



MONASH
EDUCATION

LITERACY
ACQUISITION FOR
PRE-PRIMARY
STUDENTS:
REPORT ON THREE
YEARS OF
IMPLEMENTATION
2015–2017

For Waardi Limited

Prepared by:
Associate Professor Janet
Scull
Dr Terry Bowles
Daniela Russo

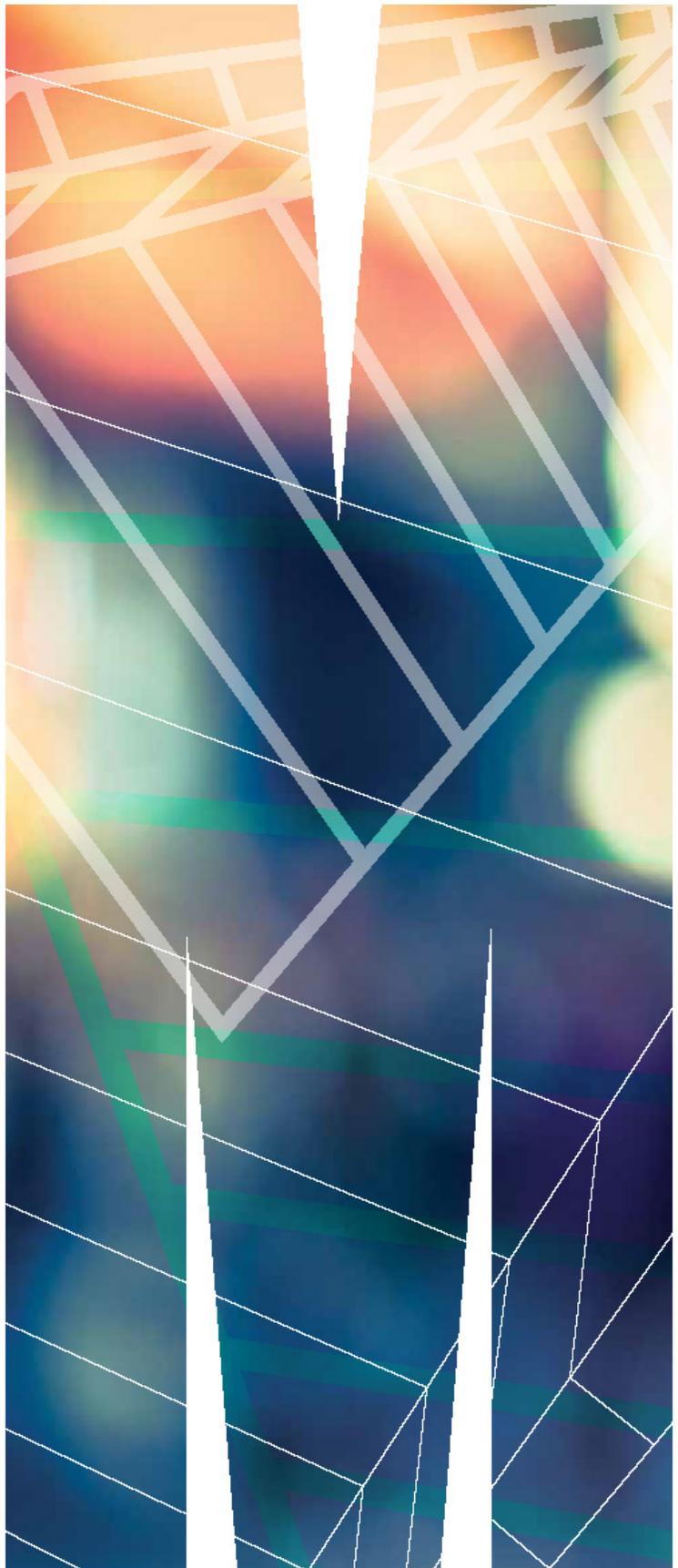


Table of Contents

1. List of Acronyms	2
2. Executive Summary	3
3. Background	4
4. Research Design	6
Research Participants	6
Data Collection	7
Ethics	8
5. Evaluation of the Offsite Professional Learning Program	9
Three Professional Learning Sessions	9
Two Reflective Practice Sessions	11
Teachers' Response to the Professional Learning Program in 2017	13
6. Overall Effectiveness of the LAPS Professional Learning Program	14
Impact of the Professional Learning Program on Teacher Knowledge and Practice	14
Impact of Teacher Professional Learning Program on Classroom Practice	16
Impact of the LAPS Professional Learning Program on Student Literacy Outcomes	18
Impact of Teacher Professional Learning on the Broader School and Community	21
7. Impact of the LAPS Program on Students' Learning	23
Average scores and effect sizes	23
Change over time in students' Reading Level	25
Change over time in students' Phonological Awareness	28
Change over time in students' Concepts About Print	30
Correlation and Regression Analysis	32
Impact on Aboriginal and Torres Strait Islander Students' Learning	34
Non-program Comparison Data	37
Summary of Results	39
8. Findings and Recommendations	41
9. Conclusion	44
10. References	45

1. List of Acronyms

The following acronyms (in alphabetical order) are used throughout the report:

ATSI	Aboriginal and Torres Strait Islander
CAP	Concepts About Print
EAL/D	English as an Additional Language or Dialect
LAPS	Literacy Acquisition for Pre-primary Students
PhA	Phonological Awareness
PLP	Professional Learning Program
PLF	Professional Learning Facilitator
RL	Reading Level
RP	Reflective Practice

2. Executive Summary

The Literacy Acquisition for Pre-primary Students (LAPS) was developed to redress the low levels of literacy achievement of Kimberley students in the early years through a holistic classroom approach involving processes of prevention and early intervention. This program, jointly funded by Waardi Limited and the Department of Prime Minister and Cabinet through the Indigenous Advancement Strategy funding program, was first trialled in 2014, and subsequently implemented in a number of Kimberley schools in 2015-17. The purpose of this report is to discuss the effectiveness of the LAPS program across the first three years of implementation.

Data collected, through interviews with teachers and principals, professional learning evaluations and student achievement data, provide clear evidence of the positive impact of the LAPS program on students' literacy learning outcomes. Specifically, the report found that:

- across the first three years of the LAPS program implementation, students' Reading Levels, Phonological Awareness scores and Concepts About Print scores from entry to exit increased; and
- reading level scores pre-LAPS were predominantly at level 0. Post-LAPS, students' reading abilities had increased, with a larger percentage of students recorded to be reading at above level 5 at the end of the Pre-primary year;

Overall, students were observed to be making progress in early literacy learning as a result of their participation in the LAPS program. These outcomes have been attributed to the strong focus on professional learning that has contributed to transforming teachers' understandings of early literacy acquisition processes. To further advance the LAPS program, recommendations include:

- providing additional support for program organisation such as timetabling, classroom management support, planning time and dedicated time periods for data collection to ensure a high standard of data driven teaching;
- creating further opportunities for teachers to share issues, resources and reflect on practice;
- and given the students increased levels of reading proficiency, adapting the professional learning program to focus on supporting students at higher reading levels, such as explicit phonics instruction and scaffolding students towards independent reading and writing.

3. Background

The challenges related to improving education outcomes are multifarious and are connected to the high levels of disadvantage and vulnerability experienced by Indigenous children in the Kimberley (Save the Children 2010; Steering Committee for the Review of Government Service Provision 2014). The Australian Early Development Census (2015) community profile for the Broome area (comprising 46.8% Indigenous Australian and Torres Strait Islander, ATSI, children) indicated that a large number of children were developmentally at risk or vulnerable across a number of domains. Particular to early literacy, 15.6% were vulnerable to language and cognitive delays, and 9.7% were vulnerable to communication problems (Save the Children 2010). Furthermore, 31.4% of those surveyed were developmentally vulnerable in one or more of the measured domains (Save the Children 2010). Also acknowledged are the complex language environments of young Indigenous students in the Kimberley, including traditional languages, non-standard varieties of English (such as various English-based creoles) or Aboriginal English and Standard Australian English (Wigglesworth et al. 2011).

Cognisant of the challenges and issues of teaching reform efforts, LAPS, a small-scale early teaching improvement project was introduced. The project focussed on teachers working in the first year of school with the aim to improve the literacy outcomes for children. As previously outlined in the 2015 and 2016 LAPS implementation reports (Scull, Brindle, & Bowles, 2016; 2017), the LAPS program has its origins in the Language, Learning and Literacy (L3) intervention program that was designed to meet the learning needs of students in low socio-economic status schools in NSW (NSW DET, 1999-2000). Adaptations of the L3 program enabled LAPS to be contextualised to meet the requirements of Kimberley schools while maintaining a clear focus on language development and text reading and writing. The LAPS program targets teachers and teaching support staff, including Aboriginal Educational Assistants, in order to strengthen classroom practice to support young learners to reach national, state and school-based curriculum targets and goals.

The LAPS program developed and implemented in the Kimberley has a number of key design features:

1. Students receive daily explicit small group literacy teaching.
2. Teachers select from a range of teaching approaches, explicitly designed to strengthen students' language skills and experiences with books and to foster the reading and writing acquisitions processes.
3. Teachers' analysis of assessment data is used to plan and guide instruction.
4. The Professional Learning Program (PLP) engages teachers in whole class off-site sessions and on-site school team professional learning, alongside regular coaching and modelling in the classroom.

