CAPE YORK ABORIGINAL AUSTRALIAN ACADEMY 2013 NAPLAN RESULTS REPORT

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Introduction and summary of findings

Direct Instruction (DI) has been operating in the Aurukun and Coen campuses of the Cape York Aboriginal Australian Academy (CYAAA or the Academy) since January 2010, and in the Hope Vale campus since January 2011. At the time of NAPLAN testing, Year 3 Aurukun and Coen students had received 41 months of DI and Hope Vale students 29 months.

The Academy's premise is that school reform is a 6 to 10 year journey. However the 2013 NAPLAN is an important milestone for the Academy as our Year 3 students at Aurukun and Coen have been in the program since Prep (not compulsory) and Year 1 at Hope Vale. Indications of progress should be apparent from the Academy's Year 3 NAPLAN results.

Our analysis suggests that the rate of progress per year for the Year 3 cohort has increased 40 per cent within DI programs since the introduction of the Academy.[1] While progress is significant, it is slower than needed to achieve our goal that all students be at or above year level at the time of testing.

This progress is not readily visible in NAPLAN for three reasons:

- Firstly, NAPLAN is a benchmark test not a progress test, so it measures where students are at rather than how far they have travelled.
- Secondly, mainstream schools presumably plan their curricula to ensure students are exposed to the range of concepts targeted by NAPLAN. DI is a highly prescriptive program with sequences and timing that do not completely align to NAPLAN.[2]
- Thirdly, Year 3 students are consolidating strong foundational skills but many are still on DI programs below the mainstream for their age. They are making greater progress than prior to implementation, but not at the mainstream rate of one year level per calendar year.

The aggregate effect is that 62-87 per cent of students' responses were incorrect because students were unfamiliar with the material tested in NAPLAN.

An analysis of the data shows that the majority of high attending students are accelerating at a mainstream rate.[3] However, poor attendance is seriously inhibiting students in earlier DI levels and impacting their performance on NAPLAN. This pattern was confirmed in an analysis by Professor Jean Stockard at the National Institute for Direct Instruction (NIFDI).[4]

DI can only accelerate students when they attend so increased attendance remains the first priority for lifting academic results of the whole cohort. Another priority is instruction. While some classes achieve the required levels of progress and mastery, others are regularly repeating lessons.[5]

Accelerating student learning is the single most important challenge facing the Academy. This paper details a number of areas to improve student progress. These are:

- A focus on lifting attendance as a matter of urgency.
- An increase in the supply and skills of teacher aides.
- Training school leaders to build teacher quality.
- Diagnosis of students with unidentified special needs.
- A renewed strategy to address students with persistent disruptive behavior.

[1] Internal data – Grade Gain per Year. In Aurukun and Coen Year 3 in 2010 had been progressing at 45 per cent and 50 per cent respectively of a year level per year in Reading and Math to place in their first program, while in 2013 Year 3 students from Aurukun and Coen have progressed at 62 per cent and 68 per cent of a year level per year to be in their current program from 2012.

[2] For example, the Year 3 NAPLAN test has a strong emphasis on spelling which the Academy's students in Aurukun and Coen were not exposed to until they were proficient in Year 2 reading. This may not have been achieved by Year 3 as indigenous students often require a greater emphasis on language development in their early years. Notably, additional teacher aides to assist rotations in earlier programs will facilitate teaching of spelling from early in Prep using Kit Spelling, as is being done in Hope Vale.

[3] While this is the case for the majority of high attending students, there is an anomaly of 9 students in the Year 3 cohort which have recorded regular attendance but made slower progress than the majority of like-attending students. These students were investigated by NIFDI on a case by case basis and found to include 5 severe behavioural and 1 identified special needs students.

[4] Stockard J, 2013, *An Analysis of 2013 NAPLAN Scores: Cape York Aboriginal Academy Schools*, NIFDI.

[5] Vachon V, vvachon@me.com, 2013, *Data/Graphs*, [Email] message to B Denigan, (bdenigan@aidi.org.au), Sent 14/8/13 1:47 AM.

- A NAPLAN preparation plan for all students.

These actions require an Academy-wide focus and significant realignment of existing resources.

Students are making significant gains never before achieved in these schools

NAPLAN is designed to benchmark the literacy and numeracy skills of students across the nation to determine if they are at their expected year level of schooling across years 3, 5, 7 and 9.[6] It is used as a diagnostic tool by teachers, principals and governments to identify target areas for student, school and system improvement.

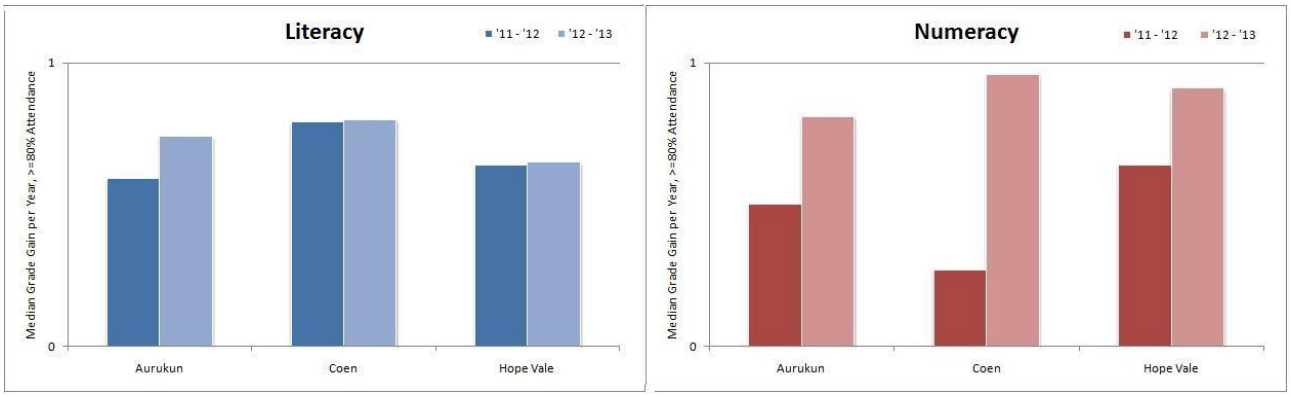
CYAAA students, along with all Australian students, are required to sit NAPLAN. The Academy has not previously used NAPLAN to analyse student progress because the Academy uses other tests that align to DI for this purpose.[7] The 2013 NAPLAN is the first time a Year 3 cohort has been taught using DI methodology for all of their schooling. Year 3 Aurukun and Coen students started DI in the non-compulsory Prep year, and Hope Vale students in Year 1,[8] so this cohort was targeted for analysis.

