

UNLEASHING THE POWER OF THE COLLECTIVE IN EDUCATION

The Impact Evaluation of SVA Bright
Spots Schools Connection

—

Appendix Three:
Supplementary artefacts and research

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1. IS THE CONNECTION MAKING AN IMPACT?

The following information provides specific examples of The Connection’s impact that schools described in their PAPs, Project Artefacts and interviews.

1.1 Short-term outcome: educator knowledge and mindsets

1.1.1 Non-principal improvement in pedagogical knowledge

Figure 1 below provides an example of the work that one Connection school has undertaken to build pedagogical knowledge. This school’s “Powerful Learning Framework” documents the evidence-based practices that are expected across every classroom at the school.

Figure 1: Excerpt from New South Wales Star Hub school’s “Powerful Learning Framework”

MAKING A DIFFERENCE

Accomplishing the maximum impact on student learning depends on teams of teachers working together, with excellent leaders or coaches, agreeing on worthwhile outcomes, setting high expectations, knowing the students’ starting and desired success in learning, seeking evidence continually about their impact on all students, modifying their teaching in light of this evaluation, and joining in the success of truly making a difference to student outcomes.

-John Hattie

OUR VISION
[X school] leads a dynamic and innovative community, characterised by powerful partnerships, quality learning, inclusivity and excellence. The school inspires purposeful, holistic and future focused teaching and learning that engages students in their lives and their world. [X school] empowers creative and critical thinkers who experience enjoyment

INTRODUCTION
 We have developed this framework as a blueprint for the pedagogy that will enable us to achieve our vision. We believe that the learning progress of every student should be our priority; and that every student deserves to make at least a year’s progress in every calendar year.

Developing high-level skills in literacy and numeracy is a fundamental requirement for our students, but we also believe in a broad curriculum that prepares students for life. In the words of Hattie:

What is the learning that we aim to impact on? The love of learning, involving students to stay in the learning and seeing the ways in which students can improve their healthy sense of being, respect for self, and respect for others as well as enhancing achievement (the whole child).

We believe that to impact on the learning of our students we must take action in the “instructional core” (City, Elmore, Fiarman and Teitel). This highlights the fact that it is the relationship between teachers, students and the content taught, not the qualities of anyone of them by themselves, that determines learning.

This framework is about the pedagogy that we need for our students at [X school]. As

The Instructional Core

The diagram illustrates the Instructional Core with four interconnected components: Student Engagement (top, red box), Task (center, blue box), Teacher Knowledge & Skill (bottom-left, blue box), and Content Rigor & Relevance (bottom-right, green box). Arrows indicate relationships: Student Engagement is linked to Task and Content; Task is linked to both Teacher Knowledge & Skill and Content; and Teacher Knowledge & Skill is linked to Content.

Source: school artefact provided by school to The Connection

1.2 Short-term outcome: School-based Improvement Practices

The boxes below provide examples of different kinds of new and innovative school-based improvement practices being implemented by the participating schools. These improvement practices are mapped to the NSIT tool.

Box 1: Examples of ways to use data to support decision making and student performance analysis

Using data to drive professional conversations

A New South Wales Star Hub school borrowed a Victorian Star Hub school's approach to tracking student progress with "Data Walls" – a graphical representation of individual students' progress along a learning continuum. This school now holds "data team meetings", in which teachers analyse students' results, and create plans for supporting student progress.

Another New South Wales Star Hub school borrowed the concept of "T.E.A.M. Time" (Together Everyone Achieves More) from another New South Wales Star Hub school. In T.E.A.M. Time, teachers sit down together in front of their data wall that maps their students' progression in reading and discuss their strategies for ensuring all students improve. In an interview, the principal of the school that borrowed this practice said:

“We get into teams, sit down, bring out the evidence, and talk together about how each child will move along the benchmarks for reading. All students have moved. That may have been the case before, but we couldn't prove it. It's not just a gut feeling anymore. We can see the reading level of every student – every student is known and valued.”

A Victorian STEM school reported that “more teachers are collaborating and making more data-informed decisions in their practice.”

Embedding data-driven decision making into school leadership structures

A Victorian Star Hub school has created a dedicated literacy and numeracy Assistant Principal portfolio, with the role of reviewing and improving that school's use of NAPLAN and PAT data.

Making teacher judgement about student learning more consistent across the school

The leadership team at a New South Wales Star Hub school reported that they have “deepened their strategic processes to engage staff in making judgements about student learning” by implementing collaborative writing moderation, using evidence of student learning to judge teacher impact, and undertaking Learning Walks and Professional Conversations. The school reports that teachers have improved their ability to use data to make accurate judgements about student learning.

Developing strategic school-wide approaches to collect and use student data

A New South Wales Powerhouse school was reported by ACER to have “improved the collection and analysis of evidence-based data in literacy, mathematics and skills and capabilities.”

A South Australian Star Hub school reported that the school is seeing “ongoing numeracy improvement, using data to inform practice.”

A New South Wales Star School reported that the school now has “clear guidelines for data collection, analysis and evidence-based conversations”. A Victorian Star Hub School has worked on a strategic plan “to build school leader and teachers capabilities to use student learning data to inform planning and teaching intervention.”

Box 2: Examples of ways to implement practices related to improved use of school resources

Improving the school’s STEM programs through targeted human, financial and capital resourcing.

A New South Wales STEM Learning Hub school has allocated a 0.4 full-time-equivalent position to an Information and Communication technology mentor, to support and develop teachers’ and students’ technological capacity, and allocated additional funding to the ME Program, which “fosters excellence in STEM via regional, national and international competitions.”

A South Australian Star Hub school principal created open-plan STEM spaces, which facilitate the school’s new problem-based learning lessons.

A New South Wales STEM school allocated two hours of the school timetable Professional Learning in STEM education.

A Victorian STEM Learning Hub school reported that a key lesson from their participation in The Connection was about the importance of ensuring that the school’s resources are “aligned to high quality curriculum”, which “takes time, dedication, collaboration, enthusiasm.” In an interview, this school’s principal said that the teachers in the school’s STEM curriculum team had worked hard to ensure that the technology in the school was “more than a toy.” For example, the team worked to incorporate virtual reality technology from SAMSUNG (a connection facilitated by SVA) into a “Crime Scene Investigation”-themed lesson in which students hunted for DNA and fingerprints. The lesson had been developed with the intention to teach students skills from the Victorian curriculum, and the principal reported that it was “very engaging” and had been designed to develop skills from the Victorian Curriculum.

Ensuring that staff are continually and sufficiently upskilled

One South Australian Star Hub school reported that they now had “human resources in place” to build teacher knowledge and capacity.

A Victorian Star Hub school reported that a precondition for their work in The Connection was providing “targeted allocation of resources (time, extra teachers, teaching support staff and professional learning) that will support staff to collaborate, reflect upon and continually improve practice.”

A South Australian STEM school said that they ensured that their staff were continually upskilled and refreshed, to ensure that “all staff are replaceable, and projects don’t depend on individuals”, to avoid losing ground when key staff members leave the school.

Box 3: Strategies used by schools to promote positive learning culture

School Learning Culture is a multidimensional concept and schools implemented practices related to promoting positive learning culture in several ways:

1. Embed the idea of positive learning in annual strategic plan and directions
2. Commitment to a shared vision and belief
3. Develop a culture of trust at whole-school level
4. Develop a culture of growth-mindset
5. Establish a culture of risk-taking
6. Encourage out of box thinking and willingness to try new things

Box 4: Different types of pedagogical practices

Schools referred to several types of pedagogical practices in their project action plans and artefacts. These include:

1. Inquiry-based approach to teaching and learning
2. Incorporating “Design thinking” into STEM units of work
3. School-wide practice of co-designing assessments through use of goal setting, mentoring, and project-based learning
4. Use high impact teaching strategies (HITS)
5. Project-based learning
6. Visible learning strategies

Box 5: The strategies used by The Connection schools to implement the practice of distributed leadership

Expanding the school leadership team

A South Australian STEM Learning Hub school has added two new positions to the School Leadership team that are directly related to the school's improvement plan: a 'Senior Leader – Middle School Transformation' who oversees middle years project-based learning and inquiry learning, and new Senior Leader with 'Entrepreneurial/Industry Connections' oversight, whose role is to "strategically maintain existing and develop new links."

