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# UNLEASHING THE POWER OF THE COLLECTIVE IN EDUCATION

The Impact Evaluation of SVA Bright Spots Schools Connection

Policy, Strategy and Impact
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## The Impact Evaluation of SVA Bright Spots Schools Connection

RMIT UNIVERSITY
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# Acknowledgements


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*Support team*

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# FOREWORD

## The education landscape is changing rapidly, driven both by leaps in knowledge and technology and the shocks and strains of global crises, including the current Covid-19 pandemic.

The impact of these changes is multiplied in an Australian schooling sector that was already challenged: students are falling behind their global peers, despite increased educational spending; our institutions are struggling to adapt and improve; the development of educational leaders is not always effective for the environment in which they must lead.

Critically, the challenge of educational equity remains: a stubborn reminder that without proactive effort and investment, the onslaught of society-wide pressures will push learners who experience disadvantage further into the margins. These students need new learning capabilities, supported by dedicated networks of expertise and opportunity.

Social Ventures Australia (SVA) and RMIT's Policy, Strategy and Impact group have worked together to evaluate SVA's Bright Spots Schools Connection (The Connection). In 2014, this program set out to build an evidence-informed, community-based model of leadership development, with schools serving communities in different parts of Australia who face socio-economic disadvantage.

The evaluation report finds that The Connection is an innovative and established prototype, employing a distinctive approach which shows a range of positive impacts for the learner, educator and their communities.

The Connection's collaborative network design works to align systemic professional leadership development and organisational learning, with the needs of schools and communities working in their own, specific settings. The results are promising and exciting; a reflection of six years of intense, shared effort which has built The Connection to a point where it could act as a leader in the global drive for educational equity.

As The Connection has matured, the systemic challenges have become much more explicit. We need far-reaching transformation of education now more than ever to meet the demands of an increasingly interdependent and potentially more unequal society.

To meet these challenges, we must bring together what can be learned from innovative, community level work, and learn how to apply and scale it for longer-term, system-wide learning growth.

By encouraging the institutional partnerships that are needed for the years ahead, we see enormous opportunity to apply these insights in a myriad of educational environments. This would lead to better learning outcomes for students, and see more people and communities thriving across Australia.

**Suzie Riddell**
CEO of Social Ventures Australia

**Tom Bentley**
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# EXECUTIVE SUMMARY

> Our findings paint a clear picture that The Connection is an emerging, distinctive, and innovative model of collaboration for professional development and that participating schools have become sites of innovation and collaboration.

Students and principal Gareth Smith at Casula High School, New South Wales

"If you want to go fast, go alone. If you want to go far, go together," so goes an often-quoted proverb that highlights the power and the potential of the collective.

When applied to education, this ethos of going far by going together calls on schools, government and the wider community - parents, industry, NGOs, tertiary institutions and innovators - to work collaboratively in a sustained effort to prepare *all* young learners for the future.

In Australia, education policy has clearly shifted towards collaboration as integral to sharing professional expertise and evidence for improved school practices, and for building partnerships between schools, families and communities to enrich student learning and wellbeing. There is mounting evidence that when schools collaborate in this way, they become sites of innovation, trialling new improvement practices and sharing their insights across the system.

While there is growing evidence that we must go together, we cannot afford to go slowly. Despite centuries-long efforts to reduce inequity in education, there remains a great divide between those who have access to a quality education and the opportunity that provides to live a good life, and those who never get that opportunity.

Increasing economic inequality in OECD nations over the last 25 years has magnified this divide, while the onset of the COVID-19 pandemic has further exacerbated many of these underlying inequalities and highlighted that year-on-year incremental gains are not something we can take for granted. It is, therefore, ever more urgent to come together to transform our education systems through large-scale, local, innovative, and collaborative solutions that support *all* learners with excellent education outcomes and future opportunities.

In an age of rising inequality, it has become clearer that "leapfrogging" education outcomes through proactive strategies for education innovation is necessary to bridge equity-driven learning gaps for students in disadvantaged schools and communities (Winthrop, 2016). To wait for incremental gains, while the impacts of inequality compound, is no longer an option.

This report - *Unleashing the Power of the Collective in Education* – provides an evaluation of one such collaborative approach to education transformation – *The SVA Bright Spots Schools Connection (The Connection)* – which offers a promise and potential to leapfrog education outcomes and experiences in Australia. Using a mixed method approach, the report maps and reviews The Connection's model of practice, evaluates

its overall impact over the last five years (2014 - 2019), examines what is driving that impact, illustrates the work of other comparative collaborative networks and considers insights that could further improve its delivery and impact in the future.