It is important to note that as the largest school, Aurukun represents 40 of the 58 students of the Year 3 cohort in this analysis, whilst Coen and Hope Vale represent 3 and 15 respectively. The majority of Aurukun and Hope Vale students have English as their second language.

These small sample sizes are problematic for drawing definitive conclusions but they are the only data that the Academy has to compare with other schools nationally. Where issues pertain to specific campuses this will be noted in the discussion.

Figure 1 compares the rate at which students have been learning within DI programs from 2011 to 2013.

(Figure 1) *Year level gain per year at eighty per cent or above attendance in all grades*



The above results indicate that students who have been attending school for eighty per cent or more of the time are progressing at 60-90 per cent of the rate expected of mainstream students. While this rate has improved since implementation began, it is still below the goal of one year level per year.

It is expected that if Academy students attended closer to the national average of 93 per cent and are accelerated by three-group rotations in the early years of the program, they will be able to progress at grade level.

[6] ACARA, 2013, *NAPLAN – General*, [Online] Available at: http://www.nap.edu.au/information/faqs/naplan--general.html [Accessed 3/10/13].

[7] DI uses internal diagnostic tests to monitor students daily or weekly to ensure they are progressing and achieving mastery. Student progress is also monitored by an external testing regime called the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) which is done tri-annually, and the Progression Achievement Tests for Reading and Math (PAT-R and PAT-M), at the start and end of each year.

[8] There are some students in this sample who have not been with the school since the start of the program. One Aurukun student joined in 2012 while another was unenrolled for 2012, one Coen student joined halfway through 2012 and two Hope Vale students joined in mid 2011 and the beginning of 2013 respectively. This is too small a sample to draw any conclusions about their learning.

(Figure 2) *Year 3 students achieving at or above national minimum standards; 2009 and 2013*

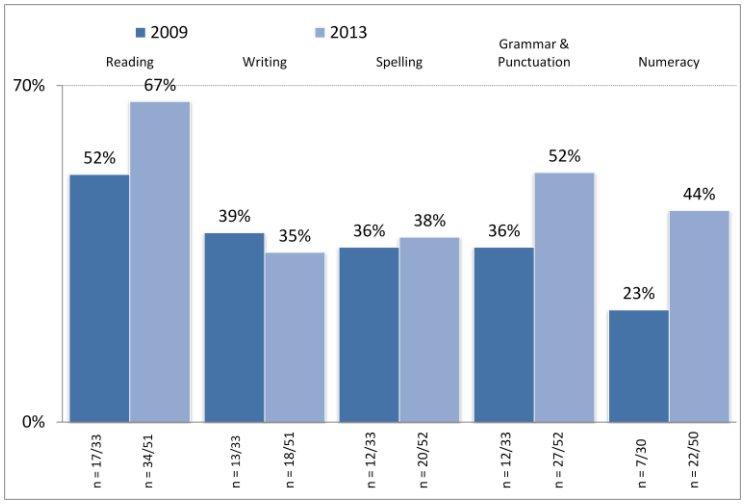


Figure 2 shows that CYAAA has also increased the number of students at or above national minimum standards in the areas of Reading, Grammar and Punctuation and Numeracy. In Aurukun and Coen, Writing and Spelling were not taught explicitly until proficiency in Year 2 level reading was achieved, so no significant changes are evident.

Compared to 2009, Year 3 students are significantly more successful in all areas they were instructed in. Prior to the Academy's commencement, Year 3 students in Aurukun and Coen had learnt on average, 47 per cent of a year in one calendar year, compared to now learning 65 per cent in 2012-2013. This is despite a combined average student attendance of 71.1 per cent in Academy campuses.[9]

However, the Mean Scale Score (MSS) of students remains below state and national averages, making the Academy's progress appear inadequate when compared to other schools.

DI students learn at their level, regardless of testing demands

All Australian schools are required to participate in NAPLAN and usually dedicate some class time to prepare students for testing. The Academy has previously done little to prepare for NAPLAN as it detracts from the daily program. However, the Academy undertook some NAPLAN preparation in 2012 and 2013. These were each conducted over a six-week period using materials designed by NIFDI to teach students how to apply DI techniques to NAPLAN test formats.

NAPLAN is tested at year levels as students in mainstream schools are typically moved up a year each calendar year, grouping them into areas of learning that are taught by age.

DI students are taught at their ability level and are not exposed to content that they might encounter in NAPLAN if they are not at that level. For example, they may not be familiar with the concept of writing a text that has an introduction until they have mastered an adequate foundation of reading.

However they are still required to sit the test due to their age year, even if it is known they are not at a Year 3 ability level or haven't been exposed to the information. This may be demoralising for students who are unfamiliar with the content or test genre and can lead to disengagement early in the test, negatively affecting results.

As Figure 3 shows, few Year 3 students have progressed into Year 3 levels of work, and a large number are working at Year 2 levels.

[9] Herald Sun, 2013, *Queensland parents need to 'step up' against truancy, Education Minister John-Paul Langbroek says*, [Online] Available at: http://www.heraldsun.com.au/news/national/queensland-parents-need-to-step-up-against-truancy-education-minister-johnpaul-langbroek-says/story-fnii5v70-1226747843124 [Accessed 30/10/13].

(Figure 3) *Number of Year 3 students by DI program (total = 58 students)*

DI Program	Reading	Writing	Spelling	Grammar & Punctuation	Numeracy
Year 3 or above	8	6	1	6	11
Year 2	29	31	12	31	32
Year 1	16	11	0	11	14
Prep	5	10	45*	10	1

**Spelling was not introduced in Aurukun and Coen until students had achieved proficiency in Year 2 Reading.*

There are differences between the sequencing of concepts in DI and NAPLAN

Understanding how the Academy's students performed requires an analysis of their position in the DI materials compared to NAPLAN test questions.[10] The following analysis was undertaken to map NAPLAN to DI programs.