Establishing teacher teams to lead curriculum and pedagogy

A New South Wales Star school has expanded the number of STEM specialised teachers from one to five. These teachers co-teach STEM with other teachers and reflect on their development. The school reported that this change has "provided more opportunities for teachers to lead and be upskilled in STEM education and ensured the longevity of STEM education."

A South Australian Star school has created a "STEM committee", in which half of the school's staff participate. This committee leads the teaching and learning of STEM at the school.

Appointing leaders to internal Professional Learning Communities (PLCs)

A Victorian STEM school that implemented PLCs as part of its work with SVA has appointed seven PLC leaders, which the school reports has "created a level of middle leadership within the school", and "increased the understanding of systems operations within the school and has had a positive impact on learning."

Developing teachers' leadership skills

A Victorian Powerhouse school made the development of leadership the central focus of their work with SVA. This school invited staff to participate in targeted leadership development and adjusted the school's structures so that "all members of the school have school-wide responsibilities."

A large South Australian Star Hub school said that during their project with SVA, they realised that to implement any of their desired improvement practices, they needed to build their middle leaders, and refine the school's meeting structures to ensure that staff used them to "empower, rather than administer."

Box 6: Examples of the ways in which schools are implementing teacher collaboration

Collaborative professional development

Many schools reported that their staff were now engaging in collaborative professional development. For example:

- A New South Wales Powerhouse school reported said that staff engaged in “Collaborative Peer Learning”, through “staff workshops and regular staff meetings.”
- A New South Wales Star Hub school said that their ongoing, collaborative professional learning “resulted in a sustainable shift of pedagogy and school culture.”
- A Victorian STEM Learning Hub school reported that they adjusted the school timetable so that teachers could devote more time to collaborative professional development, stating that “teachers must have the time to research, collaborate and share their practice so understanding, knowledge and confidence can be built.”
- A Victorian Star Hub school reported that the implementation of a whole-school instructional model has provided teachers with a foundation that allows them to “effectively collaborate, coach and support one another with improving teaching practice.”
- A South Australian STEM Learning Hub school cluster reported that as a result of their participation in The Connection, the cluster had enhanced teacher collaboration, and was “building a consistent language of learning which has enhanced teacher pedagogy across sites.”

Collaborative planning/moderation/teaching

- A Victorian Powerhouse school reported that at the end of their Connection project, all teachers participated in collaborative planning sessions and team-teaching delivery of the school’s new social-emotional learning curriculum.
- A South Australian Star Hub school said that teachers now participated in collaborative moderation and reported anecdotal improvement in their “common understanding of achievement standards, teacher judgment, task design.”
- A South Australian Star Hub school reported that they implemented collaborative teachers’ teams “to better utilise staff meeting time”. A survey of teachers indicated that they feel “this time is well-used and valued to collaborate with colleagues on a variety of school improvements.”
- A New South Wales Star Hub school reported that their staff were collaborating in several ways, stating that: “teams plan collaboratively in team meetings, ensuring detailed stage programs. Sprint sessions are research based and teachers reflect in teams. Teachers are sharing expertise and skills with each other.”
- A New South Wales Star Hub school reported collaboration between teacher teams and the leadership team in the design of action research projects: “The leadership team designated teachers to Action Learning Projects (ALP), developed in collaboration with their faculty/team members to improve pedagogy.”

Box 7: Examples of schools' implementation of systemic curriculum delivery

Incorporating STEM content and practices into the curriculum:

- A Victorian STEM Learning Hub school developed curriculum for STEM subjects in Years 8, 9, and 10, by creating a STEM focus group curriculum development team
- A South Australian STEM school developed new curriculum to support creative and critical thinking, and STEM approaches

Creating curriculum that supports students' development of the general capabilities

- A New South Wales Powerhouse school has implemented a capabilities-driven curriculum, which has resulted in the redesign of faculty programs and assessment tasks across the school

Ensuring consistent implementation of the curriculum

- A New South Wales Star Hub school has ensured that the curriculum is being implemented consistently, by establishing regular collaborative meetings to support curriculum planning

Box 8: School-wide strategies for implementing differentiated teaching and learning includes

Using digital technology to help teachers differentiate teaching and learning for their students

- A Victorian Star Hub school said that they use the "Epic!" digital reading application to differentiate the reading levels and texts for newly arrived students and students with special needs.

Sharing strategies for differentiation through teacher collaboration

- A New South Wales Star Hub school reported that "Students have teachers that collaborate within and across stages and faculties to ensure consistency of curriculum delivery, including strategies for differentiation and consistency of teacher judgement."
- A South Australian Star Hub school engaged in cross-school collaboration to develop their teachers' ability to differentiate teaching: "Our work with our partnership on task design and moderation has supported teachers to plan for stretch in learning tasks, to differentiate and to have increased confidence to assign grades."

Building curriculum that supports differentiation

- A South Australian Star Hub school created unit plans that were "...differentiated to allow for multiple entry points and individual student interests and mapped against Critical and Creative Thinking capability."

Reports of general improvement in teachers' ability to differentiate

- A Victorian Powerhouse school reported that "Teachers and Educational Support Staff have an understanding of differentiated instruction within the [new] inclusive education framework."
- A Victorian Star Hub school reported that 94 per cent of students endorsed their teachers' ability to effectively differentiate, which was above the state average of 87 per cent.

Box 9: The examples of different ways to implement school-community partnerships

Establishing partnerships with students' families and carers

- New South Wales STEM Learning Hub school reported undertaking “extensive community consultation involving 35 staff members and 250 members of the school community” to inform the school’s future directions.
- A school from a South Australian STEM Learning Hub cluster reported great success in engaging parents more in their students’ learning, by “going through” the students: students were asked to personally invite family members to a school open day, which the school principal said resulted in the highest attendance at such an event yet.
- A Victorian Powerhouse school “involved the whole school community to enhance student learning”, to ensure that students developed positive learning dispositions.

Box 10: Examples of The Connection schools’ partnerships with industry and community groups

SVA-facilitated partnerships, including partnerships with Samsung, Salesforce and education consultants

Across The Connection, the PAP and Artefact analysis revealed 23 schools that had benefitted from a partnership with SAMSUNG, which SVA facilitated. Schools received varying grants, which they used to purchase Flip Boards, Windows Tablets, Notebooks, virtual reality headsets and 360 Cameras.

- These partnerships were used to support classroom engagement, with one Victorian STEM Learning Hub cluster school reporting that “The Flip Board had a huge impact on student engagement and learning in one class by allowing evidence of learning to be captured and shared efficiently and easily. It enhanced teacher modelling, shared learning and reflective practices.” The Samsung technology was also embedded into curriculum to facilitate learning, as described above in the example of the Victorian STEM Learning Hub school creating “Crime Scene Investigation”-themed STEM lessons, in which students use virtual reality to problem solve.
- SVA also facilitated partnerships with Salesforce for four Connection schools. The assistant principal of one of these schools, a Victorian Star Hub school, said that this partnership had enabled students to experience a real-life, corporate workplace. She said that this was highly valuable, not many of the students’ families would be able to provide them with exposure to that kind of environment.
- A New South Wales Star Hub school established a partnership with Corwin through their participation in The Connection. The school reported that “although this partnership is ongoing it has built the capacity of all staff to know their students and where they are going. All teachers work as experts to put evidence into action and move our students forward.”

Schools develop connections with local industry and community bodies

One regional South Australian school, and one regional South Australian cluster interviewed reported very positive outcomes from the partnerships that they had developed with local industry and councils throughout their time in The Connection (see case studies of Stirling North Primary School, and Mount Burr Cluster).

Connections with the industry expert through interactions with another Connection school

A Victorian Star Hub school liaised with another Victorian Star Hub school, and through this connection discovered the Australian Childhood Trauma Group. This partnership has provided supplementary trauma-informed education training for teachers, which the principal says contributed to her staff feeling more supported in their work.

Box 11: Examples of “smart borrowing” between The Connection schools

Organisational or administrative processes:

- A New South Wales Star Hub school borrowed a Victorian Powerhouse school’s practice of running a Monday morning assembly to instil a focus on learning for the week.
- A South Australian STEM Learning Hub school adopted a “no-bells” approach to signalling the start, end and breaks of the school day, which the school says has been “effective for calmer transitions and reduced anxiety amongst students”.