## What is the SVA Bright Spots Schools Connection (The Connection)?

The SVA Bright Spots Schools Connection (The Connection) is a Collaborative Leadership Development Network (CLDN) launched in 2014 by Social Ventures Australia — a not-for-profit organisation which works with partner organisations to alleviate disadvantage in Australian communities.

Born out of a strong belief that every child deserves a quality education and the opportunity to succeed in school and life, The Connection sets out to support outstanding school leaders and teachers in disadvantaged school communities to develop collaborations with other like-minded school leaders, as well as industry, government and tertiary education providers. Through these collaborations, the participants build and share expertise, knowledge and evidence-informed resources and practices, and foster systems leadership for the system-wide improvement of student outcomes.

> “ System-wide school improvement is a crucial and collaborative responsibility of teachers, school leaders, and system leaders.

The Connection is based on a theory of change that holds that if The Connection improves participants' collective capability, this will increase their ability to implement school improvement practices, which will ultimately lead to improvement in student outcomes.

Further, the program logic suggests that if collective capability and school leaders' understanding of how to implement school-based practices are developed through the experiences of collaboration and knowledge-sharing facilitated by The Connection, then the collective capability of leaders, professionals and school communities to contribute to systemic educational change over time will also be enhanced.

## How does The Connection work?

Participating Connection schools are divided into three cohorts: eight Powerhouse schools (2014-2019), 27 Star Hub schools (beginning 2017), and 15 STEM Learning Hub schools (beginning 2017).

The Powerhouse schools formed the inaugural cohort of The Connection when it began in 2014, seeking schools (or 'bright spots' in the Australian education system) who had demonstrated excellence despite challenging circumstances. In 2019, these schools became The Connection's first alumni.

The Star Hub schools were recommended for inclusion in The Connection based on their leaders' readiness to implement initiatives to improve outcomes for students in low socio-economic status communities. While the STEM Learning Hub schools are located in communities where school-based STEM expertise, resources and support are desperately needed.

School leaders and educators from each participating school are supported to build networks and partnerships, share knowledge, develop mindsets and learn about school-based improvement practices through events, as well as several other novel approaches, specific to The Connection.

The Connection events include: Thought Leadership Gatherings (TLGs – held once a term for all participating schools); Hub Days (for Star Hub and STEM Learning Hub schools to reflect on the learnings from the TLGs and discuss the implementation of school-based improvement practices); webinars; school visits; engagement visits (with convenors from The Connection); and Connection International Explorations (CIEs — annual international educational trips).

The Connection events are critical for improving participants' knowledge and mindsets relevant to their role and supporting them to build networks of relationships with other schools, industries and businesses. Participants are also expected to engage with the other novel features of The Connection, such as the Project Action Plan (PAP) — a school's roadmap

for approaching its SVA-supported school improvement planning; and an Inquiry Cycle — an evidence-informed continuous process to create intentional improvement within each participating school.

From an initial cohort of eight schools, The Connection now boasts a collaborative network representing three states – Victoria (VIC), New South Wales (NSW) and South Australia (SA) – 2900 educators and approximately 50,000 students over five years to 2019 (Cridge, 2019).

## Understanding the impact of The Connection in a wider context

A review of international literature, presented in this report, shows that in recent decades, collaboration has become a priority in schooling and education reform across the globe, especially for disadvantaged school communities. Traditionally, professional development programs were designed to improve the skills, knowledge and expertise of individual teachers and leaders to run schools and manage technical and operational challenges. Current trends in professional development, however, are responding to the need to move beyond individual training, towards collective leadership programs and networks, driven by innovation and collaboration to prepare school leaders to respond to growing adaptive challenges.

High-performing education systems in various parts of the world have created collaborative structures — such as British Columbia's Learning Communities, the Shanghai Research and Lesson Groups and Singapore's Professional Development Groups — for the collective improvement of school leaders and teachers to help drive improvements in school and system-wide practices and for the overall improvement of student learning outcomes.

Our review of five collaborative structures operating in high-performing education systems found that system-wide school improvement is a crucial and collaborative responsibility of teachers, school leaders, and system leaders and that these collaborative models enable educators to continuously improve the impact of their practice on student learning.

While we acknowledge there is a need for further research into how collaborative activities and efforts specifically drive collective improvement in learning outcomes, our review of these five structures, strengthens the evidence of the effectiveness of collaborative education improvement networks.