4. Research Design

The LAPS research program was designed to:

- Map the professional learning program for teachers,
- Measure the effectiveness of the professional development program on classroom practices, and
- Assess the impact of the program on students' literacy learning outcomes, with data collected at the beginning and end of the school year.

The continuation of the research program in 2017 afforded further opportunities to reflect and evaluate the practices implemented to support students' early literacy learning. A further year of data collection and analysis allowed the researchers to:

1. Continue to map teachers' learning, changes to classroom teaching programs and student outcomes, extending the data set from which to draw conclusion on the effectiveness of the professional learning program.
2. Monitor changes implemented to the PLP, for new and continuing teachers, to strengthen the learning opportunities for teachers.
3. Measure the learning gains of children, with ATSI children as an identified cohort.
4. Establish a control cohort, using aggregated Pre-primary 2016 end of year school data from new LAPS schools (2017), to provide comparative data sets for analysis.

Research Participants

Principals, teaching staff and students from schools based in Broome and the East Kimberley, including two remotes schools, have participated in the research over the three years of implementation. In addition, Professional Learning Facilitators (PLF) were employed by Waardi

to ensure the implementation of the program in schools. Table 1 provides an overview of the research participants across the three years of implementation.

Table 1: Research participants 2015–2017.

	2017	2016	2015
Teachers	8 (new)	5 (new)	8 (new)
	3 (continuing)	5 (continuing)	-
Education Assistants	11	10	9
Students	147	146	118
Principals	6	5	3
Professional Learning Facilitators	2	1	1

Data Collection

A range of data sources were collected and analysed to evaluate the impact of the LAPS professional learning program on teachers and students in 2015–2017. These included:

- Interviews with teachers and principals.
- Teacher evaluations after each off-site learning session.
- Journal notes kept by the PLF that detailed her work with teachers.

Student achievement data were collected to measure students' growth in literacy learning. The following measures were used at the beginning and end of each school year:

- Running Records to assess students' independent Reading Levels (Clay, 2013);
- Phonological awareness test items; and
- Concepts About Print (Clay, 2013).

Ethics

The research was undertaken with ethical approval from Monash University's Human Research Ethics Committee, and with permission from Catholic Education Western Australia and the Department of Education Western Australia. Informed consent from participating school principals, teachers and teacher assistants was obtained. In addition, parental approval was sought for the collection of students' data. It was made clear to teachers and parents that the implementation of LAPS was a school-based decision and that participation in the LAPS program was not dependent on their consent to take part in the research project.

5. Evaluation of the 'Offsite' Professional Learning Program

The LAPS PLP was designed to introduce a range of teaching approaches with the aim of strengthening students' literacy skills. The Professional Learning program consisted of off-site learning and on-site learning alongside coaching and modeling from a PLF in the classroom.

The off-site learning consisted of five professional learning sessions for new teachers, and of these, two reflective practice sessions were attended by continuing teachers, those involved in the program for a second or third year. At the end of each session, teachers were asked to rate the content, organization, presentation and resources on a scale from poor to excellent. Table 1 presents an aggregated summary of teacher evaluations across the five sessions. The majority of participating staff rated the content, organization, structure and presentation of the professional learning sessions as "excellent".

Table 2: Aggregated Teacher Session Evaluations.

	Poor	Satisfactory	Good	Excellent
Content	-	-	25%	75%
Organization	-	-	36%	64%
Presentation	-	-	31%	69%
Resources	-	-	44%	56%

In addition, staff were asked to comment on what they gained from each session and what they would like to know more about in the next session. The aims and feedback from each session is summarized as follows.

Three Professional Learning Sessions

Professional Learning Session 1

The aim of the first professional learning session was to provide an overview of the LAPS program, its procedures, routines and the data collection process. Overall, the feedback from the

first session suggested that the content suited the teachers' needs, that the program was well structured and engaging and that the teachers were provided with useful resources.

See, for example, the teacher comments below.

A great introduction to LAPS. Very clear, succinct and was well paced.

This is a very valuable course and helps to make my teaching practice more explicit and comprehensive.

As a graduate, the content has been extremely relevant and will guide my literacy planning.

(Comments from 2017 aggregated teacher session evaluations)

Despite the very positive responses, new teachers noted that at the end of the first session they would like to be provided with more examples of LAPS sessions and guidance on how to plan sessions in the classroom.

Professional Learning Session 2

The aim of the second professional learning session was to provide an overview of guided reading for students reading at levels 3-5, provide demonstrations of guided writing, and review interactive writing and procedures for reading to students. Some teachers commented that it was helpful that earlier LAPS content was revised and found watching videos of other participants valuable to their learning. With regards to resources, teachers found the planning documents useful and asked to use the video clips outside of the session. Overall, as a result of the professional learning session 2, teachers felt more prepared and confident to effectively teach literacy through guided reading and writing.

See, for example, the teacher comments below.

I feel more confident to support my level 3-5 readers.

I feel prepared to efficiently teach literacy.

I feel more confident in my guided reading and writing lessons.

(Comments from 2017 aggregated teacher session evaluations)

At the end of the second professional learning session, teachers reported that they would like to know more about how to scaffold students toward independent writing and receive more guidance and coaching on using Running Records to better support students who are not progressing as well as their same age peers.

Professional Learning Session 3

The third professional learning session covered independent writing, guided reading (for levels 6 and above), book orientations, Running Records and reading to students. Overall, teachers found PL session 3 informative, well organised and enjoyed the hands-on activities and discussion of the videos as an interactive process, further supporting their knowledge of guided reading and writing.

See, for example, the teacher comments below.

I feel more confident in guided writing and independent writing.

I now have a better understanding of exactly how to do guided reading sessions.

I feel more confident in delivering orientation to text. I feel a lot clearer about what I am teaching through modelled reading.

(Comments from 2017 aggregated teacher session evaluations)

At the conclusion of the third professional learning session, teachers were interested to learn more about scaffolding and extending students' independent writing.

Two Reflective Practice (RP) Sessions

Continuing LAPS teachers were invited to attend two LAPS professional learning sessions that had a focus on assessment tools and reflective practice.

Reflective Practice Session 1

The first RP session focused on collecting and analysing student data including Running Records, oral retellings and writing samples. Building on from this session teachers were asked to select a focus child, complete the assessments and develop a plan for this child's literacy learning. At the conclusion of the first RP session, teachers were feeling more confident in using Running Records for data collection and were pleased with the assessment tools provided for future planning and teaching.

See, for example, the teacher comments below.

I have a good understanding of how to analyse students' reading, writing and oral retell.

I have new tools for data collection that will inform my teaching.

I am more comfortable and informed to effectively conduct Running Records.

(Comments from 2017 aggregated teacher session evaluations)

The main area of improvement reported by teachers at the end of the session was a greater focus on the oral retell analysis.

Reflective Practice Session 2

During the second RP session, each participant was asked to report on the outcomes of their focus child's learning. To evaluate this session, in depth interviews and group discussions were conducted. Aggregated comments from the interview responses and group discussions are summarized below.

The teachers' feedback at the conclusion of the final session indicated that, as a result of participating in the LAPS RP sessions, staff gained a clearer understanding of:

- How to use and analyse Running Records;
- How reading, writing and oral components are most useful when used together;

- How to track students' progress over a period of time; and
- How to use data to inform literacy teaching.

Teachers' Response to the PLP in 2017

Through their participation in the 'offsite' LAPS PLP, teachers indicated they developed new strengths in literacy teaching such as:

- Understanding how to conduct explicit guided reading and writing lessons;
- Gaining explicit knowledge for teaching the process of learning to read and write; and
- Having a structured literacy timetable for interactive writing, guided writing, and oral language.

The areas of focus that participating teachers would like more support with in future professional learning sessions are noted below:

- Oral language development and retell analysis;
- Running Records and writing analysis;
- Encouraging and scaffolding students towards independent reading and writing;
- Focusing on supporting students with English as an additional language or dialect (EAL/D).

6. Overall Effectiveness of the LAPS Professional Learning Program

In-depth interviews were conducted with participating teachers and principals to gain an insight into the overall effectiveness of the LAPS PLP. Qualitative interview data provided by participating school staff across the three years of implementation indicated that the LAPS program was well received and was reported to be a quality, evidence-based program that positively impacted on:

- a) teacher professional knowledge
- b) classroom practice
- c) student literacy outcomes
- d) broader school and community outcomes

Principal and teacher comments pertaining to first and second years of the program have been documented in implementation reports for 2015 and 2016. The data below from 2017 supplements this evidence of program effectiveness.

Impact of the PLP on Teacher Knowledge and Practice

Overall, the feedback from teachers about the professional learning was that the content suited the teachers' needs, was well structured and engaging and that teachers were provided with useful resources.

When translating theory into practice, teachers indicated that they valued the information regarding classroom strategies, felt more equipped to create structured lesson plans and cater for individual students' needs, had a greater understanding of guided reading, knew how to extend their students to reach reading and writing goals and felt confident to implement the LAPS program.

In addition, the regular contact with the PLF, the provision of teaching support and use of a coaching model were reported to be key strengths of the LAPS PLP. In particular, the majority of the teachers noted that the coaching model, the opportunity to observe teaching practice,

collaborative planning, and receiving constructive feedback and support as the strengths of the PLP.