Data was collated in a spreadsheet that recorded each student's attendance, special needs status, completed and current DI programs, and their responses to each NAPLAN question. The skills delineated in the NAPLAN questions were then mapped against the sequencing of concepts in DI programs. The DI lesson where each skill was introduced was identified for the test areas of Reading, Spelling, Grammar and Punctuation, and Numeracy. This mapping has been validated by NIFDI.[11]

Figure 4 shows the differences between DI sequences of learning and mainstream progression through concepts tested in NAPLAN. It shows the number of questions students would be expected to begin learning before, during, and after Year 3 equivalent programs in DI. Many concepts, in particular Grammar and Punctuation, are introduced later in DI.

(Figure 4) *Content of test questions mapped to Year 3 equivalent DI programs*

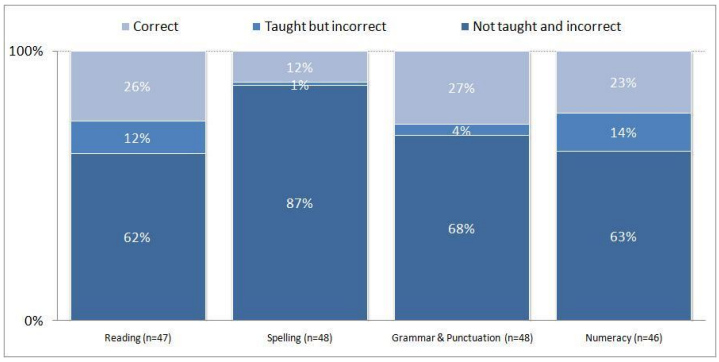
Question Content Taught	Before	During	After	Not in DI	Total Questions
Reading	10	15	10	0	36
Spelling	5	18	1	1	25
Grammar & Punctuation	3	9	13	1	26
Numeracy	12	7	9	7	35

Some concepts that were tested in the 2013 NAPLAN test are not taught explicitly in the Academy's current programs, such as patterning, symmetry of shapes, and problems involving simultaneous subtraction and division. NIFDI is able to address these areas with targeted preparation lessons prior to NAPLAN testing.

The introduction of the skills required for each test item was then compared to where students were in DI programs. Figure 5 shows students were unfamiliar with a large part of the NAPLAN test: 62–87 per cent of incorrect responses showed students had not progressed far enough to be taught the skills required and could not have been expected to perform well.

[10] Davis G, gdavis@nifdi.org, 2013. *NIFDI's comments on NAPLAN*. [E-mail] Message to D Field (dfield@aidi.org.au). Sent 26/09/13 8:20 AM.
[11] Ibid.

(Figure 5) *Average question response by test area (where n = students tested)*



It is evident from the Academy's analysis that accelerating student learning will have the most effect on improving students' NAPLAN performance. The efficacy of the sequencing and timing of DI topics has been proven consistently. DI is a universal program designed to be delivered across national and state education systems and it has a wide overlap with multiple curricula.

There is a strong correlation between the sequencing in DI and the Australian curriculum but there are some differences. The authors of DI have stated that it is possible to adapt an Australian edition of the DI programs to localise units, spelling and story content, while retaining the logical sequences of the program. This exercise would entail costs that a publisher may consider if the popularity of the program increases in Australia and becomes commercially viable.

DI programs will continue to be tested against NAPLAN in the Academy and other Australian schools. The program authors, publishers and the Academy are investigating ways to collaborate on supplementary materials, i.e. test prep, to enhance the capacity of DI students to do well on NAPLAN.

Poor attendance is the biggest challenge to accelerating learning

As the cohort of Year 3 students has been exposed to a minimum of two and a half years of DI and the programs are known to accelerate learning, there remains the question of why so few students are learning at the year level equivalent for their age. The most compelling evidence from the data is poor attendance.

Of the Year 3 cohort, twenty-seven students, or 47 per cent of the group, have an average attendance of 70 per cent or less. This equates to roughly one and a half missed days every week. An average of 66 per cent attendance from Prep through to Year 3, which many of these students have, means they will have missed a full year of instruction by the time they are in Year 3.

(Figure 6) *Average student attendance by NAPLAN band (where n = number of students)*

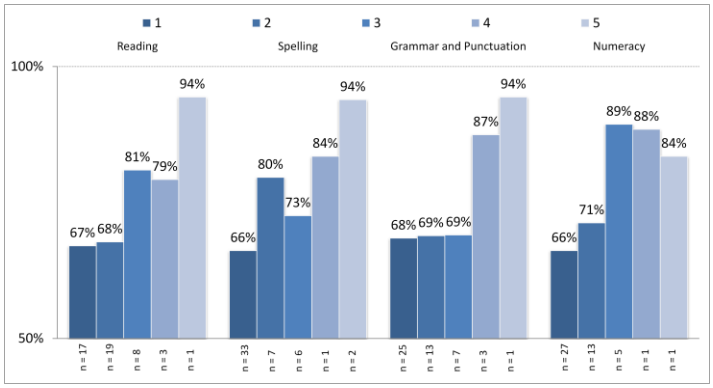


Figure 6 shows that students in the higher NAPLAN bands have on average higher attendance and students in lower bands poorer attendance. A strong correlation can be demonstrated between low attendance and low progress in DI.

(Figure 7) *Average equivalent grade level by NAPLAN band (where n = number of students)*

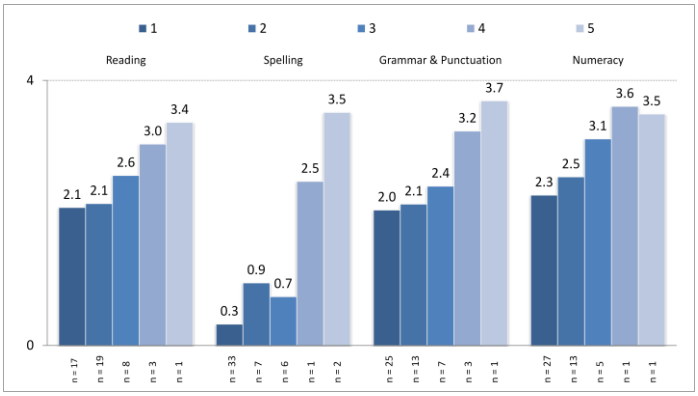


Figure 7 demonstrates that students at grade level in the programs are on average performing consistently in Bands 3, 4 and 5, above national minimum standards. The key to improving NAPLAN performance of Academy students is increasing their progress in DI programs.

Infrequent attendees are not retaining the concepts taught in DI as strongly as those who attend consistently. Absentees are missing the introduction and practice of new concepts. Besides reducing what they are learning, this is weakening their retention of learnt content as they are not present for the intended number or sequence of repetitions.