School leaders at a SVA Bright Spots Schools Connection Thought Leadership Gathering, Victoria 2019, (James Henry Photography)

Further, there is a growing body of literature on the impacts of professional collaborative structures and networks on the collective knowledge, expertise and practices of teachers and school leaders, the emerging influence on student learning outcomes and the potential for system-wide school improvements.

In a 2020 report by the Center for Universal Education at Brookings, the authors claim meso-level networks — that play an intermediary, facilitator role between schools (at the micro level) and government and policy at the (macro level) — play a pivotal role in scaling the kind of deep change required to achieve system-wide transformation (The Education Commission, 2020).

## Australian education policy context overview

For decades, Australia has maintained a social and economic commitment to education equity, but we still know that students' educational outcomes and experiences are strongly influenced by their postcode, social upbringing, and family circumstances. In Australia, there is a growing consensus that the traditional model of 'heroic' and 'charismatic' leadership is not serving us anymore, and there is a need to prepare leaders to manage contextual needs and disrupted environments. This is especially true for schools in low socio-economic communities.

The mission of Australia's education system is to prepare future-ready learners, who can collaborate effectively to solve complex problems of today and tomorrow. Preparing a generation of future-ready learners needs a sustained collaborative effort across all levels, including schools, communities, systems and industry.

The pandemic crisis of 2020 has revealed the importance of collaboration in ensuring that education in Australia can meet changing demands, and that all schools stand to gain from the innovations accelerated by the collaborative efforts of educators, system leaders, community organisations and industry.

In recent years, we have seen educational policies and reform agendas increasingly being built on the desire to pursue collaboration at several levels of scale, simultaneously, to achieve collective improvement and innovation in teaching, leadership, and learning outcomes, mitigating some of the fragmented effects of our ongoing competition-based education system. This increased focus on collaboration was highlighted as recently as June 2020, with the announcement of a new National Institute for Evidence – to be established later in the year, to ensure the most effective approaches in teaching and learning, both in Australia and overseas, can be identified, tested, and when proven, can be spread throughout Australia's schools and early learning centres.

> "A Collective Leadership Development Network approach is highly effective in generating meaningful short-term and long-term education outcomes

Collaborative efforts in an education setting takes many forms — from the collective professional development of educators and school leaders, the sharing of professional expertise and evidence, to enabling schools to work directly with students, industry, families and communities for whole-system improvement. When undertaken by schools whose students face entrenched disadvantage in its many and varied forms, structured collaborative processes and networks present an immense opportunity to improve leadership and teaching practices that benefit learners' experiences within the classroom and their opportunities beyond it.

## Our Findings

Overall, our findings paint a clear picture that The Connection is an emerging, distinctive, and innovative model of collaboration for professional development and that participating schools have become sites of innovation and collaboration.

Five years of The Connection's work in the Australian education system has shown that a Collective Leadership Development Network approach is effective in generating meaningful short-term and long-term education outcomes for disadvantaged learners and communities.

Namely, our evaluation shows participation in The Connection is having a high, if widely varied, impact on the collective capability of both principals and non-principals, on school-based and system-wide improvement practices and student learning in these disadvantaged communities, across three Australian jurisdictions.

Our findings reveal participants – including principals and non-principals — consistently report improvement in their knowledge and mindsets and frequently report that their motivation to share and contribute to outcomes and collaboration beyond their own school has increased.

Schools across all three states have implemented a wide range of improvement practices over time, across integrated curriculum delivery, differentiated learning, student voice and engagement, collaborative professional inquiry, STEM-related learning, distributed leadership, and effective management of school resources.

There have been many positive and productive examples of school-community partnerships – between schools, between schools and industry, and with other community groups.

As we would expect, the impact of The Connection's activities on student learning outcomes is still emerging. Evidence is currently limited by both the sources of data and the diffuse range of influences that can impact participating schools in a variety of ways. Nevertheless, The Connection has shown improvements in student outcomes through students' aspirations to pursue STEM-related careers, engage in student voice and agency, and demonstrating metacognitive and general capabilities.

Our findings in relation to collective capability, school improvement practices and student learning are reflected in the following three overall insights.

**Insight 1:**
Participants in The Connection have acquired new knowledge and mindsets

**Insight 2:**
The Connection uses and emphasises a shared inquiry process, to implement innovative practices in Australian classrooms, and at school and system leadership levels

**Insight 3:**
Overall, there are perceived improvements in student engagement, student learning and development, and STEM-related learning over the life of The Connection. There is growing evidence of the impacts of The Connection on innovative measures of student learning, such as student voice and agency, metacognition, and general capabilities

All these improvements, across three outcomes — educators' collective capability, school-based and system-wide improvement practices and student learning — vary from year to year, state to state, and across principal and non-principal roles.