“And the on-site coaching was incredible. Because it allowed all literacy, the context which I was working in, and to really provide great support and encouragement and really targeted feedback and I think the modelling was really beneficial as well”. — Teacher 4, 2017

“I think the support and having an expert in the field and being able to say; you know so and so is not really moving in this area. What do you suggest”? — Teacher 1, 2017

“So, to have that bonus of a LAPS coach was just so beneficial for us again because it complemented everything that we did”. — Principal 1, 2017

Overall, the LAPS PLP contributed to improvements in teacher professional skills, knowledge and approaches to teaching literacy, as demonstrated by the following interview excerpts:

“I guess for me it built upon my knowledge of the reading and writing process through the kind of explicit demonstration and instruction of LAPS. It refined my knowledge of how to teach reading and writing, I would say, it has given me more tools and strategies about how to extend but also how to get kids on to text”. — Teacher 1, 2017

“So, I think that was the big thing about LAPS that changed things in the way that I approached my literacy block. I think it made the whole literacy block really coherent, from interactive and then to guided writing and then the modelled reading into the guided reading sessions. It gave me a better idea of how to structure my literacy block”. — Teacher 4, 2017

“As a graduate, I felt that reading for students was more about exposing them to rich literature and increasing the vocab and get to the pleasure of reading whereas further down the track I started using modelled reading sessions as a way of introducing strategies that I wanted the kids to use in guided reading sessions and then also really focusing on teaching the concepts of reading. So I think the LAPS tuition really helped me to have a natural focus for my teaching”. — Teacher 4, 2017

“It's been good timing for us, particularly around the introduction of the Australian Curriculum and so the LAPS has engendered a high-quality, professional dialogue about standards, expectations,

progress, achievement and effective teaching methods and ... those areas have been part of the dialogue that we believe has made the change for us". — Principal 2, 2017

A summary of the key strengths of the LAPS PLP:

- The PLP had a strong focus on students' literacy development.
- The LAPS PLP provided useful resources and strategies to improve students' reading and writing achievement.
- The coaching approach that included modeling and teaching support in classrooms alongside frequent opportunities for collaboration between staff and the PLF was considered a key strength of the program by participating staff.

Impact of Teacher PLP on Classroom Practice

The professional development offered through LAPS was perceived to have a positive impact on classroom teaching. A number of teachers reported that the LAPS organisational framework positively impacted on their practice, providing a structured approach to their literacy teaching.

"So, I found it quite a good structure to follow, to make sure that you are getting guided reading and guided writing and it's consistent the whole way up". — Teacher 3, 2017

"Gave me some structure, which is really interesting, because I'm not a structured person. I don't like the whole structure but I think I needed it". — Teacher 2, 2017

Several teachers reported on the efficacy of Running Records as a data driven approach, which was useful in assessing students' progress, and importantly guided their approach to explicit literacy teaching.

"[Running Records] told me more about the child. And how - - their learning and I guess also - - also telling me what else do I need to teach or how my teaching was going. That's given me, that deeper thinking about children - - where they're at, what they need, what's the next step". — Teacher 2, 2017

“That will be a big focus for us next year, ongoing monitoring of Running Records and using that data to inform teaching practice back in the classroom”. — Principal 2, 2017

Specifically, the LAPS PLP has improved teachers' use of guided writing in the classroom.

“The guided writing sessions were really fantastic for writing, especially because my entire class was Culturally and Linguistically Diverse. So, I think that focus on our language, and then providing that really space and supporting small group focused on writing was really beneficial from my cohort”. — Teacher 4, 2017

In addition to an impact on classroom practices, the professional development program was also frequently reported to have a positive influence on teachers' confidence.

“I've come a hugely a long way. I felt really fortunate that I've been able to do LAPS training”. — Teacher 2, 2017

“And I've learnt heaps so I just feel like I'm a better teacher”. — Teacher 2, 2017

A summary of the impact of the LAPS PLP on classroom practice:

- There was an increase in the professional knowledge and skill base of teachers' literacy teaching and they became equipped to implement a range of classroom strategies that positively impacted on student literacy levels.
- Teachers reported that the literacy framework provided by the Professional Learning program was useful in providing a structured approach to their literacy teaching.
- The utility of Running Records as a data driven approach was useful in monitoring students' progress and guiding teachers' approach to literacy teaching.
- The teachers' level of confidence increased, which impacted positively on classroom practice.

Impact of the LAPS PLP on Student Literacy Outcomes

The LAPS PLP was designed to positively impact students' literacy achievement. The following excerpts from teachers demonstrates the extent to which students' literacy achievement was positively impacted as a result of participation in the LAPS program.

"And just to see the development of the children, oh my gosh, it's unbelievable. I think I told you before, they could write their name at the end of Pre-primary and that was great but now the sentences - - you have to tell them to stop [Laughter]. I had to put lines on the back of the A3s". — Teacher 3, 2017

"It's excited the leadership that the kids had achieved significantly higher, richer achievements. This is Pre-primary compared to last year, so I think it's been an overall win for the school". — Teacher 4, 2017

"I've seen the kids all grow, and some of them grow amazingly, and, if anything, it made me feel frustrated for the first time ever when the kids are not coming to the school". — Teacher 2, 2017

“Looking at the results in terms of what all students were getting to with their reading, if you compare last year's Pre-primary and even the year before to now, we've had a good - - you know, a good implementation of LAPS, there's been a significant difference in terms of the reading level that the kids are getting to and the jumps that they're making”. — Principal 2, 2017

“Well, the highlights, what come straight to my mind is the LAPS teachers when she came to me at the end of the year and showed me her results, it was quite a difficult year for her, with a lot of students in her grades that had high needs, and she was over the moon ... she had pushed through and got the kids to a good level and, I think that that was just - the look on her face, and the kids too, you always have those special moments when you go into the classroom and they say oh Ms <name>, can I read you a story, and so they are just reading to you, and so that's a wonderful moment where they go I can read to someone”. — Principal 1, 2017

A feature of the LAPS program implementation is the focused and intensive small group support. Teachers involved in implementing this approach have commented on its positive impact on students' literacy learning.

“I think the individual work with the teacher, you know, it's close to one on one, three to a group. I think that is massive because I've got to know the kids really well. Which impacts on the way I teach them and what I know about them which in turn effects their learning ... I love that special time with each student”. — Teacher 2, 2017

“I think it's been good because in a Pre-primary environment, especially within our class we still want play as overarching sort of theme, so the small group teaching really lead into a free flow style of learning. My kids knew my expectations, and when I asked them to do something specific they had to come or they had to read and it kind of built a relationship based on you know, I give you a lot so when you come to me I expect a lot, so that worked really well... they were excited about it. They wanted to try their best, so for this cohort I think it worked really well”. — Teacher 1, 2017

When asked about the impact of the LAPS program on disadvantaged or at-risk students, a number of teachers commented that the LAPS program was able to empower these students.

“I think it empowers them. Even if they learnt the word 'I'”. — Teacher 3, 2017

“And I feel like it's really empowered them - the kids come in - like this morning I had one of my boys, he brought his mum in, he brought his cousin in, he brought his auntie in and he read to them”. — Teacher 1, 2017

“It's been great. With some of ours that don't come regularly it's really hard because well the concentration, and they're not doing it regularly because they're not here so that where we see that as a difference, but there's one little boy who never did kinder and, he knows when he is called over for his guided reading that it's just short and sharp and you can say it's not going to take long and you will enjoy this book. But given his attitude - - he gets school now”. — Teacher 3, 2017

The LAPS program requires teachers to review assessment data to group students with like needs for focussed teaching. Teachers commended on this approach of fluid grouping and teaching matched needs.

“Because the teachers like to put kids into groups, and I was like I don't agree with that. I just don't agree with boxing children or boxing anything really and I'm like I don't know, but I was glad I did because they would just flow through each one and because they were always flowing and moving there was no oh “I'm in this group and you're in that group”, and not that that would probably start happening in Pre-primary but I reckon there would be a few who might”. — Teacher 2, 2017

A summary of the impact LAPS PLP on students' literacy achievement:
• The LAPS program contributed to profound improvements in students' literacy achievement.
• Focused and intensive small group support and fluid grouping with matched needs positively impacted on students' literacy learning.
• The LAPS program was found to support students experiencing vulnerability and disadvantage.

Impact of Teacher Professional Learning on the Broader School and Community

In addition to improving literacy outcomes for Pre-primary students, the professional development offered through LAPS was perceived to have a positive impact on the broader school community. Teachers reported that the LAPS program has assisted in supporting student literacy acquisition across school levels and has positively impacted parent-teacher relationships. Examples of the perceived impact of the program on the broader school community are included in the following excerpts.

To better support literacy learning throughout the school, teachers have reported that the LAPS program is being extended to additional year levels.

“And I've shared strategies with this year's Grade 1 and 2 teacher. She came and watched guided writing a few times and then she introduced it with her kids. And at our school it's definitely going to be something that can be used almost across all levels because we do have kids who are working at very low levels”. — Teacher 4, 2017

“As a school we're seeing the benefits of it in the junior years and just hoping that we can - - yeah, how we could benefit from it as a whole school. So, it's not just happening in Pre-primary and then stopping there, it's actually those gains those kids are making are benefiting from all the way through their schooling”. — Principal 2, 2017

It's sort of expanding its wings from Pre-primary down to 0 to 3 and then up to junior primary, - we actually had another teacher who is doing an intervention program in Year 4, who is doing the LAPS training and using a lot of the strategies for children who, in Year 4, who are at risk as they are almost working 2 to 3 years below”. — Principal 1, 2017

Leadership staff have highlighted that one of the key benefits of LAPS is that it uses common teaching language that enables the skills and knowledge to be shared with other teachers.