Regular absences also impact on the wider cohort as poor performers hold their group back to repeat content. Poor attenders often fail to exhibit mastery when tested and struggle to keep up with their group, requiring them to move back to another class so the gaps in their learning can be covered. There are only a finite number of groups so some of these students are required to go back further than necessary and repeat additional content, further delaying their progress.[12]

NIFDI has noted that constant re-grouping as a result of poor attendance unsettles students and slows teachers' rate of progress through the programs. One way that low attendance can be mitigated in the classroom is remediation, but this delays class instruction and requires further funding or realignment of resources. The best way to mitigate this problem is to improve attendance directly and this requires enlisting teachers and showing them how to target attendance in their classes.

There is a deficiency in classroom support in the early levels

A skilled teacher aide has a positive impact on student performance in a DI classroom. Under teacher supervision, teacher aides are able to support small groups in the language and mathematics program and oversee seatwork. This reduces the time needed to teach all components of the program to a single class, effectively doubling lesson progress in reading and language, while facilitating smaller groups in maths.[13] Teacher aides can also assist in remediation of students who are behind or have behavioural problems so they can catch up to their group without halting the class.

Early level DI programs require regular face-to-face instruction with group rotations to accelerate student learning. The most effective way to achieve this is by assigning a teacher aide to each class of Prep to Year 2 ability in reading/language, and each class of Prep to Year 1 ability in math. After these levels students are able to learn as a class with just one teacher and aides are no longer required to assist.

This focus on lesson progress is essential to move students through early levels until they require less intensive face-to-face instruction. Once students are capable of reading they are able to understand and motivate their own learning, which is evident when contrasting high and low groups in Aurukun. Two of the highest groups are progressing one year level per year unimpeded by re-groups or remediation and without need for teacher aides. However, other groups of students are cycling through earlier levels of the program

[12] Vachon V, vvachon@me.com, 2013, *Data/Graphs*, [Email] message to B Denigan, (bdenigan@aidi.org.au), Sent 14/8/13 1:47 AM.
[13] Ibid.

and routinely repeating content.[14] Once students progress beyond early levels of the programs there will be less demand on teacher aide support.

The benefit of placing teacher aides in earlier levels to increase lesson progress becomes clear in a comparison of Hope Vale's implementation with Aurukun. NIFDI has confirmed that half of Hope Vale's 2013 Prep students are ready to move up programs next year and another quarter are on track to move up by March, while many Aurukun Preps will need to repeat the Prep level program. Notably, Hope Vale has four teacher aides assisting to Aurukun's one.[15] Although both schools have several support staff, the Hope Vale teacher aides assist students in a three-group rotation of reading, language, and supervised seat work. These three-group rotations double the focussed learning time that students receive.

Based on where students were placed in the programs at the beginning of implementation, the majority of students had literacy and numeracy equivalent to Prep or Year 1 levels.[16] Considering the number of students in early levels of the programs, the Academy has struggled to attain the teacher aide support required for appropriate progress in Aurukun. This is largely due to difficulties in recruiting, training and retaining local teacher aides.[17]

DI requires a level of literacy that exceeds what is readily available in some communities. Most teacher aides in Aurukun lack the fluency and confidence to assist DI lessons with the three-group rotations that improve lesson progress. Instead they are limited to supervision of seat-work and behaviour. These roles will need to be recruited externally to support younger classes until local skills can be adequately developed.

Some teachers are achieving the correct rate of progress and mastery

DI uses two measures to track student learning: lesson progress and mastery. Lessons need to be taught at an appropriate pace so students are learning information efficiently and programs can be completed. Groups are also regularly tested for mastery to ensure they have retained the content taught.[18]

If students have mastered the content they progress. If not they either receive remediation or move back to where they were last firm. Students that have been absent for a series of lessons are unlikely to do well when tested and are generally moved back or may eventually repeat the program. This delays their progress, which hinders their performance on NAPLAN.[19]

A general rule of DI is that if students are progressing one lesson per day at mastery in each subject they will likely advance one year level per year. There are a number of teachers in the Academy who consistently achieve this mastery and progress with their groups, however others are required to repeat lessons as their students have failed to reach mastery.

Attendance and the level of classroom support have a major impact on the ability of teachers to get students to mastery. However, this does not fully account for variability between teachers reaching the desired levels of mastery and progress.

In semester one of 2013, 29 per cent of groups in Aurukun, 47 per cent in Coen and 64 per cent in Hope Vale advanced students at one lesson per day to mastery.[20] This means that more than half of the groups across the Academy are not progressing at the recommended rate. Further, there is variation in how quickly groups are advancing with some taking five days to get through two lessons while others complete this in two days.[21]

[14] Of the 58 Year 3 students analysed in this paper, 5 have not progressed out of Prep level reading in four years.
[15] Ibid.
[16] Internal data - 2012, *Key Results Briefing 2012*, CYAAA
[17] It is also relevant to note the difficulty of sourcing supply teachers for remote schools. In the event of staff illness or absence, classes are often merged to accommodate under-staffing. The Academy has not produced any analysis to indicate the impact of this on lesson progress but is teacher absence patterns would are comparable with other teaching locations, this likely has an impact on student progress.
[18] A check-out/mastery test every five lessons in most programs, and daily check-outs in remedial reading.
[19] Davis G, gdavis@nifdi.org, 2013. *NIFDI's comments on NAPLAN*. [E-mail] Message to D Field (dfield@aidi.org.au). Sent 26/09/13 8:20 AM.
[20] Internal data – CYAAA Principal's Scorecard 2013. Notably, Hope Vale has four instructing teacher aides, while Aurukun has one.
[21] Internal data – CYAAA Aurukun KPIs Term 2, 2013

NIFDI has stated that a small number of teachers are not demonstrating all the skills required to teach DI and are therefore not delivering the program effectively.[22] DI is designed to support teachers with coaching and training, which is provided to the Academy by NIFDI's implementation managers (IMs) who visit the school for a fortnight each term. School leaders are also supported by NIFDI via weekly teleconferences and regular email contact.

Achieving and sustaining teaching quality is essential to improve student learning. To build teaching quality and meet the levels of teacher support required in DI, instructional leaders have been developed within the Academy's school staff. These are instructional coaches (ICs), who are provided specialist training from NIFDI to coach and train other teachers in DI. However, resourcing has required that ICs currently take 2/3 teaching loads, leaving them less able to conduct classroom visits, coach or perform testing. These functions are essential to ensuring consistency and achieving integrity in teaching.