## Discussion

The findings summarised above reveal a range of potentially transformative impacts of The Connection on the three interconnected levels of educators' collective capability, school improvement practices and student learning outcomes, across three states.

The evaluation has also found that these impacts were made possible due to both the specific **characteristics** of The Connection model, together with the unique **conditions** of the wider school environment and education system in which each school operates.

Schools do not exist in a vacuum. They are complex organisations, subject to myriad forces that enable or inhibit their learning and development. Encouragingly, our evaluation has shown that The Connection's Collaborative Leadership Development Network-approach displays the core features of an effective network, including a shared moral purpose across a diverse cohort, a culture of trust and safe environment, collective accountability for shared success and impact, and a willingness to learn, share and exchange knowledge and expertise.

Not only that, The Connection has also been able to actively understand and leverage the enabling conditions in schools and education systems that foster systemic collaboration. These conditions include an explicit and shared whole-school improvement agenda, access to resources including infrastructure, staffing and financial resources, and close integration between the various education system priorities and the contextual needs of the schools.

Our analysis of the networks' key characteristics, the activities it undertakes and the methods it uses, along with the enabling conditions in which it operates, shows The Connection has established an important and effective intermediary role, at a 'meso-level', brokering and supporting a dynamic process of alignment between participating schools (at the micro-level) and education departments (at the macro–level) to act together, learn from each other and develop a shared ecosystem relationship, which they would not otherwise have formed, and for the shared purpose of improving student outcomes in disadvantaged communities.

# Recommendations for the future

This evaluation has shown us that The Connection offers a promise and potential to leapfrog education outcomes and experiences in Australia, through education innovations that can help to mobilise whole school improvement, student and community engagement, and empowering educators to become system leaders who can play a critical role in influencing the priorities of the wider system.

The Connection's emergent, distinctive and innovative approach to Australian schooling is creating and spreading evidence-informed improvement practices and capabilities among schools that serve disadvantaged students and communities, in ways that could be leveraged and scaled into system leadership capability that is aligned with the educational needs and demands of our time.

The evaluation also shows that there is an opportunity to build further key aspects of The Connection's approach, in order to maximise its positive impact, both for future cohorts and for achieving system-wide transformation of educational outcomes.

We propose this is possible if The Connection continues to build and refine the design and delivery of its Collaborative Leadership Development Network approach – such as increasing its focus on strengthening distributed leadership practices and utilising tools, technology and real-time methods for tracking and recognising student learning; and by implementing strategies to build system-wide capability for collaboration and network-based systems leadership across the Australian education system.

This would require a significant shift at the system-level to encourage school leaders to advance their practices in distributed, collective and systems leadership within and across Australian states and territories. It would also require consensus among systems leaders and policymakers to actively support The Connection's distinctive role as a facilitator of innovative and meaningful partnerships for schools and help amplify its efforts to bridge education inequality in Australian classrooms.

The eight recommendations include:

## Improvements in the design and delivery of The Connection

**Recommendation 1:** Focus on increasing educators' engagement in fit-for-purpose, collaborative leadership development networks

**Recommendation 2:** Build a dedicated evaluation function, aligned with program strategy and implementation, to support student impact and spread program learning

**Recommendation 3:** Support shared accountability with co-design and tools for integrated data collection

**Recommendation 4:** Focus on strengthening distributed school leadership

**Recommendation 5:** Continue to align The Connection's work with international best practice

## Strategies to build system-wide capability for collaboration, network-based systems leadership

**Recommendation 6:** Pursue strategic alignment with system priorities

**Recommendation 7:** Support system leadership by strengthening The Connection's role as a facilitator of innovative, meaningful partnerships for schools in the emerging education ecosystem

**Recommendation 8:** System leaders and policymakers provide active support to amplify The Connection's efforts to bridge education inequity in Australian classrooms

## The Future Agenda

Our evaluation of the SVA Bright Spots Schools Connection (The Connection) has shown it is on the right track, and that, with the right enabling support, systems leadership in Australia's education system will develop from the actions of the highly effective educational leaders in disadvantaged school communities.