“The impact on the staff was that our LAPS teacher who was trained this year, when she was talking, when she was sharing her knowledge with her other colleagues, it wasn't a foreign language because through coaching we talked the same language, so it didn't stand alone. It was what we do and bringing the LAPS program on, it just married together. It was great”. — Principal 1, 2017

“Yeah, I'm lucky enough to have had the training so I tried to share my knowledge of it across the school as well, so it actually all complements each other, what I'm about our LAPS teacher is talking about and our staff are talking all the same language so it's wonderful”. — Principal 1, 2017

In addition to broader school-wide benefits, several of the participating teachers have commented that communicating with parents about the LAPS program has been helpful in supporting the program and strengthening teacher-parent relationships. The parents of the school communities were reported to have warmly received the LAPS program.

“It's helped a lot of my parents who don't have high levels of education. Or they're first-time parents, you know, first time coming through who wouldn't feel confident interacting with institutions like a school, I suppose. I did have one of them say she didn't like teachers before but now she comes in everyday and we can't get her to leave”. — Teacher 6, 2017

“The parents have been very supportive of what we're doing and most impressed with it, particularly they have commented on the confidence of the children”. — Principal 2, 2016

“Parents who have got their second or third child in primary school have noted the difference from their first child and they can only talk about the positive impact it has had and the standards their third child is doing in Pre-primary compared to their first child”. — Principal 2, 2016

A summary of the key strengths of the LAPS PLP on the broader school community:

- Teachers are extending the LAPS program across additional school levels to best support student literacy acquisition.
- The LAPS program has been positive in building teacher-parent relationships when they see the impact of LAPS on students' literacy learning outside of the classroom.

7. Impact of the LAPS Program on Students' Learning

Analyses were undertaken to establish the impact of the *Literacy Acquisition for Pre-primary Students* program on students' early literacy learning across first three years of implementation. Pre and post-testing was conducted, with data from a total of 411 students (2017 n=147; 2016 n=146; 2015 n=118). The participants' entry and exit Reading Level scores, entry and exit Phonological Awareness scores, and entry and exit Concepts About Print scores were analysed.

Average scores and effect sizes

Scores at entry and exit for each measure were averaged across the first three years of implementation. Figure 1 shows that test scores at exit for each measure increased, on average, across the three years of LAPS implementation. Most children commenced the Pre-primary year with a Reading Level of 0, which increased to an average of level 5. Similarly, increases were demonstrated in Phonological Awareness measures with scores increasing from an average composite score of 2 to an average of 5, and for the Concepts About Print test scores, which ranged from an average of 8 at entry to 15 at exit as shown in Figure 1.

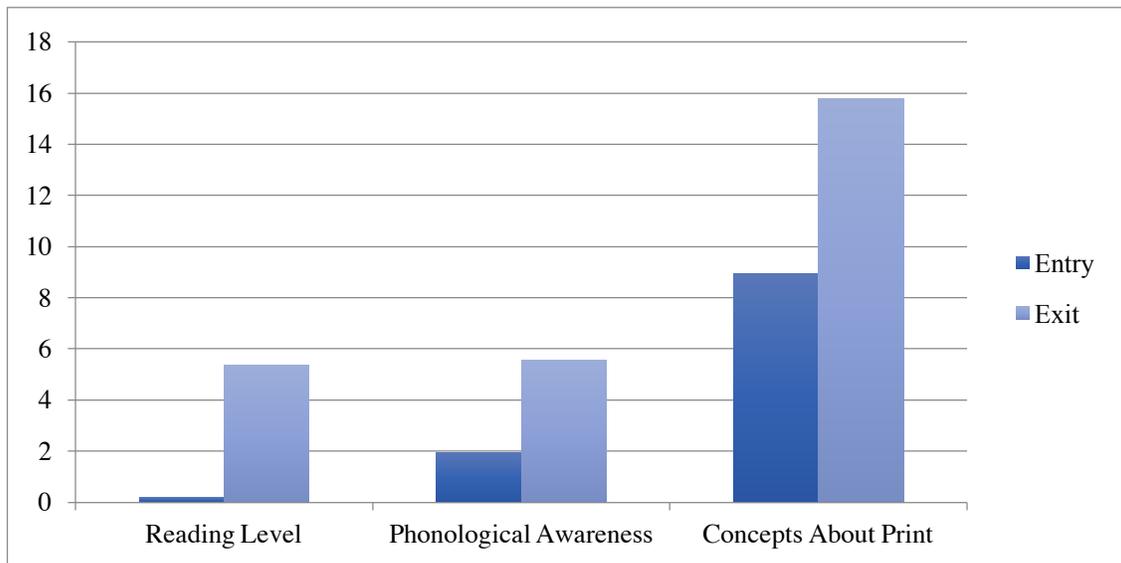


Figure 1: Comparison of students' entry and exit test scores for the three test measures averaged across the first three years of the LAPS program implementation.

The students' average levels of attainment from entry to exit are also detailed in Table 2 and show significant effect sizes. Hattie (2008) claims 'effect sizes' are the best way of measuring the influence on student learning and states an effect size of 0.2 is considered to have a small effect, 0.5 a moderate effect and 0.8 a large effect. According to Hattie (2008), achievement gains over a year that are greater than 0.4 is considered above average for education research.

The eta squared effect size, indicating the magnitude of change, shows that there are large significant differences between time 1 and time 2 test scores (see Table 2). This suggests that on average, a profound improvement was observed over time (Kotrlik & Williams, 2003). The large effect sizes of the program for Reading Levels (in 2017- 0.60; in 2016- 0.60; and in 2015- 0.69), for Phonological Awareness (in 2017- 0.71; in 2016- 0.77; and in 2015- 0.78), and on students' Concepts About Print scores (in 2017- 0.83; in 2016- 0.81; and in 2015- 0.87) across the three years is evidence of the high impact of the *Literacy Acquisition for Pre-primary Students* program on students' learning.

Table 2: Magnitude of the Difference between Entry and Exit Scores of the Three Test Measures.

	Entry			Exit			F	Sig	Eta ²	Cohen's <i>d</i>
	Mean	SD	n	Mean	SD	n				
2017										
Reading Level	0.17	0.44	147	5.73	4.82	146	213.44	<.001	0.60	1.62
Phonological Awareness	1.84	1.74	145	5.08	2.39	146	341.01	<.001	0.71	1.55
Concepts About Print	8.66	4.03	145	15.25	4.01	146	692.17	<.001	0.83	1.64
2016										
Reading Level	0.35	2.12	141	5.45	4.89	138	200.84	<.001	0.60	1.35
Phonological Awareness	2.07	1.76	135	5.89	2.31	139	431.54	<.001	0.77	1.86
Concepts About Print	9.52	4.17	139	16.53	4.08	135	561.53	<.001	0.81	1.70
2015										
Reading Level	0.13	0.39	105	4.92	3.35	105	232.60	<.001	0.69	2.55
Phonological Awareness	2.06	2.17	105	5.76	2.21	105	376.73	<.001	0.78	2.68
Concepts About Print	8.67	4.06	105	15.59	3.95	105	719.69	<.001	0.87	1.73

Change over time in students' Reading Level

Frequency distributions were further used to map the students' progress and show the range and frequency of improvement levels of achievement scores at entry and exit for reading based on students' reading text levels. The magnitude of the difference between the entry and exit scores for text Reading Level across the three years are presented in Table 3.

Table 3: Magnitude of the Difference between Entry and Exit Scores for Reading Level.

	Entry no. of children	Entry (%)		Exit no. of children	Exit (%)	
2017						
Level 0	125	85.0		18	12.2	
Level 1-2	21	14.3	99.3%	19	12.9	25.1%
Level 3-4	1	0.7		26	17.7	
Level 5-9	0	0.0		59	40.1	
Level 10-14	0	0.0	0.7%	15	10.2	74.1%
Level 15+	0	0.0		9	6.1	
2016						
Level 0	127	90.1		12	8.7	
Level 1-2	10	7.1	97.2%	32	23.1	31.4%
Level 3-4	2	1.4		28	20.3	
Level 5-9	1	0.7		42	30.4	
Level 10-14	0	0.0	2.8%	13	9.3	70.8%
Level 15+	1	0.7		11	8.7	
2015						
Level 0	100	76.3		13	9.9	
Level 1-2	13	9.9	86.2%	19	14.5	24.4%
Level 3-4	0	0.0		22	16.7	
Level 5-9	0	0.0		55	41.9	
Level 10-14	0	0.0	0.0%	7	5.4	66.4%
Level 15+	0	0.0		3	2.4	

Across the three years, students' Reading Level scores before the implementation of LAPS indicated that the majority of the respondents were reading at level 0 (in 2017- 85%; in 2016- 90.1% and in 2015- 76.3%), with a smaller percentage found to have Reading Levels equivalent to level 1 or 2 (in 2017- 14.3%; in 2016- 7.1% and in 2015- 9.9%).

After participation of the LAPS program, students' reading abilities had increased, with a larger percentage of the students recorded to be reading at level 3 or 4 (in 2017- 17.7 %; in 2016- 20.3% and in 2015- 16.7%) or level 5-9 (in 2017- 17.7%; in 2016- 20.3% and in 2015- 16.7 %). Students were also reported to be reading at higher levels, at level 10 or above at the end of the Pre-primary year (in 2017- 16.3%; in 2016- 18.0% and in 2015- 6.8%).