Strategies for improved teaching and learning

A Victorian Star Hub primary school collaborated with a Victorian Powerhouse secondary school that happens to receive many of the Star Hub school’s students. They worked together to determine the skills that their students would need to participate in the secondary school’s inquiry-based learning. As a result, the primary school has increased their emphasis on collaboration skills and the general capabilities, to ensure its students are prepared for the transition to secondary school.

Approaches to professional development

A New South Wales Star Hub school was influenced by exposed to different models of teacher evaluation and targeted professional development, including Helen Timperley’s Spirals of Inquiry, and Simon Breakspear’s Learning Sprints.

Reporting practices

Through The Connection, one New South Wales Star Hub principal connected with another on Twitter, who tweeted about changes in their school’s reporting practices, “to move away from just compliance towards meeting both Departmental expectations and the needs of their school community”. This sparked dialogue between the two principals and has inspired the first principal to make similar changes in his own school, resulting in students, parents and teachers engaging in a three-way Learning Conversation twice a year.

Box 12: Examples of “ongoing collaboration” between The Connection schools

Partnership between NSW Powerhouse school and three South Australian Star Hub schools

A group of three South Australian Star Hub schools collaborated with a New South Wales Powerhouse school on developing the teaching and assessment of the general capabilities at their respective sites. All partners reflected positively on this collaborative work. One of the South Australian schools described the work as follows:

“The most helpful part of this collaboration has been the continued willingness of the NSW Powerhouse school to share best practice, resources and to continue the partnership to support our school and the continued conversations between the three SA schools to move the work in our individual schools forward.

SA Powerhouse school partnerships with NSW Powerhouse school and Vic Star Hub school

The principal of South Australian Powerhouse school described the “ongoing work” that her school has undertaken with New South Wales Powerhouse and the Victorian Star Hub as follows:

“We have shared good practice with both schools in a genuinely reciprocal fashion that allows us to improve the learning outcomes for students. These partnerships are strong and will continue beyond official SVA connection.”

In an interview, the principal of NSW Powerhouse school described her school's relationship with Vic Star Hub as a “true partnership”, in which both schools learn from each other.

Vic Star Hub described the ways in which they have worked with SA Powerhouse school, reporting that the schools have each visited other schools' multiple times, with a goal “to enhance and refine some of our programs and outcomes for our students.” The school reported that its relationship with SA Powerhouse school is “a very positive connection between school principals which will continue well beyond The Connection.”

Leader’s Link partnership between three NSW Star Hub schools

Another ongoing partnership, discussed in the “shared moral purpose” characteristic, is the Leaders Link group, comprised of three NSW Star Hub schools. The “aligned” moral purpose that these schools discovered through their participation in The Connection, combined with their geographical proximity and similar school contexts, has driven mutually beneficial work for each school in the area of student leadership and play-based learning. In a focus group discussion, a leading teacher from one of these school said that, despite their close proximity, without SVA the school “would never have had those connections.”

Box 13: Examples of system leadership practices

Spreading knowledge and practices in wider school networks

- A STEM Learning Hub school from South Australia said “Our partnership with SVA has allowed us to think deeply about our practice and learn from other schools to discover, prototype and scale up best practice for our context. We look forward to continuing to network at all levels to create a school that allows our children to flourish. [Our school] has led STEM initiatives across many sites in SA and interstate. By modelling a strong process for fully engaging students in their learning and mentoring other schools to do the same.”
- A South Australian Star Hub school principal said in an interview that he was promoting the work he had done through SVA around student voice and the general capabilities, at the South Australian Primary Principals Association. This principal also expressed interest in leading a cluster of schools in his region, should The Connection start up a new intake of schools.

Working with governmental personnel and agencies

- A New South Wales Star Hub school reported that one of the most productive aspects of the Work with SVA was the “ongoing dialogue” the school had established with a representative of the Learning and Improvement division. The principal reported that the partnership had been “collaborative, through sharing of ideas about student voice and leadership philosophies.”
- A New South Wales Powerhouse school has collaborated extensively with federal and state departmental agencies, to share their innovative approach to assessment of the general capabilities, and the creation of digital learner profiles (see NSW Powerhouse School Case Study for further details).

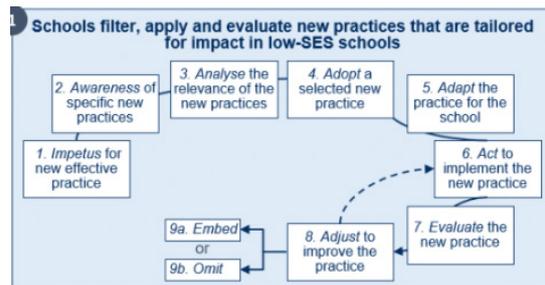
1.1.2 Implementation of school-based improvement practices: Inquiry processes

As noted in the Glossary definition of “Inquiry process”, this evaluation assesses schools’ implementation of new improvement practices with reference to an inquiry process. There are many different models of inquiry processes, but they all provide a step-by-step guide to successfully implementing change, based on evidence of how organisations and individuals achieve continuous improvement.

A common model of an inquiry process used across industries is the Deming Cycle, with the steps “Plan”, “Do”, “Study” “Act” (Anderson et al., 1994). In British Columbia, educators use the popular “Spirals of Inquiry” model developed by Helen Timperley, in partnership with Linda Kaser and Judy Halbert, which uses the steps “Scanning”, “Focusing”, “Developing a hunch”, “New professional learning”, “Taking action”, “Checking”. The implementation of new improvement practices can be refined and iterated through repeated rounds of these processes.

Figure 2 presents an excerpt of the original Connection Hub logic model, which functions as a nine-step Impact Evaluation Cycle. This model was developed with input from participants about how they implemented new practices through their work in The Connection. As data about the ways in which schools implemented new practice was collated from a variety of sources were not developed to test the nine-step cycle (including the evaluation survey, PAPs, Artefacts and interviews), it is difficult to assess the data against this detailed framework. This evaluation uses a simplified five-step inquiry process to simplify the analysis. The steps of the original nine-step cycle are mapped to the five-step inquiry process in Table 1 below.

Figure 2: Original Connection Hub logic model – target outcomes



Source: Social Ventures Australia, 2018

Table 1: The nine steps of The Connection’s implementation of the school-based improvement practices mapped to the evaluation’s five-step inquiry process

The five-step inquiry process	SVA’s nine-step implementation model
Assess	1. Impetus for new effective practice
Develop	2. Awareness of specific new practices
	3. Analyse the relevance of the new practices
Implement	4. Adopt a selected new practice
	5. Adapt the practice for the school
	6. Act to implement the new practice
Evaluate	7. Evaluate the new practice
Adjust	8. Adjust to improve the new practice
	9. Embed or Omit

Description of the inquiry process steps

Assess

At this stage in the inquiry process, the school conducts an initial analysis of relevant data, which informs the prioritisation and selection of an area on which their improvement efforts will focus. This step encompasses the “impetus for new effective practice” step from SVA’s original implementation model (see Table 1 above). It is analogous to the “Plan” stage of the popular four-step Deming Cycle (Anderson et al., 1994), and the “Scanning”, “Focussing” stages of British Columbia’s Spiral of Inquiry model (Network of Inquiry and Innovation, 2014).

Develop

This stage of the implementation process requires schools to develop a targeted action plan in response to the issue that emerged from their data at the Assess stage, with reference to high-quality research. The plan should include specific improvement goals, related to the data that informed it. This step also involves acquiring any new knowledge that will support the implementation of this new plan. “Develop” comprises the steps “awareness of specific new practices” and “analyses the relevance of the new practices” from SVA’s original model. This step, like Assess, also corresponds to “Plan” in the four-step Deming Cycle (Anderson et al., 1994). It corresponds to “Developing a hunch” and “New professional learning” in the Spirals of Inquiry model (Network of Inquiry and Innovation, 2014).

Implement

At “Implement”, schools take their plan and newly acquired knowledge from the Develop stage and put them into action. Ideally, implementation of new strategies should be continuously monitored. The Implement stage encompasses the steps “Adopt a selected new practice”, “Adapt the practice for the school” and “Act to implement the new practice” from SVA’s original implementation model. This stage of process is analogous to the “Do” stage of the Deming cycle (Anderson et al., 1994), and the “Taking action” stage of the Spirals of inquiry (Network of Inquiry and Innovation, 2014).