The number of leaders that can be appointed is dependent on the size and complexity of the school. Remote schools are 'hardship postings' and few teachers stay beyond the two years they are contracted. Principal tenure has also varied with some staying less than a year. While some campus staff have stayed longer than contracted since the Academy began, external factors mean this turnover is unlikely to change. There is little doubt that school improvement, particularly in building teacher and leadership quality, is compromised by flux in staffing.

As the Academy model utilises a consistent teaching program, DI experience can be developed in spite of changing staff. Now in its fourth year, almost an entire teaching team has turned over since implementation, which is expected to happen again before NAPLAN 2014. The Academy has effectively trained two full teams of first-year teachers to deliver the program.[23] Long-term investment in school leaders and the Academy model will provide a buffer to these fluctuations.

Instructional leaders are necessary to prevent repeating a new two-year implementation every second year. They also expand capacity to train teachers in DI and coordinate regular practice sessions. NIFDI recommends that ICs are reduced to a 1/3 teaching load with support from the head of club and culture to facilitate regular coaching in classrooms and lead targeted personal development for teachers.[24]

Students have a range of undiagnosed special needs

Another reason why the NAPLAN results show below expected student progress relates to the health and wellbeing of students. In Australian schools, classroom teachers are required to note any physical, cognitive or emotional needs of their students and refer them to appointed professionals. A specialist will assess the child and suggest treatment options to the parents and keep the school informed.

Indigenous children in remote Far North Queensland have a significantly higher than average number of health related conditions than the rest of the country.[25] CYAAA students are Indigenous and likely to have much higher needs than students in mainstream schools. This corresponds with reports in internal school readiness data, observations by staff and the informed opinions of other agencies working closely with Academy schools. However, these patterns of need are not reflective of the level of medical support these children receive, nor is it evident in the documentation needed by schools to justify that further assistance is required.

[22] Vachon V, vvachon@me.com, 2013, *Data/Graphs*, [Email] message to B Denigan, (bdenigan@aidi.org.au), Sent 14/8/13 1:47 AM.

[23] These remote schools carry the burden of a training investment which is only realised for the broader teaching system should these teachers move to other DI schools closer to home.

[24] Vachon V, vvachon@me.com, 2013, *Advice sought re: coaching/teaching resources*, [Email] message to R Graves, (rgraves@cyaaa.com.au), Sent 31/10/13 10:33 AM.

[25] The Medical Journal of Australia has published statistics suggesting at least 14.7% of Aboriginal children 0-18 years in remote Far North Queensland suffer chronic supportive otitis media (perforated tympanic membrane of the ear), 12.8% alleged child abuse and neglect, 7.8% failure to thrive, 4.9% anaemia, 3.4% prematurity and 1.5% foetal alcohol spectrum disorder (FASD). Rothstein J, Heazlewood R, Fraser M, 2007, Health of Aboriginal and Torres Strait Islander children in remote Far North Queensland: findings of the Paediatric Outreach Service, Medical Journal of Australia, [ONLINE] Available at: https://www.mja.com.au/journal/2007/186/10/health-aboriginal-and-torres-strait-islander-children-remote-far-north. [Accessed 02 October 13].

Of the Year 3 cohort, 10 students are identified with hearing impairments, 1 has an intellectual disability and 1 is awaiting verification. There is little data on the range of other learning disabilities that may be affecting this cohort such as neglect, trauma or foetal alcohol spectrum disorder. Neither is it clear to what extent students are recognised as having English as a second language (ESL). The Academy asserts that the needs of these students are under-identified, under-reported and under-treated. There is likely a significant cohort of students, especially in Aurukun, who have undiagnosed conditions alongside students that may have identified conditions but are not receiving adequate medical treatment. Further, this lack of treatment is affecting the physical, social, psychological and emotional development of these children, which impacts negatively on their readiness to learn. As a result students are making less academic progress than is possible.

Lack of diagnosis has resulted in a significant under resourcing of special needs support in these schools compared to allocations nationally and elsewhere in the state. This compounds the severe disadvantage these children face. Diagnosis is required first to identify the scale of the problem, so students' needs can be addressed with specialist advice and the assistance of other agencies.

Even if identified, NAPLAN does not differentiate students with special needs on school results.[26] Schools may choose to exclude these students or those known to be below national minimum standards.

CYAAA is attempting to clarify the extent of this problem so it can work with relevant agencies to ensure that these children receive the support they are entitled to and that Academy schools are adequately resourced to respond to the needs of identified students.

Persistent, disruptive behaviour prevents students from progressing

The Academy introduced a positive behaviour interventions and supports (PBIS) model. This is a tiered behaviour model with students divided by primary, secondary and tertiary levels of support.[27] This ensures that all students are subject to the same behavioural expectations and rules, but are addressed with targeted degrees of intervention. PBIS has been adopted consistently across the Academy and is monitored by annual visits from behaviour management consultants to ensure fidelity.

The instructional sequences underlying DI practices reduce disruptive behaviour.[28] Media reports from Aurukun prior to implementation detail a school plagued by constant extreme disruptive behaviour and disengagement from learning.[29] Reports now reflect that the number of incidents in Aurukun has been greatly reduced.[30] This improvement is attributed to increased rates of on-task behaviour and keeping students engaged in learning.

The Academy believes DI programs reduce behavioural incidents because they place students appropriately where they can be successful and minimise distractions that lead to disruption. Severe behaviours such as hitting students, leaving class or swearing remain a challenge in the Academy as they interrupt learning time and remove the behavioural student from instruction. This later requires remediation and can exacerbate reactive behaviours, particularly in the instance of students struggling to keep up with their peers.

[26] Caroline Milburn, 2011, *When Special Needs Skew the Score*, [ONLINE] Available at: http://www.theage.com.au/national/education/when-special-needs-skew-the-score-20110325-1c9u5.html. [Accessed 08 October 13].

[27] For example, the Coen Campus PBIS Guide directs primary level (green zone) supports to be actioned by the teacher, secondary level (yellow zone) supports discussed between meetings with the student and their student services coordinator, and tertiary level (red zone) supports negotiated between the principal and student's carer into an individual behaviour plan which may involve guidance officer or inter-agency referrals.