To sustain and spread The Connection's work in the next stage, it will be integral for all players within the education ecosystem to work collaboratively and for there to be a cultural consensus across the education system to give school leaders the space, legitimacy, encouragement and structured support to engage in collaborative practices that promote systems leadership.

The evaluation found that there is a need to build a systemic approach to facilitating relationships between a school and/or network of schools and federal and state education systems. A networked education system can also engage and connect to other actors – such as employers, new innovators, and other community institutions – who can work in partnership with schools to improve student outcomes and close achievement gaps for marginalised students more rapidly.

Our evaluation shows The Connection (at the meso level), plays the role of the mediating organisation in facilitating these interactions between schools (at the micro level) and government and their policies (at the macro level) to promote collaborative activity and systems leadership.

This network-based approach to professional development, if expanded efficiently and effectively, has the potential to successfully organise the diverse expertise needed to solve complex educational issues, quickly spread lessons learned in one part of the network to another, and to add to the strength of Australia's school leadership workforce into the future.

This, therefore, is a call to action to open up funding channels for innovation-driven, collaborative models of system partnership, bringing together the micro-meso-macro levels of action, to encourage greater and deeper sharing across the education ecosystem.

> "The Connection is living evidence: a working model for system-wide school improvement and collaborative leadership development

The Connection is living evidence: a working model for system-wide school improvement and collaborative leadership development at a school, community and system level. It sets a distinctive example from which other education systems in Australia and beyond can learn, adopt and adapt practices to achieve the system-wide school improvement that is necessary if we, the collective, are to close the inequality gap in education and do so as a matter of urgency.

# Contents

# 1 INTRODUCTION

> At the heart of The Connection is a core belief that every child deserves a great education and that a collaborative framework that exposes school leaders to best practice and innovative thinking is critical to achieving just that.

School leaders at a SVA Bright Spots Schools Connection Thought Leadership Gathering, New South Wales 2018 (Noni Carroll Photography)

This report – *Unleashing the Power of the Collective in Education* – examines the impact of the SVA Bright Spots Schools Connection (The Connection) – a Collaborative Leadership Development Network (CLDN) created by Social Ventures Australia (SVA) to improve the professional development of educators to help deliver better education outcomes for all Australians.

The overarching aim of The Connection is to improve the learning outcomes of students in disadvantaged school communities in Australia by building the knowledge, skills and mindsets of school leaders and teachers and their ability to implement evidence-informed school-based improvement practices.

Through its collaborative approach to knowledge-sharing, The Connection also seeks to build the collective capability of school leaders so, over time, they can also contribute to systemic educational transformation.

The report brings together evidence from a mixed method approach to research and insights from a three-step evaluation of The Connection to evaluate its overall impact, recommend how it could further enhance its delivery and impact and consider insights and priorities that could be applied to education systems in the future.

## 1.1 The challenge of educational equity in a disrupted world

Over the last two decades, as economic inequality has grown in many parts of the world, there has been an increasing emphasis, across the globe, on education as a key to future opportunity.

Education acts as an influential mediator between society and economy, filtering and sending people towards different opportunities in life, while also shaping our outlook and expectations of ourselves, and others.

Efforts to build universal schooling systems that serve quality education to every child have persisted for at least two centuries. In both the poorest countries where access to basic education is still not universal, and many 'developed' countries where universal schooling has existed for decades, the basic challenge of equity in education remains.

That challenge is how to ensure that students who face disadvantage in their background circumstances can access educational experiences and opportunities that enable them to realise their potential, live good lives and participate on equal terms with others.

We are currently living through a period of upheavals, crises and rapid innovations. Our economies and societies are being reshaped by the many impacts of technological, demographic and environmental change. Bound up with those processes of change are our education systems and practices, with reverberations on every level, from individuals in local communities, through to whole systems and digital networks connecting millions of learners.

As we seek to adapt to fast-changing pressures and challenges, many educational efforts are being made to overcome the effects of socio-economic disadvantage on opportunities and wellbeing beyond school by supporting student achievement. A great challenge of educational transformation confronts every system: how do we develop learners and educators who can thrive in a volatile and uncertain world, and use knowledge and skills, technology and understanding to shape it for the better? (Elliott & Hollingsworth, 2020).

The challenges in transforming education systems and achieving education equity have become more difficult, notably in line with increasing economic inequality, over the last 20 years. In 2020, the onset of the COVID-19 pandemic has magnified these challenges by making access to education more reliant on digital technologies and by exacerbating many of the underlying inequalities. As a result, it is even more important and ever more urgent to design large-scale, local, innovative, and collaborative solutions that support *all* learners with excellent education outcomes and future opportunities.