Evaluate

At the Evaluate stage of implementation, schools measure whether, and to what extent, their newly implemented practice has achieved the goals set at the Develop stage. The Evaluate stage corresponds to SVA’s original implementation model step of “Evaluate the new practice”, and to “Study” in the Deming Cycle (Anderson et al., 1994), and “Checking” in the Spirals of inquiry (Network of Inquiry and Innovation, 2014).

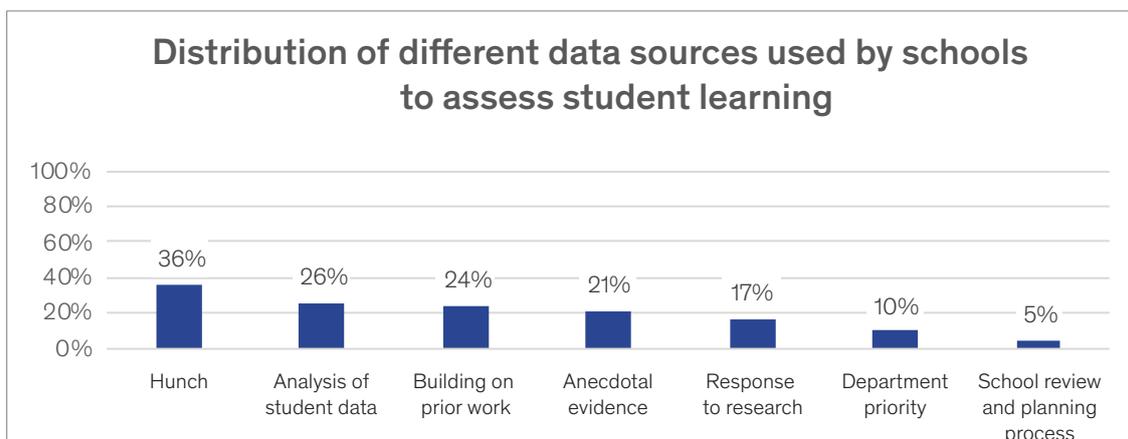
Adjust

The Adjust stage involves schools acting in response to the results of their evaluation. The term intends to encompass the three final steps in SVA’s original implementation process model, “Adjust to improve the new practice”, “Embed” and “Omit”, when the decision to do so is rooted in a rigorous evaluation of the new practice. “Adjust” corresponds to the Deming Cycle’s “Act” step (Anderson et al., 1994). In the Spirals of Inquiry, this step would occur when the school begins a new cycle of the improvement process (Network of Inquiry and Innovation, 2014).

Step 1: Assess

At the assess stage, also the first step, it is important to analyse a wide range of student learning data and evidence to understand what students currently know and can do, where the gaps are. In that sense, each school states that they have assessed their current state of affair in terms of student learning and teaching. However, the PAPs, Project Artefacts, interviews and focus groups reveal a greater variability and inconsistency in the use of student assessment data to complete this stage. Figure 3 below shows the breakdown of the data sources used by schools to assess student learning.

Figure 3: PAPs and Project Artefacts - Distribution of different data sources used by the schools to assess student learning



Source: PAPs and Project Artefacts analysis (N=42), Totals may not add up to 100 per cent, as one school could have responded to multiple sources of data

A majority of schools in PAPs reported using Hunch¹ as the most dominant way of implementing a new school-based improvement practice. This is in line with the results from the interviews and focus groups. Timperley, Kaser and Halbert, in their *Spiral of Inquiry (Network of Inquiry and Innovation, 2014)*, distinguish the process of forming a hunch, as being distinct from (though complementary to) the collection and analysis of evidence to understand the problems in student learning. The following quotes provide examples of schools describing their assessment of their schools' needs as a hunch:

“We initially had positive impact in Student Agency across a small section of the school and wanted to investigate its impact across the school. We had a hunch that it was going to be positive and allow for greater engagement, community interaction and outstanding student results.”

Another school used the term “believe” in a similar manner:

“Our journey toward developing student self-efficacy has come about as a result of the need to provide our learners with key dispositions that will enable them to be successful in the unknown future world of work. We believe that fostering core dispositions for learning, and life, with students we will give them the best chance to lead successful and fulfilling lives across our local, state and national community”

¹ The schools describe selection of problem based on general observations of, or feelings about, their students or staff, without further testing their assumptions is categorised as basing their selection of problem of practice on a “hunch”.

The following extract from an interview is an example of a problem selection data source that was *inferred* to be a hunch:

- ⋮ RMIT: How did you decide upon the problem of practice that you wanted to solve?
- ⋮ Principal: What we looked at to decide was rather anecdotal, though I'm sure you could find
- ⋮ evidence to support it.

The examples above suggest that untested hunches form the bulk of the school's assessment processes. However, the assessment process undertaken by a Victorian Star Hub School is a strong example of how a school can be guided by a hunch, to obtain further evidence to inform their work:

- ⋮ “We have had a large number of staff leave each year for a number of reasons, including
- ⋮ retirement and family leave, however, we also believe that it may be because some staff has felt
- ⋮ overwhelmed working with students from traumatised backgrounds. . . This is despite extensive
- ⋮ support provided through a whole-school coaching model.”

The school developed the activities and implementation priorities of its project action plan around a three-step inquiry process. The first step of this process was to “establish a baseline to understand the issue – Why do staff leave?”. The school conducted exit surveys for staff who left the school, the second and third step was to analyse the results of their education department's staff surveys and student learning data, to further inform their project selection and design. This example of surfacing, then formulating hunches into a problem of practice, is aligned to the approach recommended by Halbert and Kaser and could serve as a model for schools in future cohorts of The Connection. Research suggests that using a range of evidence to inform decision making is more effective than relying on a single hunch or data source (Boudett et al., 2015).

Research suggests that the most effective data source for selecting a problem of practice is student learning data (Boudett et al., 2015; Gallardo & Fullan, 2015; Ministry of Education, 2019; Timperley et al., 2014). This data may, and indeed should, come from a variety of sources, including summative and formative student assessment data, work samples, classroom observations and student surveys (Timperley et al., 2014). Of course, using data unrelated to student learning to determine a problem of practice, for example, staff retention rates, *may* lead to initiatives that improve student outcomes, however this approach runs the risk of generating interventions that do not directly address the issues affecting student learning. The advantage of rooting the inquiry process in student learning data is that the initiatives chosen to improve student outcomes will directly target the specific learning issue relevant to the problem of practice, and respond directly to the learning needs of individual students. When inquiry processes respond to student learning data, it is more likely that students will receive the support they need to learn.

The PAP and Project Artefact analysis reveals that 26 per cent of schools in report use analysis of student data as the second most preferred way of assessing where teaching and learning needs are (see Box 14). This is in line with the findings from the qualitative research, where five out of 12 schools use a data-driven process to select the problem of practice. Their problem of practice arises from data about student learning, which is investigated with reference to other forms of data related to teachers and schools. The Connection schools also use some other forms of data sources (see Figure 3) related to building on prior work, anecdotal evidence, research, the DET priority, and school review and planning process.

Box 14: Examples of the different kinds of student data sources used to select the problem of practice

- Analysis of students self-reported concern
- NAPLAN data
- Demographic background of students
- Teacher judgement data (A-E)
- DfE student perception data
- TfEL compass data
- Transition data
- School-to employment transition
- Student well-being data

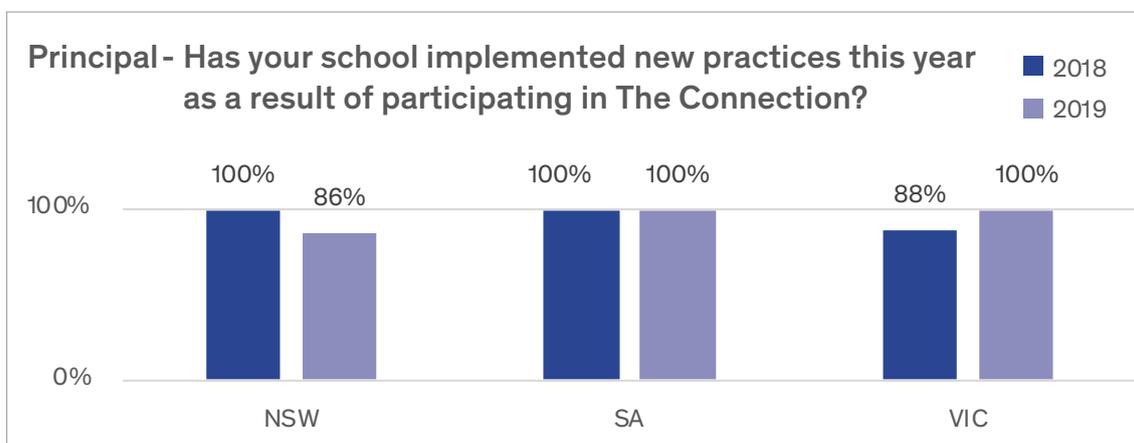
Step 2: Develop

After assessing student performance, the next step is to develop a plan of action for improving student learning outcomes. The results from the PAP analysis show that all schools in The Connection develop a plan that consists of school-based improvement practices that will support their efforts to improve student learning. The project action plan of each school is the evidence that each school develops a plan for school-based improvement practices, with the ultimate intent to improve student learning outcomes.