[28] Nelson J, Johnson A, Marchand-Martella N, 1996, *Effects of Direct Instruction, Cooperative Learning, and Independent Learning Practices on the Classroom Behavior of Students with Behavioral Disorders*, Journal of Emotional and Behavioral Disorders, January 1996 vol. 4 no. 1 pg. 53-62.

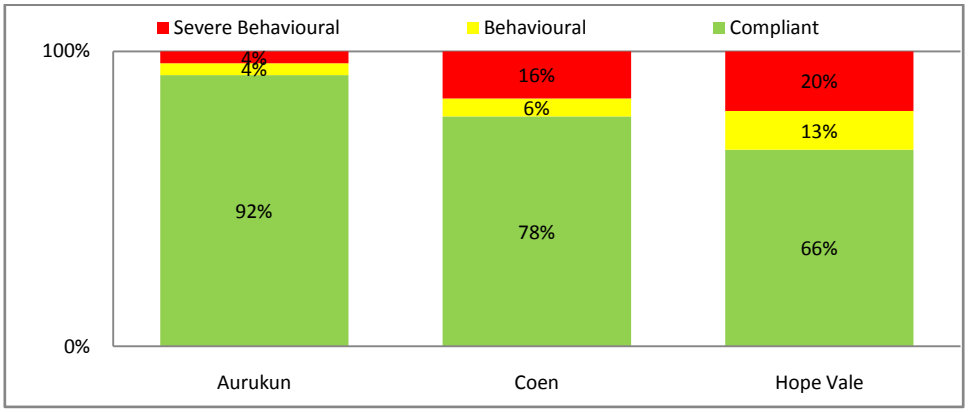
[29] Rothwell, N, 2013, *Controversial teaching method brings hope and social change to Cape York*, http://www.theaustralian.com.au/national-affairs/policy/controversial-teaching-method-brings-hope-and-social-change-to-cape-york/story-fn9hm1pm-1226639388060# [Accessed 30/10/13].

[30] Rothwell, N, 2013, *Controversial teaching method brings hope and social change to Cape York*, http://www.theaustralian.com.au/national-affairs/policy/controversial-teaching-method-brings-hope-and-social-change-to-cape-york/story-fn9hm1pm-1226639388060# [Accessed 30/10/13].

The Academy speculates that this is partly a result of the high number of unidentified students with special needs, and further complicated by the lack of teacher aides to facilitate small groups for early levels.

In an average school, the PBIS model anticipates 5 per cent red and 10 per cent yellow zone students. Behaviour data is collected weekly by teachers and calculated to assign students a zone based on the consistency and extremity of disruptive behaviour.

(Figure 8) *Percentage of students' PBIS behaviour zone by campus*



Without full engagement in DI lessons, misbehaving students fall behind their peers and increase the likelihood that they will be moved down groups or repeat programs. Of 9 students who have attended 75 per cent or more but haven't progressed to expectations, 5 have been identified as red zone students and 1 as special needs.[31] PBIS guidelines specify that red zone students require individual behaviour plans with constant monitoring from teachers.[32] Without this, it is difficult to manage the triggers that have prompted behaviour. Analysis of the behaviour of Hope Vale students found that 35 per cent of incidents were triggered by corrections, and a further 18 per cent by frustration with a difficult task.[33] This suggests these students were unable to reach mastery, exacerbating their disruptive behaviour.

This behaviour also detracts from the progress of the Academy as a whole by drawing resources away from other students. Without time-out rooms in Aurukun and Coen, teachers manage behaviour within their classrooms. This may escalate minor misbehaviours as teachers are interrupted from instruction, leaving other students disengaged. In Term 3 2013 the average learning time disrupted in Aurukun and Coen was calculated to be 15 and 32 per cent respectively.[34] This reflects a significantly higher percentage of red and yellow zone students in classes at Coen. In Hope Vale, only 12 per cent of learning time was disrupted[35] despite similar percentages of red and yellow zone students to Coen as the availability of a time-out room allowed for removal of students.

NIFDI states that time lost catching disruptive students up to their peers is contributing to low lesson progress in younger classes.[36] In one example, the behaviour presented by three Year 1 students in Coen was problematic enough that a teacher had to be allocated, occupying a full teaching load to three students in a school of only four teachers. However, it was only following investigations by child safety services that two of these students were relocated to appropriate care in Hope Vale, where their behaviour and academic performance is showing promising signs of improvement.[37] The support of other agencies cannot be underestimated in addressing problems underlying student behaviour.

[31] Internal data – Aurukun, Coen and Hope Vale Class KPIs T3 2013.
[32] PBIS, 2013, Tertiary Levels, [Online] Available at: http://www.pbis.org/school/tertiary_level/default.aspx [Accessed 31/10/13].
[33] Internal data – Hopevale Class KPIs T3 2013.
[34] Internal data – Aurukun, Coen and Hope Vale Class KPIs T3 2013.
[35] Internal data – Hopevale Class KPIs T3 2013.
[36] Vachon V, vvachon@me.com, 2013, *Data/Graphs*, [Email] message to B Denigan, (bdenigan@aidi.org.au), Sent 14/8/13 1:47 AM.
[37] Ibid.

Students are insufficiently prepared for NAPLAN

DI can accelerate students up to or above year level. Fourteen students in the Year 3 cohort with regular attendance and classroom support demonstrated this in one or more subject areas tested by NAPLAN. To compare their results, Year 3 students' NAPLAN band in Reading, Grammar and Punctuation and Numeracy was mapped against their attendance and DI program.

