching and learning	☐	☐	☐	☐
Facilitate the use of a block of time for literacy teaching and learning	☐	☐	☐	☐
Engage parents and the community to assist with literacy learning K-2	☐	☐	☐	☐
Engage parents and the community to assist with numeracy learning K-2	☐	☐	☐	☐
Other (please specify)	☐	☐	☐	☐

21. To what extent do you believe there has been improvement in the following student learning outcomes in your school in 2016?

	Great extent	Moderate extent	Little extent	Not at all	Don't know
Literacy outcomes	☐	☐	☐	☐	☐
Numeracy outcomes	☐	☐	☐	☐	☐
Student satisfaction with learning	☐	☐	☐	☐	☐
Student engagement in learning	☐	☐	☐	☐	☐
Improved student attitude to literacy learning	☐	☐	☐	☐	☐
Improved student attitude to numeracy learning	☐	☐	☐	☐	☐
Student involvement in goal setting and monitoring of progress	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐
Other (please specify)					

22. Overall, to what extent do you believe the Action Plan/Early Action for Success has influenced the following?

	Great extent	Moderate extent	Little extent	Not at all
Teaching and learning practices K-2	☐	☐	☐	☐
Whole school culture	☐	☐	☐	☐
Student outcomes K-2	☐	☐	☐	☐
Teacher capacity	☐	☐	☐	☐
Enhanced quality of instructional leadership in the school	☐	☐	☐	☐
Further developed systems and processes for monitoring student progress	☐	☐	☐	☐
Other	☐	☐	☐	☐
Other (please specify)				

Part 5: Sustainability of outcomes

23. Overall, to what extent do you believe that the Action Plan/Early Action for Success has brought about a positive change in literacy and numeracy teaching and learning K-2 in your school?

☐	Great extent	☐	Some extent	☐	Little extent	☐	Not at all

Part 6: Other

24. What do you see as your greatest success as an Instructional Leader in 2016?

25. In retrospect, do you believe the model of instructional leadership implemented in your school was the most appropriate way to address its school improvement needs?

☐	Yes
☐	No
☐	Don't Know
☐	Why do you say this?

26. If no, what other model would you recommend?

27. Any other comments you would like to make?

28. As a result of your school being targeted for participation in Action Plan/EAfS, to what extent do you believe the following changes have occurred at your school?

	Great extent	Moderate extent	Little extent	Not at all
The school spends more time on planning and whole school improvement	☐	☐	☐	☐
The School Plan is used to drive changes to improve student, teacher and school performance	☐	☐	☐	☐
I am better able to use evidence from a range of sources to inform decision-making and/or strategic decision setting	☐	☐	☐	☐
I spend more time on teaching and learning issues	☐	☐	☐	☐
I have a better understanding of the issues impacting on quality literacy teaching and learning	☐	☐	☐	☐
I have a better understanding of the issues impacting on quality numeracy teaching and learning	☐	☐	☐	☐
The professional needs of staff are better met	☐	☐	☐	☐
I am better able to support targeted professional development	☐	☐	☐	☐
I am better able to influence the direction in which the school is moving	☐	☐	☐	☐
I have a better understanding of the Professional strengths, weaknesses and needs of K-2 teachers	☐	☐	☐	☐
I believe that teachers are better equipped to apply differentiated teaching and personalised learning in meeting the needs of K-2 students	☐	☐	☐	☐
I believe that K-2 teachers are better equipped to diagnose students' literacy and numeracy needs	☐	☐	☐	☐
I believe that teachers implement targeted approaches to improve the literacy and numeracy outcomes of students	☐	☐	☐	☐
I believe that K-2 teachers are better at using student assessment and other data to identify student need	☐	☐	☐	☐

14.4 Calculating the cost effectiveness of the Action Plan

Background

The challenge in measuring the cost-effectiveness of the Action Plan is to identify measures which reflect the real impact of the Action Plan as accurately as possible, while also being economical, and for which it is feasible to collect data. While a comprehensive measure of the impact of a large scale reform initiative might arguably include data about the impact on the totality of change achieved, for practical purposes this would be difficult, if not impossible, to achieve in relation to the Action Plan. While it might be possible to separately quantify the extent of change, for example, in one of the areas targeted under the Action Plan, for example, "enhanced teachers' capacity to tailor learning experiences according to identified student need", combining the data from all areas identified in the Program Logic, into a single metric would not be a simple matter. As a result, cost effectiveness will be examined through examining the K-2 student learning outcomes achieved in targeted schools. Whatever the measure of student outcome used, there is a compromise to be made between relevance, validity, accuracy and practicality, and a range of caveats must be placed on subsequent interpretations of analyses based on these data.

Furthermore it is important not to confuse how "effectiveness" is measured for the purposes of the cost effectiveness study and for the evaluation as a whole. The cost effectiveness study should be seen as one subset of the whole outcomes data. The "effectiveness score" for the purposes of the cost effectiveness study contributes to an understanding of the overall effectiveness of the Action Plan but is not intended to represent the overall achievements of the LNAP in anything other than this narrow and specific context.

Using the K-2 Continua data or NAPLAN as the metric

There are two forms of outcomes data available – K-2 data in relation to literacy (Aspects of text, Comprehension, Writing, and Numeracy Early Arithmetic Strategies) and Year 3 NAPLAN for Reading, Writing and Numeracy for use in the evaluation. Each of these has advantages and disadvantages for use in reporting the effectiveness for particular purposes. The K-2 data for literacy and for numeracy, for example, cannot be aggregated since they are not reported on similar scales. In addition, the accuracy of teacher ratings of student achievement on the Continua may be questioned in some schools. The use of Year 3 NAPLAN data is a less relevant measure of learning (and limited in its scope) than the K-2 data but has better known measurement properties than the K-2 data. Despite this, there is still a "lag" effect when using such a metric because of the time period between the "treatment" and the time of student testing, during which other factors could impact on students' scores.