Step 3: Implement

At this stage, teachers, and school leaders trial the new practices they have chosen in step 2 and invite feedback through peer observation about how they are implementing them. They monitor changes in student learning outcomes that are linked to the new teaching practices.

Figure 4: Evaluation survey – Principals responding “Yes” to the question “Has your school implemented new practices this year as a result of participating in The Connection?”



Source: Evaluation surveys 2017 (N=20), 2018 (N=27) and 2019 (N=20)

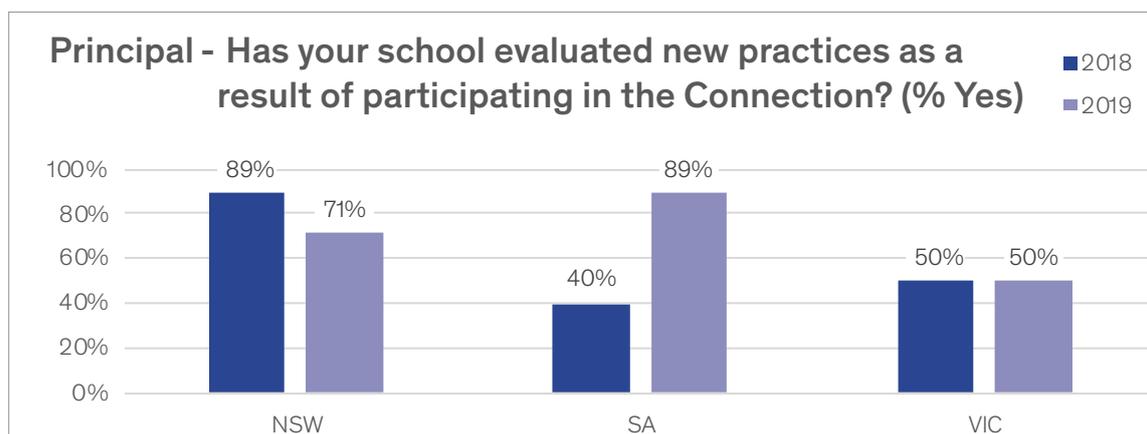
The PAP analysis shows that all The Connection schools across three states implemented school-based improvement practices. The survey data in Figure 4 shows similar results for South Australian and Victorian schools, where all schools implemented new practices in 2019, however NSW schools reported a lower implementation rate in 2019, which could reflect schools' choosing to embed existing practices developed in 2018 in the final year of The Connection, rather than implement new ones.

Step 4: Evaluate

At this stage teacher and school leaders look at a range of evidence related to their students' learning to evaluate the impact of the practices developed and implemented in Step 2 and 3. They celebrate any evidence of improved student learning, discuss what they have learned from the inquiry process so far, and plan their next steps to address student learning. Schools are known sometimes to skip this process, yet it is important because any lessons from one iteration of an inquiry process contributes to build knowledge and confidence for the next one.

The survey results in Figure 5 below show that from 2018 to 2019, a higher proportion of South Australian principals evaluate school-based improvement practices (40 per cent in 2018 to 89 per cent in 2019). In Victoria, in both 2018 and 2019, 50 per cent of the schools evaluate school-based improvement practices, whereas, in NSW, the proportion of schools evaluating the school-based improvement practices has dropped from 2018 to 2019 from 89 per cent to 71 per cent. It will be important to further investigate why principals in South Australia increased their focus on evaluation and principals in New South Wales dropped their focus.

Figure 5: Evaluation survey – Schools responding “Yes” to the question “Has your school evaluated new practices as a result of participating in The Connection?”



Source: Evaluation surveys 2018 (N=27) and 2019 (N=20)

The Connection has provided four outcome areas for the schools to report on: increased teacher skills and capacity, improved school leadership, increased student engagement, and improved student learning and development. However, as is to be expected across a group of schools from three different jurisdictions, there is wide variability in how schools monitor and evaluate these outcomes. Schools do not use a standardised set of KPIs and targets to assess these outcomes, which makes it difficult to report on the impact of school-based improvement practices. Establishing a comprehensive set of standardised KPIs, while enabling a deeper understanding of The Connection's impact, would require significant investment, as standardised KPIs are difficult

to identify and measure across the different frameworks that exist in each state. The Connection has made strides to do so, by working with the school survey company Pivot to create cross-jurisdictional measures of student perception. Box 15 describes examples of data sources and indicators that schools used to measure the impact of their project.

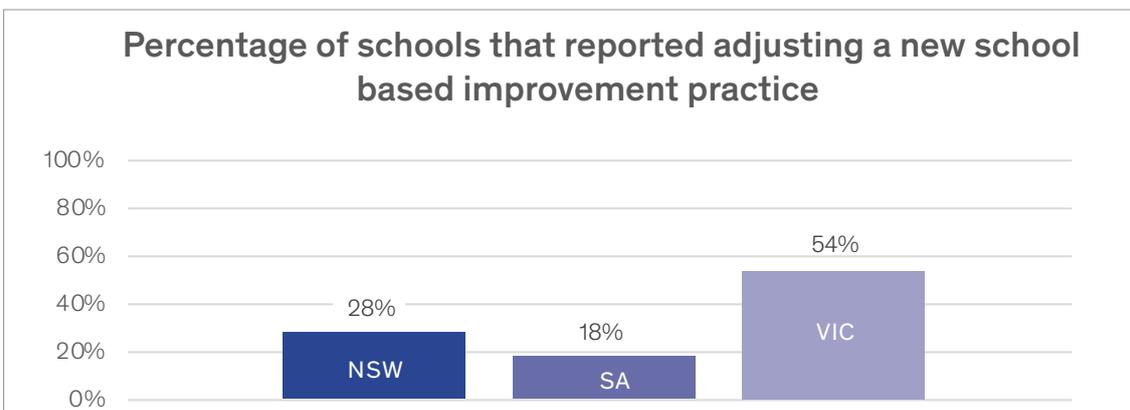
Box 15: Examples of key performance indicators used by schools to monitor and evaluate impact

- Quality Teaching Rounds (QTR): Formalised teaching observation and feedback sessions
- School climate and collective efficacy data
- NAPLAN data
- Suspension rate
- Behaviour rate
- Digital Learner Hub to capture general capabilities
- Teacher confidence to use digital technologies
- Teacher confidence to practice STEM skills

Step 5: Adjust

Based on the results at the evaluate stage, some schools engage in adjusting and adapting the current school-based improvement practices. The *evaluate* stage support schools to understand whether they need to continue the practice, adjust to bring slight changes to the practice or completely change the practice. In line with that, the analysis of PAPs (in Figure 6) indicates that more than half (54 per cent) of the Victorian schools decided to adjust their practice, 28 per cent of the schools in NSW and only 18 per cent of the schools in SA. The lower proportions of the schools willing to adjust or adapt the practices need further investigation but may be a result of data collection, i.e. schools are asked directly about whether they have adapted new practices. Box 16 shows examples of how schools adjust and adapt practices overtime.