(Figure 9*) Year 3 NAPLAN bands by DI grade and attendance*[38]

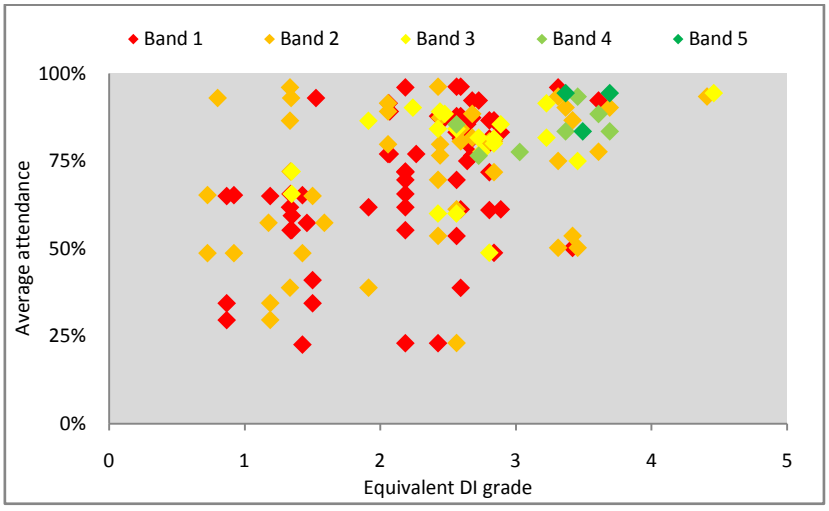


Figure 9 shows a clear trend towards upper bands in higher levels of attendance and the DI programs. However, some of these students are still performing at or below the national minimum standards for their age. There is similar variation in the NAPLAN performance of students in Year 2 programs. This suggests students may not have been 'test ready'[39] as a result of insufficient test preparation.

In 2012 and 2013, the Academy implemented a six week NAPLAN preparation program in the lead up to testing. This involved students in Year 3 and above transitioning from DI to mainstream year groups for 4.5 hours a week to complete test preparation lessons targeted by age.

Teachers reported that this change in routine – from ability groups where students were at the same level, to groupings by age where they have varying abilities – was confusing to students. DI programs are designed so students are only ever tested on information that they would already have been taught. The preparation materials were confronting for many students as it was not material that they could complete at their ability level. This resulted in a spike in disruptive behaviours during these lessons.[40]

Another reason for poorer than expected results is that some students may have had difficulty understanding NAPLAN materials. In the early stages of reading DI uses 'funny print'[41] which is designed specifically to assist young students to develop phonological and phonemic awareness. 35 per cent of students in the Year 3 cohort were still below Year 2 level reading and had not been tested in regular print.

Paired reading practice programs are designed to familiarise students with regular print sooner and can be implemented in Year 1 and 2 level reading with adequate classroom support for future years. Variation in students' ability will need to be addressed to give them the best possible chance of success in NAPLAN.

[38] For Reading, Grammar and Punctuation, and Numeracy - band 1 is below NMS, band 2 is at NMS, and band 3, 4 and 5 are progressively above NMS

[39] Davis G, gdavis@nifdi.org, 2013, *For review: NAPLAN prep addition to paper*, [Email] message to R Graves, (rgraves@cyaaa.com.au), Sent 12/11/13 5:43AM.

[40] Internal data shows an increase in behaviour during NAPLAN preparation in Coen and Hope Vale – Coen and Hope Vale Class KPIs.

[41] A stylised orthography targeted to develop phonological and phonemic awareness. Some conventions include: A line over a vowel means that the long vowel sound is pronounced, some letter pairs are joined and presented as a distinct sound (th, sh, etc.). Letters that are not pronounced in a word are much smaller than the others, indicating that they should not be included when blending, and pairs of letters that are often confused are altered to make them look less alike (b&d, p&g, h&n, etc.)

Recommendations

Increase Attendance – The quickest way to accelerate student progress is to increase attendance from 70 to 90 per cent or above. Attendance needs to be placed front and centre of the Academy's work and given the urgency it deserves.

- Work in partnership with DETE and Queensland Police to enact prosecutorial responsibilities regarding student attendance and rigorously apply it to all families of students with consistently poor attendance.
- Urgently review the case management model to ensure resources are best aligned to children in their early years of schooling to best support attendance, school readiness and instruction need.
- Focus principals and teachers on their responsibilities regarding students' attendance and ensure they review attendance data weekly as a team and link attendance to student progress and mastery.
- Empower teachers to incorporate their own ideas for positive incentives into improving attendance.
- Enlist family and clan leadership to influence parents on improving student attendance.
- Principal and classroom teachers to meet with each of their students' parents to explain the crippling impact that irregular schooling is having on their child's education and life opportunities using the 'learning for life' graph.

Invest in Teacher Aides – Invest in more teacher aides to maximise group rotations.

- Realign Academy resources to recruit skilled teacher aides to improve lesson progress in Aurukun and Coen.
- Ensure every Prep, Year 1 and Year 2 ability reading/language class has a minimum of one teacher and one teacher aide who is capable of providing DI support, and the same for every Prep and Year 1 ability math class.
- All teacher aide positions must be permanently filled by skilled people who can do the tasks required of DI. This includes placements from outside the local community if needed. The priority is on student learning.
- Ensure that any teacher aides who have not attended the annual training are trained to deliver the material and supported with content skills if they are supporting the language or mathematics programs.

Review Teaching and Learning – Support school leaders to coach improvement in classrooms.

- Clarify Academy leadership roles, responsibilities and communication protocols.
- Designate ICs no more than a 1/3 teaching load to facilitate increased coaching and training of staff.
- Provide teachers regular and targeted professional development.
- Design a framework for teachers to enter and review their data electronically.
- Use individualised data as a tool for leaders to support teacher performance.
- Provide principals ongoing training in instruction and performance development so they are empowered to make decisions as instructional leaders with NIFDI's advice.

Diagnose and Support Special Needs – Ensure every child is adequately supported so they are best prepared for the learning experience.

- Implement a framework that ensures any student with medical condition or other difficulties receives the support they require.
- Investigate options for a pediatric physical and mental health check of every student.
- Ensure medical intervention is available for those students who need treatment.
- Work with other agencies to ensure that the same level of support is provided to these students as is in the mainstream.

Target Repeat Behaviour – Address consistently disruptive students with specific behaviour interventions.

- Ensure the student services coordinator is accountable for individual documentation and monitoring of red zone students.
- Facilitate time-out rooms where non-teaching teacher aides are available to remove disruptive students.

- Expand the case management system to address red zone students and ensure they work with other agencies to refer repeat behavioural students for appropriate support / special needs assessment.