Calculating effectiveness using Literacy as the focus

As defined by Levin and Belfield5, the commonly accepted formula for calculating a measure of cost effectiveness is as follows:

$$\frac{\text{(NUMERATOR) Impact (effectiveness)}}{\text{(DENOMINATOR) Cost}}$$

[5] Levin, H. M. and Belfield, C.R. *Guiding the Development and Use of Cost-effectiveness Analysis in Education* (August 2013). P. 6

The ultimate indicator of the success of the Action Plan is the extent of change it has achieved in improving the literacy and numeracy outcomes of K-2 students.

Throughout this evaluation, the K-2 Literacy and Numeracy Continua have provided the basis of reporting K-2 student outcomes, and it is considered to be the most valid and relevant data to be used in this exercise. The Continua have some inherent limitations as a measurement tool, including the fact that it is not an equal interval scale, and that the scales are not consistent or comparable between the various aspects of literacy and numeracy represented. The former point has the implication that it is not valid to compare growth between grade levels (i.e. it would be expected that Kindergarten students would progress through more clusters than a Year 2 student would, as the Continuum is more fine grained at Kindergarten level). It is not possible therefore to simply add together the number of clusters achieved by K, Year 1 and Year 2 students to calculate an average growth figure. Likewise, the implication of the latter point is that it is not possible to aggregate across the different aspects of the Literacy and Numeracy Continua to calculate an overall outcome score in any meaningful way. Further the data set available to the evaluation is limited by the lack of consistency and accuracy of reporting by the different sectors, with data being available across all participating schools from 2014 only (and then not on a school by school basis within all sectors).

Calculating a change score for students in Action Plan schools is difficult at K-2 level, since there is no readily available data from a control group with which to compare any differential growth that may have occurred. Calculation of growth will therefore need to be made in terms of a before and after comparison of the rate of progress of students within the schools targeted under by the Action Plan. In addition the introduction of the new Mathematics Syllabus into many participating schools further complicates the situation because of the potential impact that this can have on student progress on the Numeracy Continuum in some schools but not others.

For practical purposes, it is proposed that the measure of effectiveness be restricted to one measure, Reading (Aspects of text), for students in Government schools only, since this is the only group for which a reasonably consistent baseline measure would be available. To ensure that the data are as reliable and internally consistent as possible, it is proposed that the data set will include only the 59 Government schools that commenced in 2012.

Effectiveness for practical purposes for this cost effectiveness study is defined as:

“How many clusters have the 2016 group of Year 2 students achieved compared to the average number of clusters achieved by the 2013 group of Year 2 students.”

The 2013 data as the baseline

The 2013 data are used as the baseline for this exercise since the 2012 data are not available in a form that can be readily used. The data to be used in the equation for the 2013 group of students may need to be an estimate based on the actual 2013 week 35 results for Year 2 only, since the Kindergarten scores for that group of students were not measured on entry to school. The Best Start data that are available for targeted schools in later years shows little annual variation, with 80 per cent of students or more commencing at Cluster 1 level. A more accurate level of progress achieved for the 2016 Year 2 cohort is possible since the Kindergarten entry scores are held by the DoE (for the “Matched” student group”).

To enable comparison with other studies, the difference in progress achieved between the two cohorts needs to be expressed as an “effect size” using the formula (Mean 1-Mean 2)/pooled standard

deviation). The more readily available "below, at or above standard" scores for both literacy and numeracy K-2 will not produce effect size calculations, which is required in order to compare the outcomes of this study with other similar studies.

Calculating the Denominator (Costs)

The denominator will be the average per student costs of the Action Plan over 2013-2016 period for the 59 identified schools. The per-student cost will be based on the aggregated annual funding allocation for the 59 schools. The data collection in 2015 identified that the difference between the allocated costs and the true cost (as defined by Levine 2013) are immaterial at both system and school level and can be accounted for by sensitivity testing of differences in estimations within a range of +/- 5% of the nominal allocation. The allocated dollar amount will be expressed as a per student amount to make comparison with other cost-effectiveness studies possible.

Making sense of the calculation

The above formula produces an index of cost-effectiveness, but this figure has little meaning unless it is compared to similar indices for other forms of intervention. There are few studies that examine the cost effectiveness of large scale initiatives like the Action Plan. There are some studies that compare the cost effectiveness of particular intervention programs and/or teaching and learning strategies. The Australian Teaching and Learning Toolkit provides an indication of the costs and effects of a number of such approaches in broad ranges rather than point scores, against which the current study can be located. This is imperfect, but in the absence of other metrics provides the best alternative at present.

Data to be used

Cohort 1: Number of Year 2 students in each Reading (Text) cluster in week 35, 2013 for the initial 59 government LNAP schools

Cohort 2: Number of "matched" Year 2 students in both 2013 and 2016 that had progressed by 1,2,3,4,5,6,7,8,9 etc clusters since Kindergarten – as at week 35 of 2013 and 2016. (Since this is not likely to be known for 2013, the number of Year 2 students at each cluster level at week 35 will be required from which progress will be estimated). The progress data should be possible from PLAN at an individual student level and school level in 2016. If it is not readily accessible it can be calculated from the actual number of Kindergarten students in 2014 at each cluster level at week 5 and the actual number of Year 2 students at each cluster level in 2016. If 2014 week 5 data are not available, then the same estimation method as used for the 2013 group of students can be used for 2016 as well).

For costs: Total allocated to each of the 59 government 2012 cohort of schools in 2013, 2014, 2015 and 2016 (including instructional leader salaries); and the number of K, Year 1 and Year 2 students in these schools each year 2013, 2014, 2015, 2016).