Figure 6: PAP and Project Artefact analysis – schools report adjusting a new school-based improvement practice



Source: Most recent PAPs and Project Artefacts from all eligible schools (N=42)

Box 16: Examples of how The Connection schools adjust/adapt practice

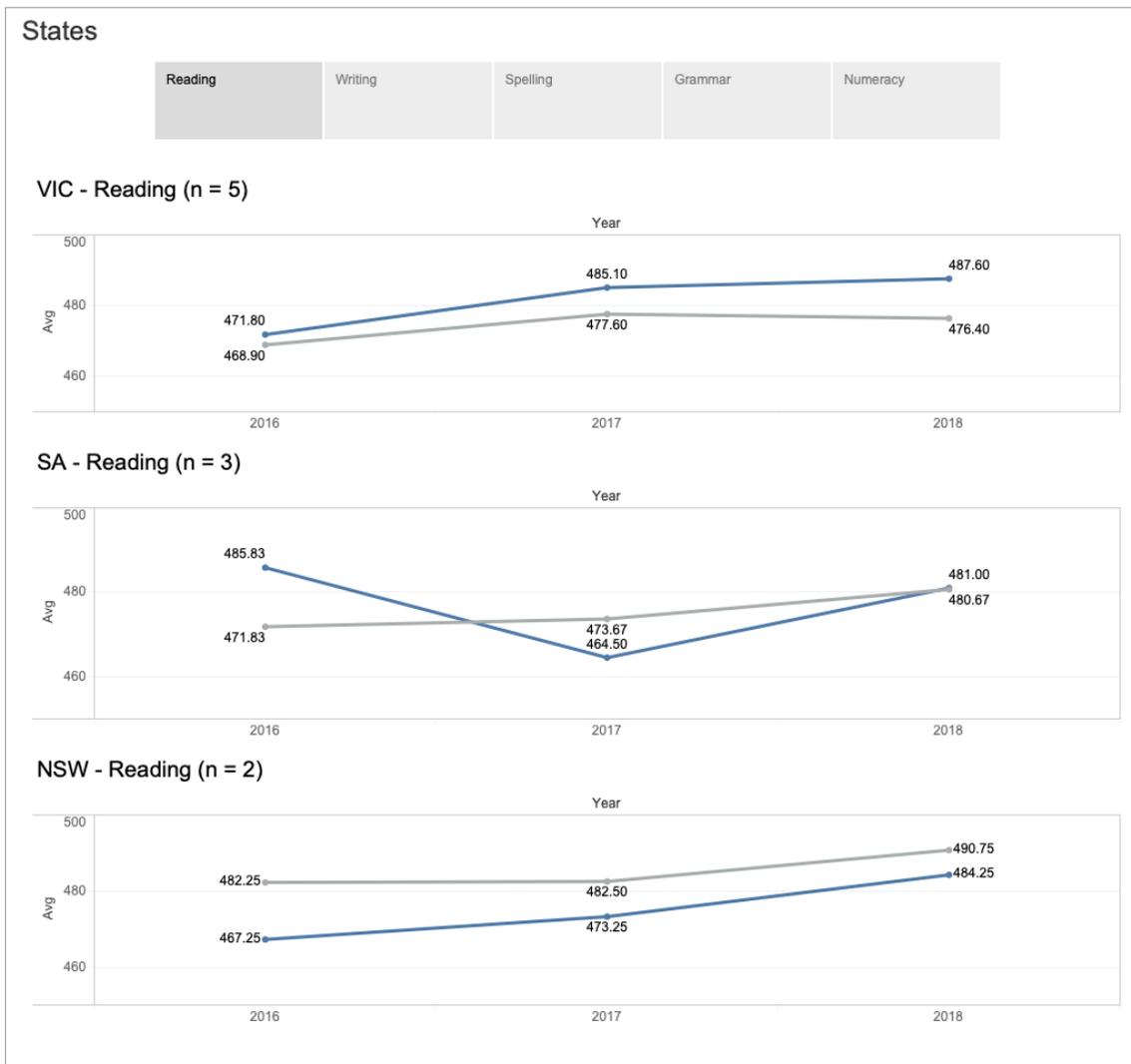
- A Victorian Star Hub school reported that “PLCs designed in 2017 were evaluated in 2018 and refined for 2019 based on a learning-by-doing model, including regular reflection and staff feedback”.
- A New South Wales Star Hub school reported that “Visible Learning will continue; however, the focus will shift from implementation to sustainability, ensuring that it becomes part of our induction process for new staff”.
- A Star Hub school tried different iteration of teaching programs for aboriginal learners and were not making any progress. The school changed tack, now takes the approach that “what’s good for aboriginal learners is good for all learners”.
- A Victorian Powerhouse School refined and updated teacher induction program and tools throughout its time in The Connection, and beyond.

1.3 Long-term outcomes: Student learning outcomes

Improvements in NAPLAN Reading scores

Overall, 10 out of 42 schools reported improvements in NAPLAN reading scores. Schools in VIC and NSW follow the trend of other similar schools, showing improvement over three years. For example, the reading performance of Victorian schools increased from 471.80 in 2016 to 487.60 in 2018 and similarly for NSW, the reading performance improved from 467 in 2016 to 484 in 2018. The average of SA schools in 2017 dropped and was lower than that of similar schools by 10 points, however, the NAPLAN scores increased in 2018, catching up with their similar schools.

Figure 7: Improvements in NAPLAN Reading scores of The Connection schools

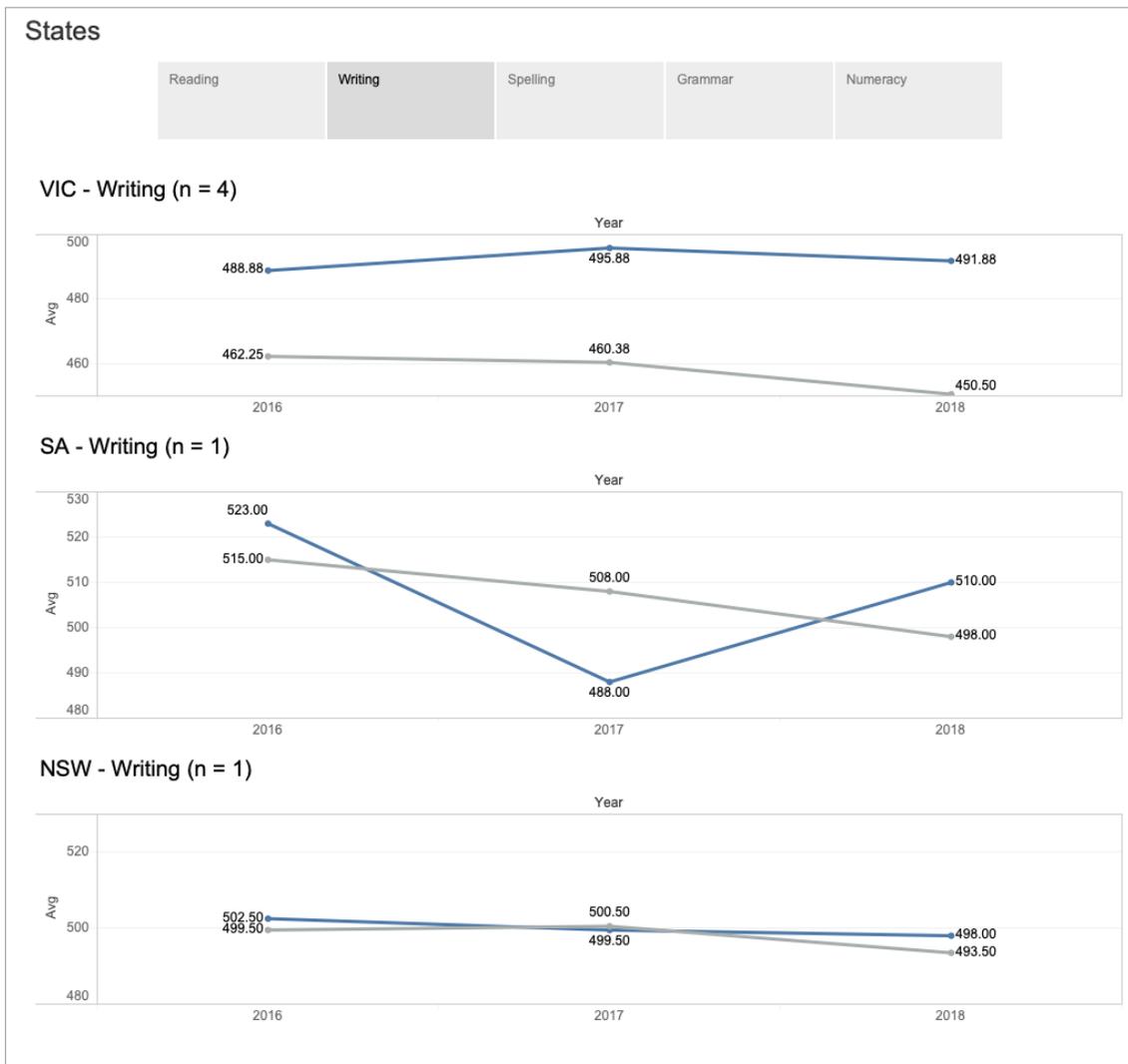


Source: (ACARA, 2018).