The data shows that the majority of students who participated in LAPS were reading at level 3 or above, with high numbers of students attaining a reading level 5 or above. Importantly the shift to text level 3 requires students to move beyond texts containing repetitive, patterned single phrases or simple sentence on each page, with single word changes where the illustrations are highly supportive of text. At level 3 students are reading one to three short, simple sentences on each page, with the existence of a slight pattern change at some point in the book. This requires students to locate one or two known words on a page and to check the accuracy of their reading, carefully matching their reading to the text. At level 5 and above, sentence structures are more varied and complex and there is moderate to high support from illustrations. Rereading and self-correction behaviours are common as students need to closely align the print to the meaning of the text.

Figure 2 illustrates the average students' reading levels and the gains made as a percentage of the total cohort across the three years.

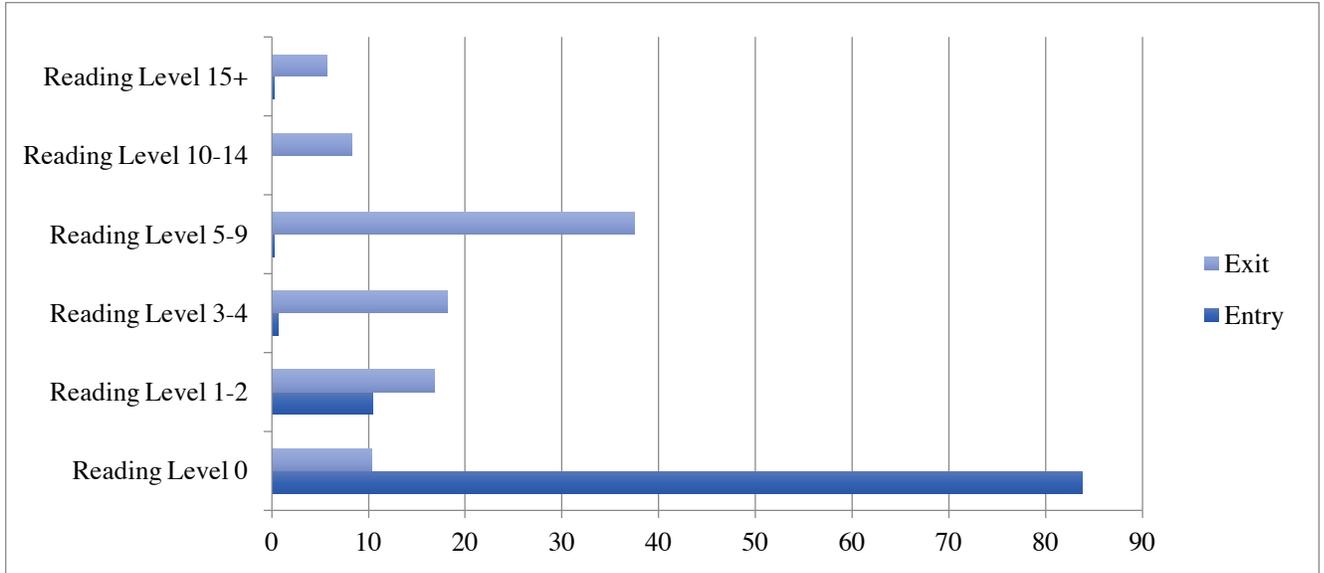


Figure 2: Average entry and exit Reading Levels in percentage across the three years of LAPS program implementation.

Change over time in students' Phonological Awareness

In addition to the exploration into the students' Reading Level, test measures were used to compare the students' pre-and post-levels of Phonological Awareness. The Phonological Awareness test score is derived from a composite of test items drawing across a range of assessment tools used by participating schools, including items from the Fountas and Pinnell Phonological Awareness Assessment (2007) and the Promoting Literacy Development, Pre-Literacy Screen (Rigg, 2009) and some supplementary assessment items. Students' scored 0 or 1, with a maximum combined score of 8 for each the areas of Phonological Awareness measured: (i) Word Segmentation, (ii) Syllable Segmentation, (iii) Rhyme Identification, (iv) Initial Sound Identification, (v) Final Sound Identification, (vi) CVC Blending, (vii) CVC Segmentation, (viii) Initial Sound Deletion.

To demonstrate the students' progress and show the range and frequency of improvement levels of achievement at entry and exit, the magnitude of the difference between the entry and exit scores for text Phonological Awareness across the three years are presented in Table 4.

Table 4: Magnitude of the Difference between Entry and Exit Scores for Phonological Awareness (PhA).

PhA Score	Entry no. of children	Entry (%)	Exit no. of children	Exit (%)
2017				
0	39	26.5	9	6.1
1	32	21.8	8	5.4
2	31	21.1	9	6.1
3	20	13.6	6	4.1
4	13	8.8	24	16.3
5	4	2.7	14	9.5
6	3	2.0	20	13.6
7	1	0.7	36	24.5
8	2	1.4	20	13.6
2016				
0	27	18.5	3	2.1
1	26	17.8	5	3.4
2	39	26.7	12	8.2
3	22	15.1	6	4.1
4	10	6.8	7	4.8
5	3	2.1	15	10.3
6	3	2.1	15	10.3
7	3	2.1	29	19.9
8	2	1.4	47	32.2
2015				
0	34	26.0	1	0.8
1	40	22.9	9	6.9
2	12	9.2	3	2.3
3	11	8.4	6	4.6
4	7	5.3	13	9.9
5	7	5.3	18	13.7
6	5	3.8	14	10.7
7	6	4.6	21	16.0
8	1	0.8	34	26.0

Before the implementation of the program, testing indicated that the majority of students had scores of 0, 1 or 2 (in 2017- 69.4%; in 2016- 63.0 % and in 2015- 58.1%). The highest

Phonological Awareness score recorded prior to the LAPS program was a score of 8 attained by a small percent of the total cohort (in 2017- 1.4%; in 2016- 1.4% and in 2015- 0.8%).

The students' phonological awareness abilities increased over the implementation period with most of the student cohort obtaining scores of 4 or above (in 2017- 77.5%; in 2016- 74.5% and in 2015- 76.3%).

Notwithstanding, there was a small proportion of the sample reported to have exit scores of 0 (in 2017- 6.1%; in 2016- 2.1% and in 2015- 0.8 %), 1 or 2 (in 2017- 11.5%; in 2016- 11.6% and in 2015- 9.1%) or 3 (in 2017- 4.1%; in 2016- 4.8% and in 2015- 4.6%). Figure 3 provides a graphical representation of the average students' Phonological Awareness scores across the three years at pre and post the LAPS program as a percentage of the total cohort.

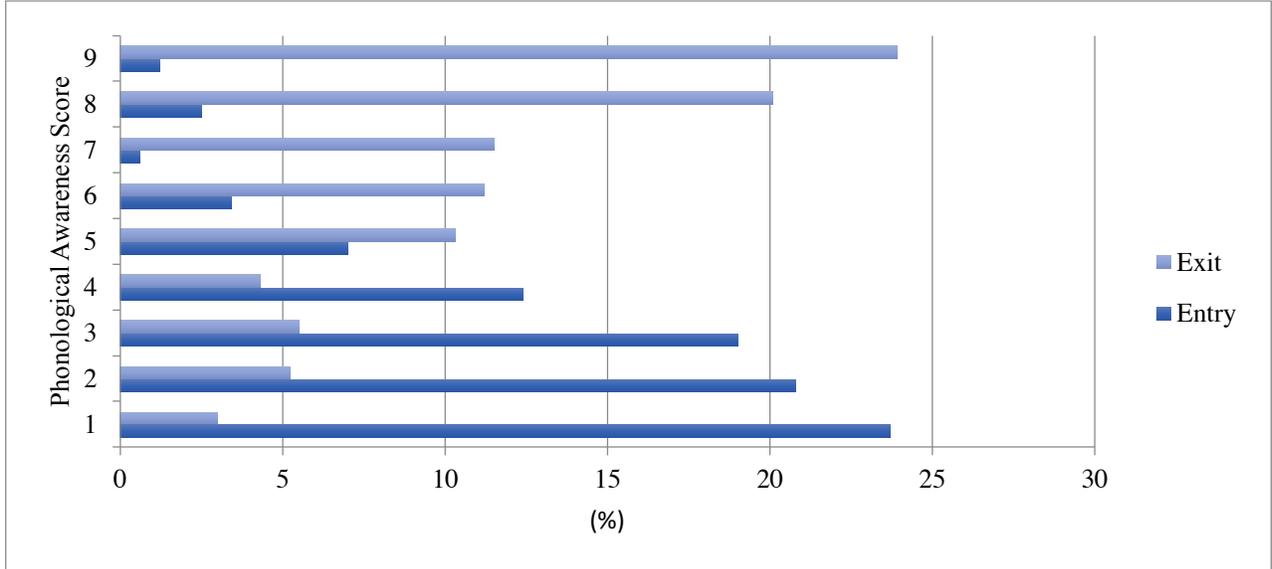


Figure 3: Average entry and exit Phonological Awareness in percentage across the three years of LAPS program implementation.