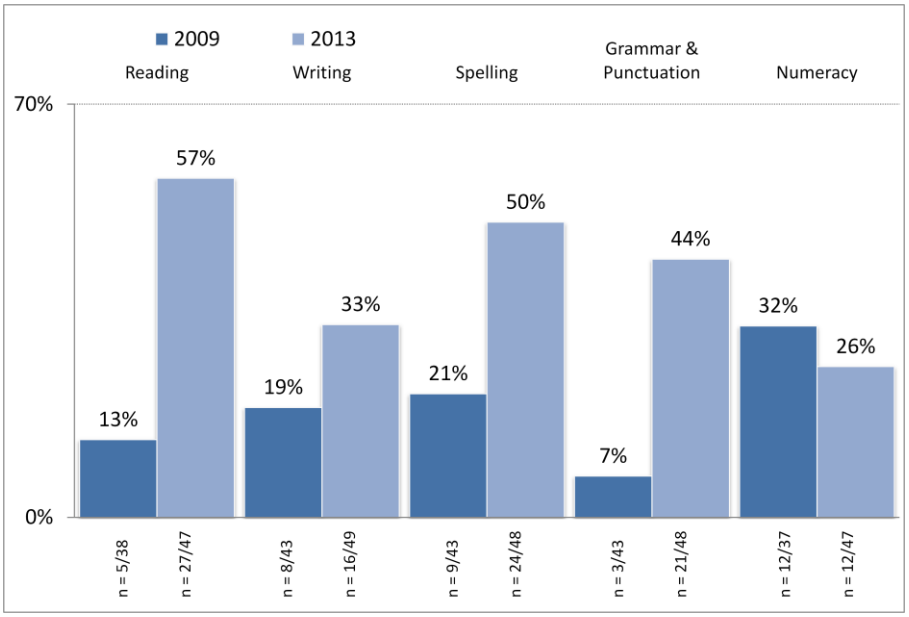
Prepare for NAPLAN – Better prepare students for NAPLAN by implementing a NAPLAN Preparation Plan across all campuses.

- Workshop with NIFDI how DI programs can best support the needs of NAPLAN without compromising student progress or the integrity of DI.
- Map the whole Class, Club and Culture curriculum to the Australian curriculum and NAPLAN testing with clear definition on what DI achieves and establish how the concepts not covered by DI can be included in NAPLAN prep or embedded into other Class, Club and Culture elements.
- Ensure the framework states the processes that teachers, school leaders and Academy staff are to follow at key identified points throughout the year in preparation for the test.
- Commence NAPLAN preparation from the beginning of the year and conduct in DI groups using NIFDI resources targeted by ability level.
- Incorporate explicit teaching of test genre, layout and multiple choice strategies into NAPLAN prep.
- Prepare annual NAPLAN reports to show progress and actions for continuous improvement to share with parents, funders and the general public. Ensure it is released no longer than the fortnight following the release of NAPLAN so that it is promptly available to those with an interest in CYAAA's performance.

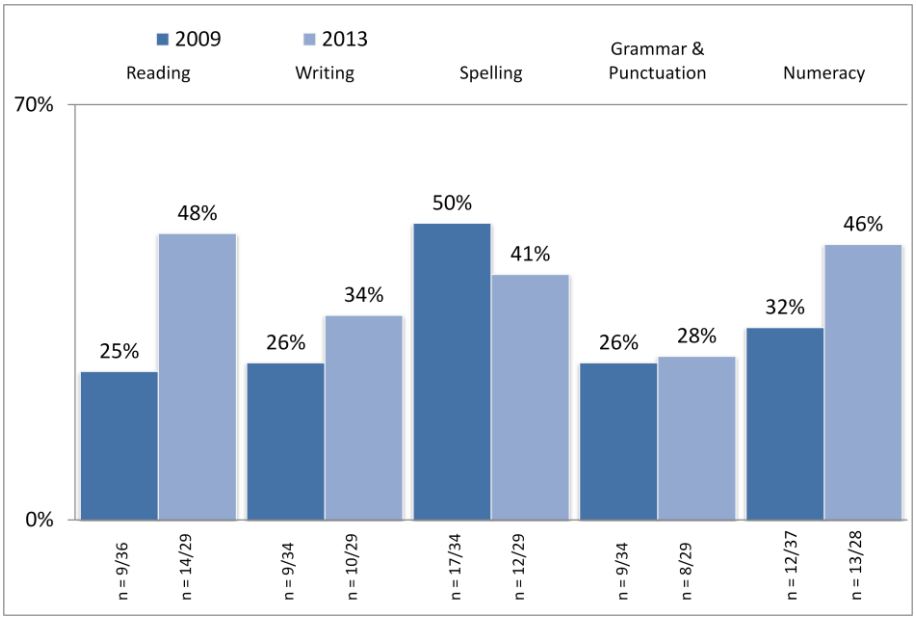
Appendix 1 – Relevant data

The following tables show the extent to which Year 5 and 7 students have also progressed above National Minimum Standards in the 2013 NAPLAN.

(Figure 10) *Year 5 students at or above National Minimum Standard; 2009 and 2013*



(Figure 11) *Year 7 students at or above National Minimum Standard; 2009 and 2013*



(Table 1) *Changes in Percentage of CYAAA Students Above National Minimum Standards, NAPLAN, 2009 to 2013, by Year and Subject; Effect Sizes and Tests of Significance*[42]

Year 3					
	2009%	2013%	Effect Size	t-ratio	prob.
Reading	52	67	0.31	1.38	0.08
Writing	39	35	-0.08	-0.37	0.75
Spelling	35	38	0.04	0.19	0.43
Grammar & Punctuation	36	52	0.33	1.47	0.07
Numeracy	23	44	0.45	2.02	0.02
Year 5					
	2009%	2013%	Effect Size	t-ratio	prob.
Reading	13	57	1.04	4.86	<.001
Writing	19	33	0.32	1.56	0.06
Spelling	21	50	0.64	3.05	0.00
Grammar & Punctuation	7	44	0.97	4.54	<.001
Numeracy	32	26	-0.13	-0.60	0.73
Year 7					
	2009%	2013%	Effect Size		
Reading	25	48	0.49		
Writing	26	34	0.18		
Spelling	50	41	-0.18		
Grammar & Punctuation	26	28	0.05		
Numeracy	32	46	0.29		

Note: All probabilities are one-tail, reflecting the hypothesis that scores in 2013 would be higher than in 2009. For year three the sample size was 30 to 33 students for each subject in 2009 and 50 to 52 in 2013. For year 5, the sample size ranged from 37 to 43 for 2009 and from 47 to 48 in 2013. No data were given on the sample size for 2013 for year 7 so the t-ratios and probabilities could not be calculated. To calculate the common standard deviation for the effect size it was assumed that the same number of students was tested in each year.

[42] Table provided by NIFDI – Stockard J, 2013, *Changes in NAPLAN Scores Effect Sizes*, NIFDI, Eugene.