Improvements in NAPLAN Writing scores

In total, six schools reported improvements in NAPLAN Writing scores with majority of improvements reported by Victorian schools and one school each from NSW and SA (see Figure 8). In 2018, all three states reported above average improvement in Writing scores, in comparison to the other similar schools. VIC schools outperformed their similar schools from 2016 to 2018 by more than 20 points, and the difference became larger over the years. A significant drop can be observed for the SA school in 2017 of about 35 points. The scores of NSW school were very close to that of the other similar schools.

Figure 8: Improvements in NAPLAN Writing scores of The Connection schools

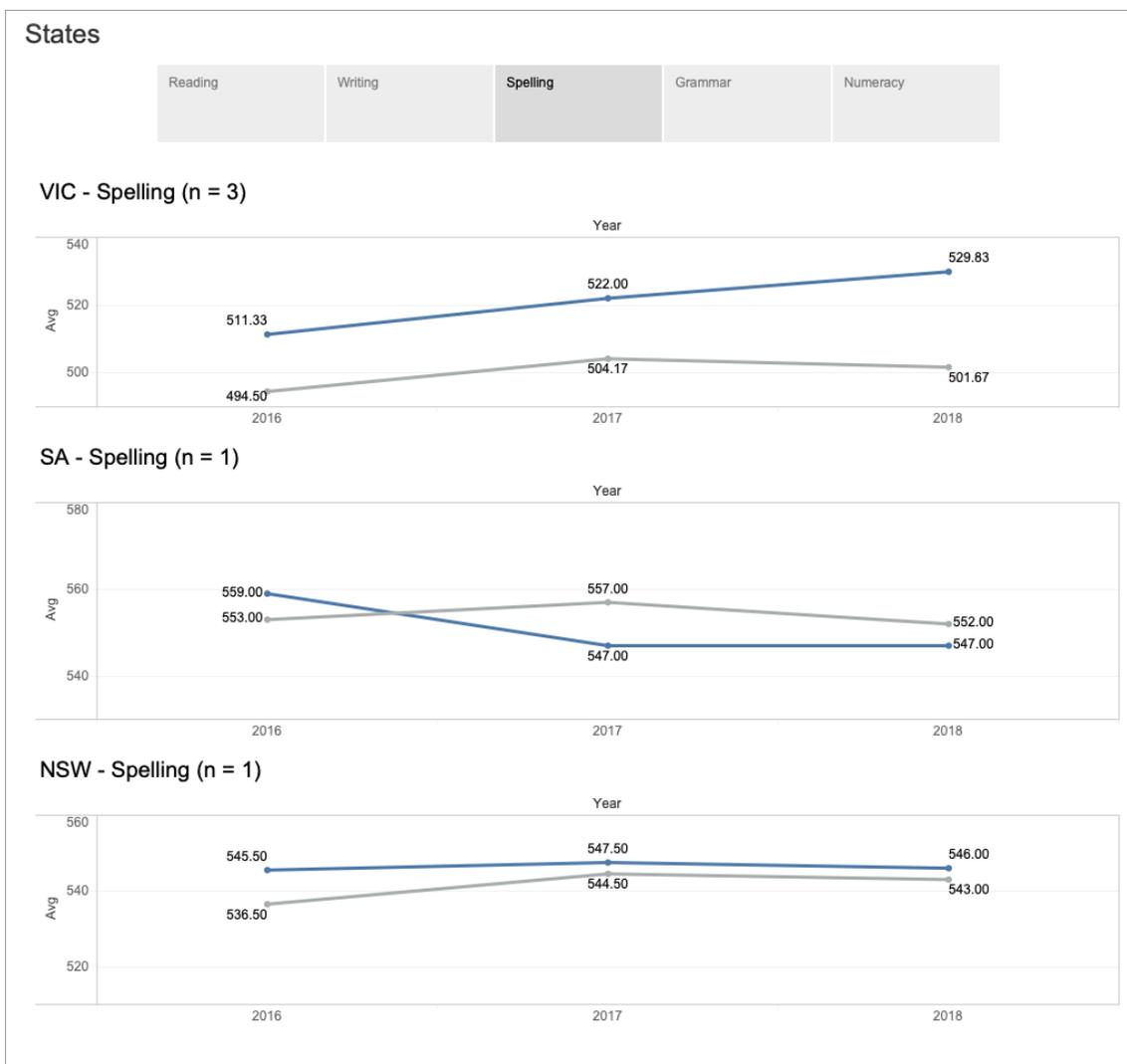


Source: (ACARA, 2018).

Improvements in NAPLAN Grammar scores

The synthesis of student learning outcomes from different data sources indicate that five out of 42 Connection schools reported improvements in NAPLAN grammar score. The Victorian schools engaged with The Connection outperformed the similar schools from 2016 to 2018 and showed a consistent growth of about 10 points every year. Across all three years, the average performance of The Connection schools in NSW and SA declined in comparison to the other similar schools.

Figure 9: Improvements in NAPLAN Grammar scores of The Connection schools

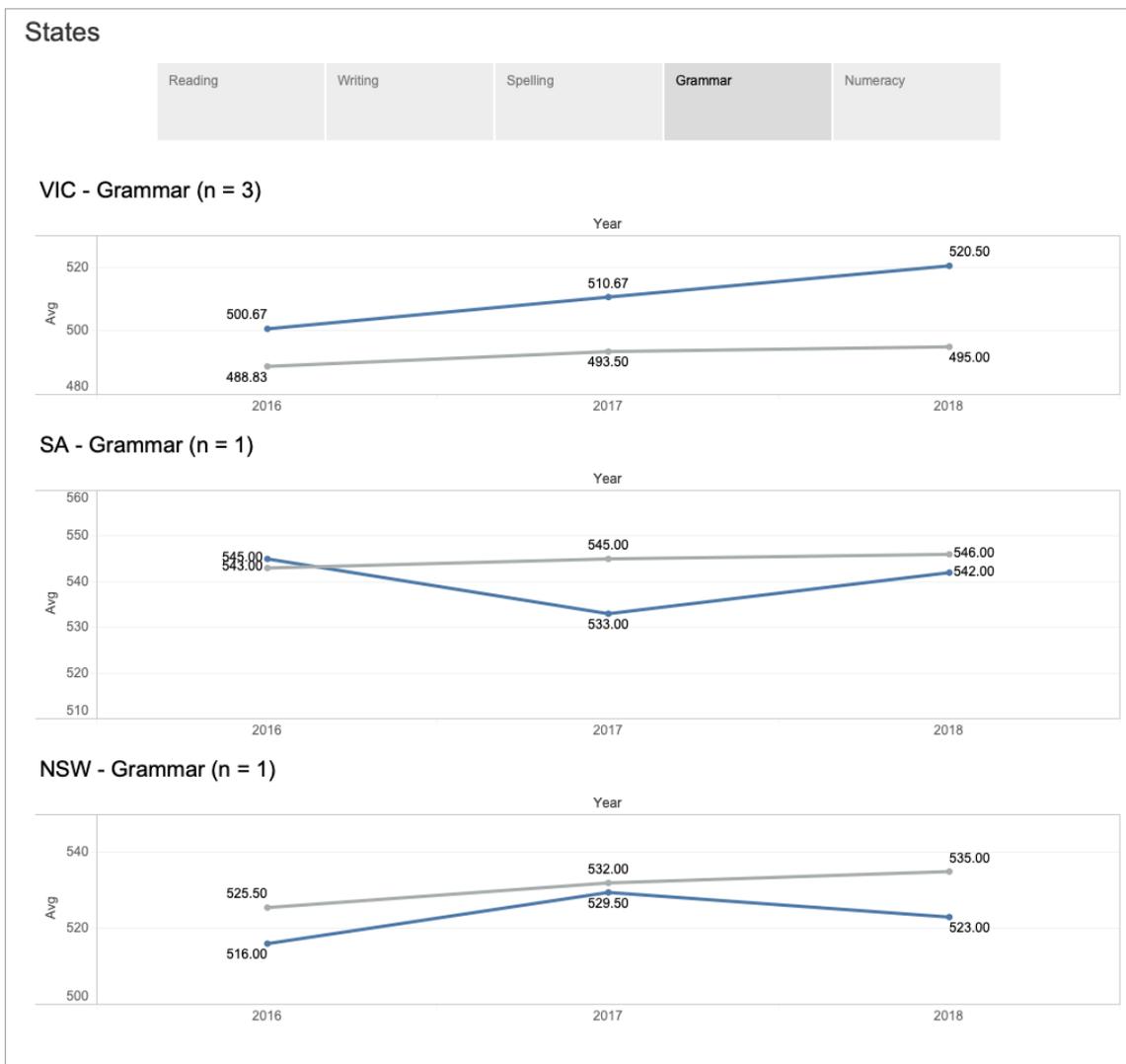


Source: (ACARA, 2018).