Change over time in students' awareness of Concepts About Print

To demonstrate the students' progress and show the range and frequency of improvement levels of achievement scores at entry and exit, the magnitude of the difference between the entry and exit scores for text Concepts About Print across the three years are presented in Table 5.

Table 5: Magnitude of the Difference between Entry and Exit Scores for Concepts About Print.

	Entry no. of children	Entry (%)		Exit no. of children	Exit (%)
2017					
Level 1-2	11	7.5		0	0.0
Level 3-4	17	11.6	52.4%	2	1.4
Level 5-9	49	33.3		12	8.2
Level 10-14	60	40.8		36	24.5
Level 15-19	8	5.4	46.2%	75	51.0
Level 20+	0	0.0		21	14.3
2016					
Level 1-2	9	6.2		0	0.0
Level 3-4	12	8.3	45.3%	3	0.7
Level 5-9	45	30.8		9	6.2
Level 10-14	58	39.7		25	17.2
Level 15-19	14	9.6	49.3%	64	42.8
Level 20+	1	0.7		36	24.8
2015					
Level 1-2	11	8.4		0	0.0
Level 3-4	14	10.7	45.7%	0	0.0
Level 5-9	35	26.6		11	8.4
Level 10-14	47	35.8		26	19.9
Level 15-19	5	3.9	39.4%	61	46.6
Level 20+	0	0.0		19	14.5

Concepts About Print scores recorded for the student cohort indicated a range of scores at entry across the three years of implementation. The frequency distribution showed that students had Concepts About Print scores ranging from 1 to 23 out of a total of 24 prior to engaging in the LAPS program. At entry, there were students who had scores less than 10 (in 2017- 19.1%; in 2016- 14.5% and in 2015- 19.1%) and students scoring 10 or more (in 2017- 46.2%; in 2016- 50.0% and in 2015- 39.7%). Scores of 10 or more indicate that the student has moved beyond an understanding basic concepts of print, such as an awareness that print carries a message, directionality and one to one matching, and is able to pay greater attention to line, word and letter order and demonstrates a recognition of punctuation.

There was diversity in the students' Concepts About Print scores prior to participation in the LAPS program. However, the students' Concepts About Print scores after the implementation of the LAPS program had increased considerably with the majority of students reported to have Concepts About Print scores of 15 or more (in 2017- 66.3%; in 2016- 67.6% and in 2015- 61.1%).

A small percentage of the students demonstrated lower scores at exit, however, the lowest score recorded for this measure post the LAPS program was 3 out of a total of 24. Across the three years, a small percentage scored less than 4 at exit (in 2017- 1.4%; in 2016- 0.7% and in 2015- 0%). Figure 4 below displays students' Concepts About Print scores pre and post the implementation of the LAPS program across the three years in percentage terms.

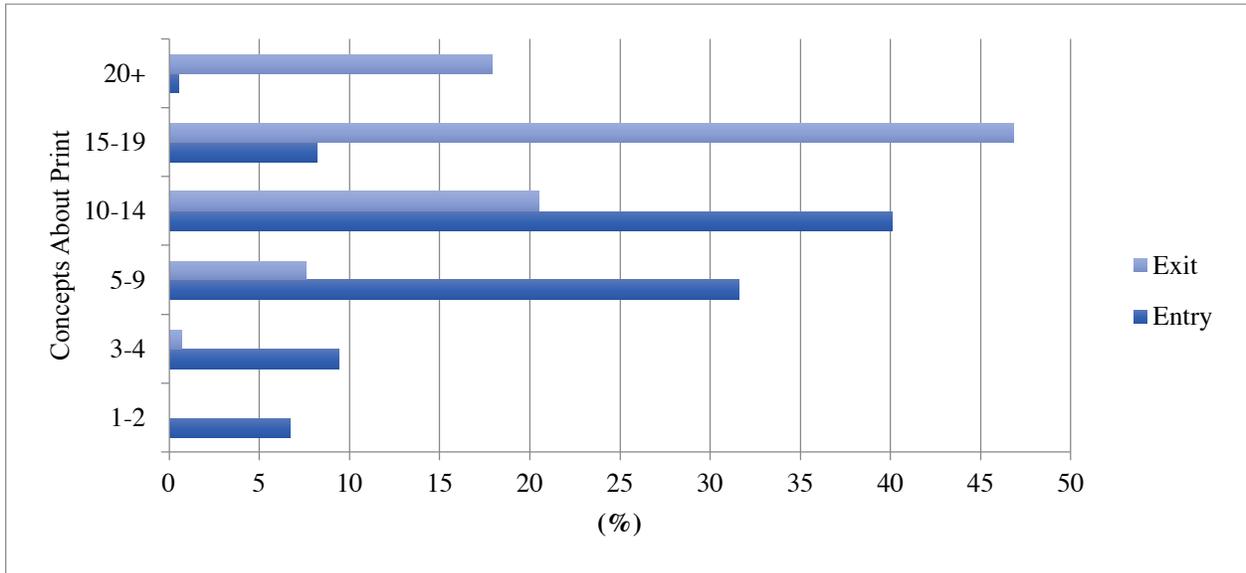


Figure 4: Average entry and exit Concepts About Print in percentage across the three years of LAPS program implementation.

Correlation and Regression Analysis

An investigation into the impact of the LAPS program on the students' Reading Levels, Phonological Awareness and early Concepts About Print knowledge was undertaken through a correlation and regression analysis for each year of implementation (Coakes & Ong, 2011).

These forms of statistical analysis were chosen to explore the impact of the LAPS program and to provide an understanding of the relationships between each measure.

The correlation table, as presented in Table 6, shows the associations between students' entry and exit scores across each year of implementation. Generally, the trend is that entry scores predict exit scores. This means that those that commence Pre-primary with higher scores prior to the implementation of LAPS, continue to achieve well.

Table 6: Inter-correlations for Entry and Exit Reading Level (RL), Phonological Awareness (PhA) and Concepts About Print (CAP) Scores.

	Entry RL	Exit RL	Entry PhA	Exit PhA	Entry CAP	Exit CAP
2017						
Entry RL	1					
Exit RL	.55**	1				
Entry PhA	.57**	.74**	1			
Exit PhA	.21**	.59**	.50**	1		
Entry CAP	.39**	.68**	.61**	.59**	1	
Exit CAP	.28**	.63**	.48**	.66**	.71**	1
2016						
Entry RL	1					
Exit RL	.55**	1				
Entry PhA	.39**	.51**	1			
Exit PhA	0.15	.57**	.49**	1		
Entry CAP	.39**	.67**	.42**	.56**	1	
Exit CAP	.25**	.64**	.51**	.74**	.68**	1
2015						
Entry RL	1					
Exit RL	.38**	1				
Entry PhA	.52**	.49**	1			
Exit PhA	.24*	.63**	.61**	1		
Entry CAP	.38**	.77**	.42**	.59**	1	
Exit CAP	.30**	.78**	.52**	.71**	.78**	1

Note: **= $p < .001$]

As presented above, associations between the variables found that students' exit Reading Level score demonstrated a statistically significant association with both their exit Phonological Awareness score ($r = .57-.63$, $p < .001$) and their exit Concepts About Print score ($r = .63-.78$, $p < .001$) for the three years of the LAPS implementation. This indicates that each of the three measures contributed to the student attainment levels achieved and are optimally facilitating of students' literacy learning.

[Note: r = the strength of the relationship with a possible range of -1 to +1; p is the probability of obtaining a result, (e.g. if $p = .05$ it has 20% chance of being an error or 1 chance in 5)]

The regression analyses, which were conducted to establish which factors might best predict exit Reading Levels of students, showed that in both 2016 and 2017, the best predictor of exit reading level was entry Reading Level and in 2015, this was exit Concepts About Print. This suggests that teaching to improve students' understandings of print concepts, and to a lesser degree phonological awareness, contributed to the improvements observed in student reading levels.

Impact of the LAPS Program on Aboriginal and Torres Strait Islander Students' Learning

With the inclusion of Aboriginal and Torres Strait Islander status in 2017, a further exploration was undertaken to establish the impact of the *Literacy Acquisition for Pre-primary Students* (LAPS) program on Aboriginal and Torres Strait Islander (ATSI) students' early literacy learning. Of the 147 students from 5 West Kimberley schools available for analysis in 2017, 52 students were identified as Aboriginal and Torres Strait Islander.

Mean scores at entry and exit for Reading Level, Phonological Awareness and Concepts About Print measures increased over the implementation period for ATSI students. Most children commenced the Pre-primary year with a Reading Level of 0. This increased to an average of level 3. Similar increases were evident in Phonological Awareness measures with scores increasing from an average composite score of 1 to an average of 3, and for the Concepts About

Print test scores, which ranged from an average of 6 at entry to 12 at exit. These scores, compared to the average cohort scores, are displayed below in Figure 5.