Improvements in NAPLAN Spelling scores

Overall, five Connection schools reported improvements in NAPLAN Spelling scores from 2016 to 2018. On average, Victoria has outperformed similar schools from 2016 to 2018 and showed a linear progress. For example, from 2016 to 2018, the Victorian schools reported student learning gains of roughly 20 points. The average performance of SA school decreased from 2016 to 2017 and remained unchanged in 2018 and NSW school has a consistent performance from 2016 to 2018.

Figure 10: Improvements in NAPLAN Spelling scores of The Connection schools

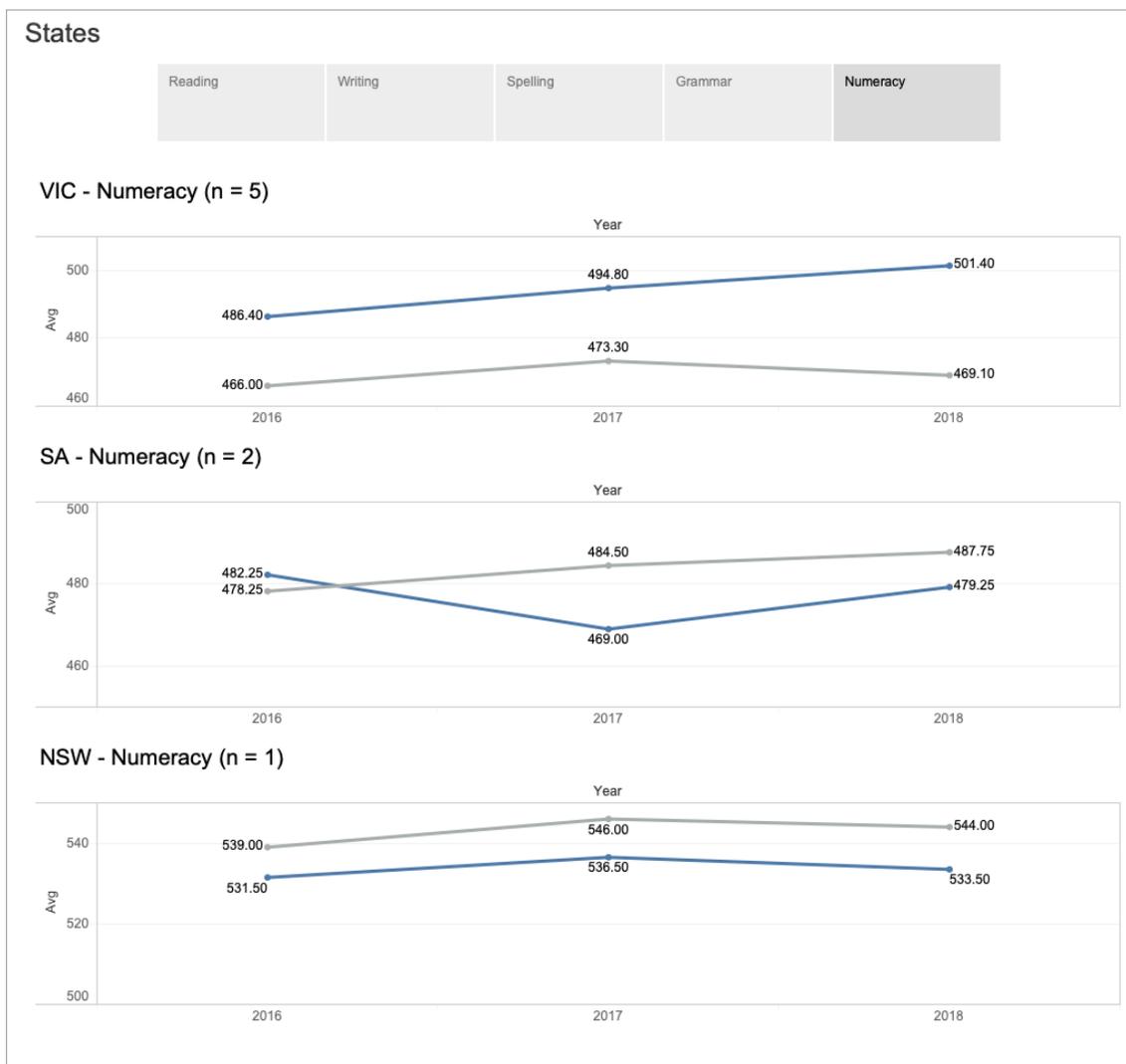


Source: (ACARA, 2018).

Improvements in NAPLAN Numeracy scores

Eight out of 42 schools reported improvements in Numeracy scores. Similar to the findings in the other learning areas, VIC schools reported a higher increase in average scores than non-Connection schools in all three years. For SA schools, a large difference can be observed between The Connection schools and other similar schools. The average of NSW schools were below the averages of similar schools, but they show similar trend from 2016 to 2018.

Figure 11: Improvements in NAPLAN Numeracy scores of The Connection schools



Source: (ACARA, 2018).

2. WHAT COULD BE IMPROVED?

2.1 Expert contributors

The list below provides examples of education experts that were invited to The Connection

Table 2: List of expert provocateurs who contributed to the professional learning at The Connection

Date	Provocateur	Theme
2013	1 Dr Ben Jensen	Inequity
2014	2 Richard Spencer – SVA Board- hosted by Gilbert & Tobin	Leadership
2014	3 Jan Owen- FYA	Partnership
2014	4 Sir Kevin Collins EEF- UK & Atlassian Design Thinking hack	Innovation
2015	6 George Stavrakakis Microsoft Australia- Building Teams	Leadership
2015	7 Professor Frank Oberklaid- Centre Community & Child Health Uni Melb & RCH	Partnership
2015	8 PwC Team -The Difference- Innovation & Design Thinking hosted by PwC	Innovation
2015	9 Dr Peter Goss- Grattan Institute	Resources & Efficiencies
2016	10 Charles Leadbeater, IU- UK & WISE Michael Traill & selected Business CEO's- David Jones, John Sevier. Coach in a Box	Leadership
2016	11 Professor Martin Westwall Flinders University Margot Foster DECD SA- ZOO Snooze – Student Agency	Partnership
2016	12 Travis Smith & Trent Ray Microsoft Education Australia	Innovation
2016	13 ACARA- Rob Randall & Stanley Rabonitz (sp?) Johnathan Sharples EEF- UK	Resources & Efficiencies

2017	14	Professor Tony Townsend University Glasgow, Griffith University Hosted by Ashurst	Leadership
2017	15	Tom Bentley	Partnership
2017	16	Professor Simon Leonard & Prof Tom Lowrie University Canberra STEM Unit Hosts	Innovation
2017	17	Deloitte – Kate McDonald HR Global Leveraging team	Resources & Efficiencies
2018	18	Maxine McKew University of Melbourne	Leadership
2018	19	Judy Halbert & Linda Kaser University British Columbia Canada – Spirals of Inquiry	Partnership
2018	20	Kieran Nolan- Blockchain & Education hosted by Samsung & Uni SA	Innovation
2018	21	Dr Jess Harris Senior Lecturer University Newcastle	Resources & Efficiencies
2019	22	Sarah Richardson AITSL & Professor Tony Townsend	Leadership
2019	23	Dr Michelle Anderson	Partnership
2019	24	Macaulay Culkin Young Innovator	Innovation
2019	25	Professor Alan Daly University California	Graduation
2020	26	Associate Professor Christine Grice University Sydney	Leadership

Soucre: data provided by The Connection team