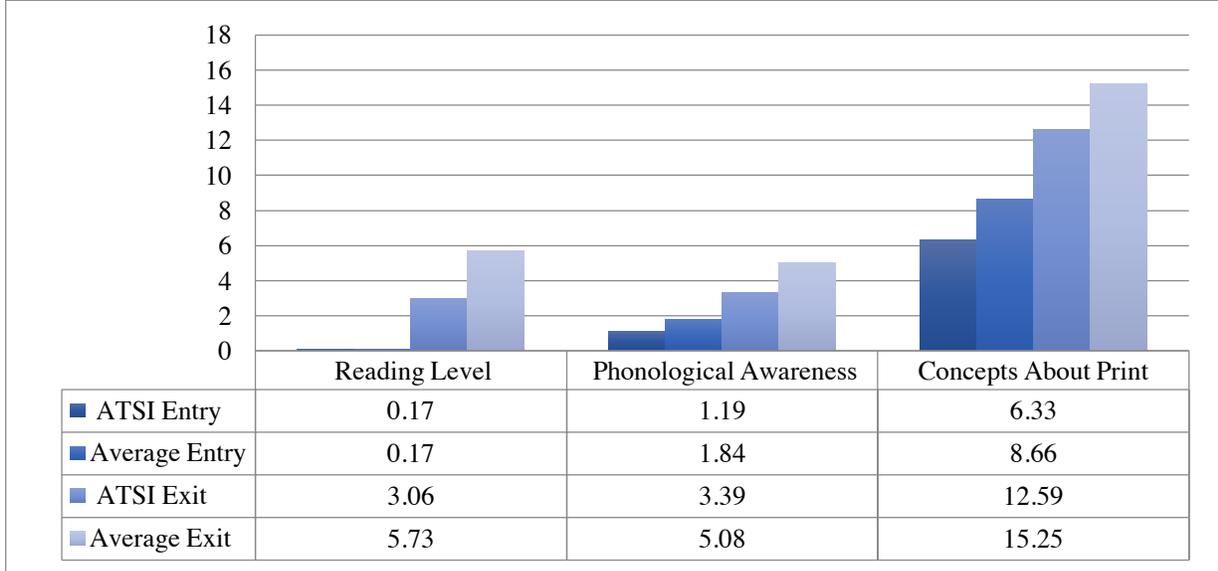


Figure 5: Comparison of 2017 ATSI students' entry and exit test scores compared to the average cohort entry and exit test scores for the three test measures.

As presented in Figure 5, mean scores at entry and exit for each of the three measures increased over the LAPS implementation period for ATSI students. However, compared to the average cohort scores, ATSI scores at exit were notably lower than the average cohort scores (46% lower for Reading Level; 33% lower for Phonological Awareness; and 17% lower for Concepts About Print).

To further examine the progress of ATSI students, frequency distributions between the entry and exit scores for text Reading Level was mapped to students' average attendance, as detailed in Table 7.

Table 7: Magnitude of the Difference between Entry and Exit Scores for Reading Level and Average Attendance at Exit level for ATSI Students.

	Entry no. of children	Entry (%)		Exit no. of children	Exit (%)	Average Attendance (%)	
Reading level 0	43	82.7		17	33.3	75.2	
Reading level 1-2	9	17.3	100.0%	10	19.6	73.5	74.4%
Reading level 3-4	0	0.0		11	21.5	87.4	
Reading level 5-9	0	0.0		9	17.6	92.9	
Reading level 10-14	0	0.0	0.0%	2	3.9	98.0	93.8%
Reading level 15+	0	0.0		2	3.9	97.0	

Reading Level scores before the implementation of LAPS indicated that the majority of ATSI students were reading at level 0 (82.7%). After the implementation of the program, students' reading abilities had increased, with a larger percentage of students recorded to be reading at level 3 or above (46.9%).

Despite these improvements at the group level, there were students who were recorded to be reading at level 0 (33.3%), and at levels 1 and 2 (19.6%) after implementation of the LAPS program. When interpreting these results, it is important to consider students' attendance and their subsequent level of participation in the LAPS program. Importantly, ATSI students who were assessed to be reading at level 2 or below after implementation of the LAPS program had an average attendance of 74.4%. In comparison, students who were assessed at level 3 or above after implementation of the LAPS program had an average attendance of 93.8%. This is demonstrated in Figure 6, which shows the average attendance at exit Reading Levels for Aboriginal and Torres Strait Islander students, compared to the average cohort.

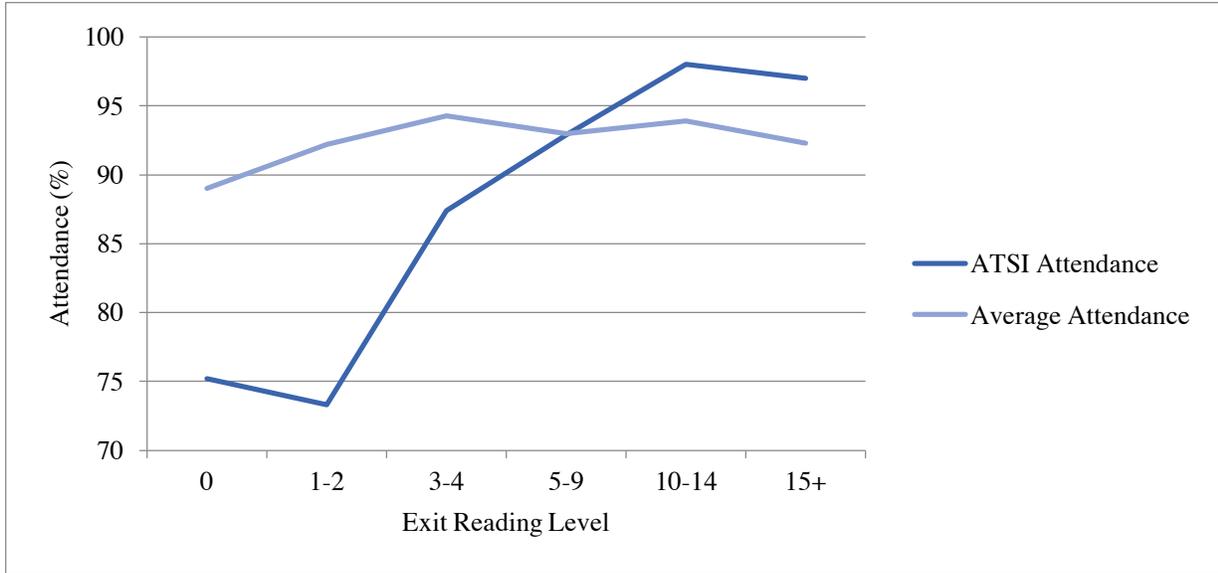


Figure 6. Average attendance of ATSI students at each exit reading level compared to the average cohort.

Non-program Comparison Data

With the inclusion of non-program comparison data in 2017, a further exploration was undertaken to establish the impact of the *Literacy Acquisition for Pre-primary Students (LAPS)* program on exit reading levels compared to students who did not participate in the program. Frequency distributions were used to map the students' progress and compare the range and frequency of improvement in Reading Level scores at exit. Table 8 presents the magnitude of the difference between exit Reading Level scores for program and non-program data in 2017.

Table 8: Magnitude of the Difference between Exit Reading Level for 2017 LAPS Program and Non-Program Data.

	Exit no. of children	Exit (%)		Exit no. of children	Exit (%)	
	LAPS Program Data			Non-Program Comparison Data		
Level 0	18	12.2		8	20.5	
Level 1-2	19	12.9	25.1%	17	43.6	64.1%
Level 3-4	26	17.7		6	15.4	
Level 5-9	59	40.1		6	15.4	
Level 10-14	15	10.2	74.1%	2	5.6	36.4%
Level 15+	9	6.1		0	0.0	

At exit, students' Reading Level scores after participation in the LAPS program indicated that 74.1% were recorded to be reading at or above level 3, compared to 36.4% who did not participate in the program. Students who participated in the LAPS program were also reported to be reading at higher levels, with 56.4% of the student cohort reading at level 5 or above, compared to 21.0% of students who did not participate in the program.

Despite these improvements, 25.1% of students were recorded to be reading at level 2 or below post implementation of the LAPS program. However, the number of students reading at these levels is substantially lower than those who did not participate in the program. At exit, 64.1% those who did not participate in the LAPS program were recorded at level 2 or below.

Figure 7 illustrates this comparison of exit Reading Levels in percentage between LAPS program and non-program data.

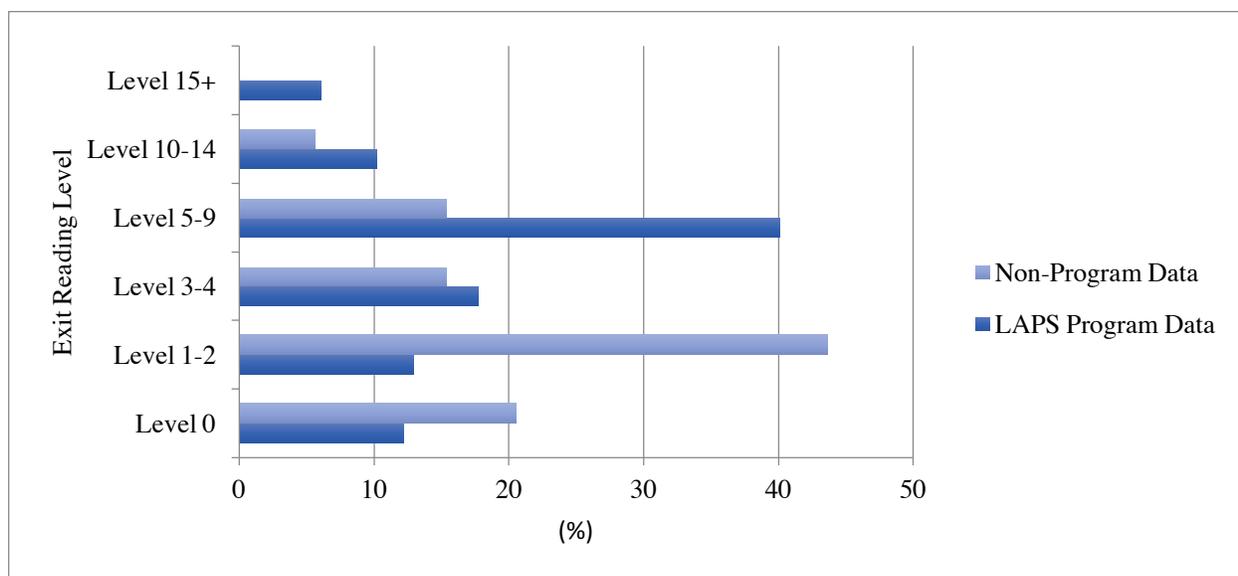


Figure 7. Comparison of 2017 exit Reading Levels in percentage between LAPS program and non-program data.

Summary of Results

The data collected provided clear evidence of the positive impact of the LAPS program on students' literacy learning outcomes.

- An exploration into the sample across the first three years of the LAPS program implementation found increases in the Reading Levels, Phonological Awareness scores and Concepts About Print knowledge scores from entry to exit.
- Reading Level scores pre-LAPS were predominantly at level 0. Post-LAPS many students were reading at or above level 5 at the end of the Pre-primary year of schooling.
- The composite Phonological Awareness scores were predominately 0, 1 or 2 at entry. Post-LAPS, the vast majority of students had a Phonological Awareness composite score of 4 or above.

- Diversity was found in the pre-LAPS Concepts About Print test scores, however, post LAPS, the students' Concepts About Print scores had increased considerably with most students reported to have Concepts About Print scores of 15 and above.
- In 2017, the majority of Aboriginal and Torres Strait Islander students were reading at level 0 on entry to the program. After participation in the LAPS program, students' reading abilities had increased, with a larger percentage of students recorded to be reading at level 3 or above.
- The level of participation in the LAPS program, was related to exit Reading Levels.
- Control comparison data shows that at exit, 74.1% of students who participated in the LAPS program were reading at or above level 3 compared to 36.4% of students who did not have access to the program.
- Overall, students were observed to be making progress in early literacy learning as a result of their participation in the LAPS program.

8. Findings and Recommendations

The LAPS PLP was specifically designed to introduce a range of teaching approaches to teachers with the aim of strengthening students' literacy skills. The findings indicate that the LAPS program can be viewed as a model of systematic, high quality professional learning, contributing to the development of students' early literacy skills. A summary of the key strengths of the LAPS professional learning program follows:

- The PLP was well structured and engaging and provided teachers with a range of useful resources and strategies to improve students' reading and writing achievement.
- The content of the professional learning sessions was useful and relevant, specific to teaching in the Kimberley, and had a strong focus on students' literacy development.
- The coaching approach that included modeling and teaching support in classrooms alongside frequent opportunities for collaboration between staff and the PLF was beneficial in enhancing teacher development throughout implementation.
- The level of confidence in literacy teaching increased, which impacted positively on classroom practice.
- The utility of Running Records as a data driven approach was useful in monitoring students' progress and guiding teachers' approach to literacy teaching.
- The LAPS program was helpful in building working teacher-parent relationships to impact student literacy acquisition outside of the classroom.

Throughout the three years of implementation, feedback collected from participating staff enabled the program to be adapted to best meet the needs of staff and students. The opportunities for improvement that were addressed in 2017 are summarised as follows.

- *Use of Assessment Tools and Reflective Practice*

A key suggestion (see Scull, Brindle & Bowles, 2017) was to adapt the PLP to ensure that teachers engage in learning processes that explicitly address data analysis tools in order to strengthen focused teaching, support class grouping decisions and closely monitor improvements in text reading levels. To implement this change, the PLP was adapted in 2017 to include two professional sessions that focused specifically on assessment tools and reflective practice. During these sessions, participants were required to choose a focus child and use a range of assessment tools to examine literacy behaviours and design teaching methods to best meet students' learning needs. Participants then shared successful processes and practices in the second reflective practice session to further inform teaching practice.

- *Collection of Comparison Data*

As per the recommendation in the previous LAPS report (Scull, Brindle, & Bowles, 2017) the inclusion of aggregated end of year Pre-primary literacy data from students who did not participate in the LAPS program was included in the current report to compare the effects of program and non-program data. This showed that more students were reading at higher levels at the end of Pre-primary as a result of the LAPS program.

- *Identifying Indigenous Students*

Lastly, it was proposed that school enrolment data could be used with parent permission to identify ATSI participant children. This showed that after the implementation of the LAPS program, Indigenous students' reading abilities had increased, with a larger percentage of students recorded to be reading at level 3 or above.

- *Collection of Attendance Data*

As a further point of comparison, it was proposed that the collection of attendance data in 2017 could be used to determine the effect of students' attendance on their literacy acquisition. Results showed that the level of participation in the LAPS program was related to exit reading levels for ATSI students.

Based on feedback collected from participating staff across the three years of implementation, a number of recommendations are provided to further develop the LAPS PLP:

- Provide additional support for program organisation such as timetabling and classroom management, e.g., developing a set of classroom activities for independent student use to assist with the management of the class during focused small group teaching.
- Dedicate more planning time for teachers with the PLF during program implementation.
- Utilise additional staff and support such as Education Assistants and parents who have been trained in the LAPS program to assist in the implementation of the program.
- Create further opportunities for teachers to share issues, resources and reflect on practice.
- Given students' increased levels of reading proficiency, adapt the professional learning program to focus on Guided Reading with larger group sizes and for students at higher reading levels, explicit phonics instruction within the context of text reading and writing, scaffolding students towards independent reading and writing and focusing on supporting students with EAL/D.
- Dedicate time periods for teachers to participate in data collection at entry and exit to ensure that the collection and analysis of student data is integrated into the LAPS program to ensure a high standard of data driven teaching.

9. Conclusion

The results across the first three years of implementation show the positive impact of the *Literacy Acquisition for Pre-primary Students* program on students' early literacy outcomes. Significantly, gains in students' literacy learning have been achieved for three consecutive years. These outcomes have been attributed to the strong focus on professional learning that has contributed to transforming teachers' understandings of early literacy acquisition processes and supported their use of small group and whole class approaches that facilitated the development of a range of language and literacy skills. Importantly, the LAPS program focuses on essential skill development in the context of reading and writing, within a comprehensive literacy curriculum.

The level of disadvantage and vulnerability experienced by our Indigenous students provides compelling evidence for continued attention on early literacy learning that enhances students' outcomes. Specific to the Kimberley region of WA, the implementation of the LAPS program over three years, as a high impact, evidence-based program, has contributed to enhancing students' literacy outcomes and has worked to close the gap in education achievement and Indigenous disadvantage.

10. References

- Australian Early Development Census (2015). *A Snapshot of Early Childhood Development in Australia AEDC national report 2015*. Australia: Department of Education and Training.
- Clay, M. M. (2013). *An observation survey of early literacy achievement* (3rd ed.). Auckland: Pearson.
- Coakes, S., & Ong, C. (2011). *SPSS Version 18.0 for Windows: Analysis Without Anguish*. SA: Wiley.
- Department of the Prime Minister and Cabinet (2015). *Closing the Gap Prime Minister's report 2015*. Canberra: Department of the Prime Minister and Cabinet.
- Department of the Prime Minister and Cabinet (2017). *Closing the Gap Prime Minister's report 2017*. Canberra: Department of the Prime Minister and Cabinet.
- Fountas I. C & Pinnell G.S. (2007) *Literacy Benchmark Assessment System 1, Grades K-2*. Portsmouth, NH. Heinemann.
- Hattie, J. (2008). *Visible Learning: A Synthesis of Over 800 Meta-Analyses*
- Kotrlik, J. W. & Williams, H. A. (2003). *Information technology, learning, and performance journal, the incorporation of effect size in information technology. Learning, and Performance Research*. 21(1), 1-7.
- NSW Department of Education and Training (NSW DET, (1999-2000). *Language, Learning and Literacy (L3)* Retrieved from <http://www.curriculumsupport.education.nsw.gov.au/beststart/lll/general/index.htm>
- Rigg, D. (2009). *PLD Pre-Literacy Screen Perth WA*: PLD Organisation Pty. Ltd.
- Save the Children (2010). *Situation Analysis and Recommendations: Dampier Peninsula Indigenous Parenting Support Services*. Australia: Department of Families, Housing, Community Services and Indigenous Affairs.

Scull, J., Brindle, K., Bowles, T. (2016). *Literacy Acquisition for Pre-primary Students: Report on the first year of implementation*. Melb: Monash University.

Scull, J., Brindle, K., Bowles, T. (2017). *Literacy Acquisition for Pre-primary Students: Report on the second year of implementation*. Melb: Monash University.

Steering Committee for the Review of Government Service Provision (2014). *Overcoming Indigenous Disadvantage: Key Indicators 2014*. Productivity Commission, Canberra.
Retrieved from <http://www.pc.gov.au/research/ongoing/overcoming-indigenous-disadvantage/key-indicators-2014>

Wigglesworth, G., Simpson, J., & Loakes, D. (2011). *NAPLAN language assessments for Indigenous children in remote communities*. Australian Review of Applied Linguistics, 34(3), 320-343