The twin challenge of achieving education equity and the need to rapidly innovate education to prepare future-ready learners is immense and cannot be solved individually by different systems and different states working in silos. Rather, it sets a new and urgent agenda for a movement towards the systematic use of collaboration-based approaches in education – an approach which has been developing rapidly in recent years, including in OECD countries where the uptake of collaborative learning to improve the professional development of educators has become increasingly widespread (OECD, 2019). Collaborative networks that convene schools, system actors, researchers and industry have the potential to accelerate innovation, and ensure that it supports all learners, especially those who are disadvantaged (The Education Commission, 2020).

Stirling North Primary School principal, Adam Wilson, at a Thought Leadership Gathering, 2018 (Noni Carroll Photography)

## 1.2 The challenge of educational equity in the Australian education system

Despite maintaining a society-wide commitment to equity in education, Australia's educational outcomes are strongly influenced by postcode, social upbringing, and family circumstances. As the current COVID-19 crisis intensifies demand and pressure for learners of all ages to acquire new skills, capabilities and digital tools that will enable them to thrive in a restructured landscape, there is a real risk these combined influences will create an even greater divide in educational outcomes and opportunities.

In recent years, Australian education policy has shifted clearly towards the need to use collaboration more effectively for the sharing of professional expertise and evidence and to work directly with students, families and communities, along with the development of new 'learning capabilities' (Bentley & Cazaly, 2015; Bentley & Savage, 2017; Gonski AC, 2018). When schools collaborate in this way, they become sites of innovation, trialling new practices that are tailored to the needs of their students and communities, and sharing their insights across the system.

This kind of collaboration doesn't just happen. Although educators regularly meet in their local networks, research from the past decade suggests that effective collaboration requires more than simply bringing people

together under the same roof. Educators need support to access and implement new, evidence-based improvement strategies, and a platform on which they can share their insights with other schools.

For schools whose students face disadvantage in its many and varied forms, collaboration presents a particularly powerful opportunity to accelerate the development and uptake of school improvement practices; practices that can help students overcome challenges to accessing quality education and developing the skills and qualities they need to thrive beyond the school gates.

Australia's new educational reform agenda, which sets out a national approach to improving student outcomes in Australian classrooms, together with the COVID-19 global emergency, further sharpens the question of what kinds of interventions, programs, and reforms are needed to scale collaboration practices and capabilities in our education systems. Additionally, it is important to consider how such strategies can be applied to enhance equity, rather than unintentionally damaging it?

## 1.3 Genesis of The Bright Spots Schools Connection (The Connection)

> *"Education systems need to better identify key agents of change and champion them; and they need to find more effective ways of scaling and disseminating innovations."* – Andreas Schleicher, OECD

The Connection was developed by Social Ventures Australia (SVA) - a not-for-profit organisation, which works with partner groups to alleviate disadvantage in Australian communities, by influencing systems and advocating for change towards an Australia where all people and communities thrive.

As part of this commitment, in 2014, SVA launched The Connection - a Collaborative Leadership Development Network (CLDN) designed to support outstanding school leaders and teachers in schools in disadvantaged communities to develop connections with other like-minded leaders, share expertise, knowledge and evidence-informed resources and practices for the improvement of collective student outcomes (Cridge, 2019).

At the heart of The Connection is a core belief that every child deserves a great education and that a collaborative framework for the purpose of exposing school leadership teams to best practice and innovative thinking that can drive improvement practices in their own schools is critical to achieving just that.

From an initial cohort of eight schools, The Connection now boasts a collaborative network representing three states – Victoria, NSW and South Australia – 2900 educators and approximately 50,000 students over five years to 2019 (Cridge, 2019).

## 1.4 The purpose of this report

In 2018, RMIT's Policy, Strategy and Impact Team was commissioned to conduct an evaluation of The SVA Bright Spots Schools Connection (The Connection) over three separate reports. This report – *Unleashing the Power of the Collective in Education* – is the third report, following on from: Report 1 - *RMIT Bright Spots Descriptive Analysis*, July 2018; and Report 2 - *Developmental Evaluation of the Bright Spots Schools Connection program,* October 2019.

This report (Report 3) is an amalgamation of three different types of evaluations — impact evaluation, process evaluation, and developmental evaluation — to give a holistic picture of the overall impact of The Connection by answering three key evaluation questions:

1. **Is The Connection making an impact?**
2. **What is driving the impact?**
3. **What could be done differently?**

It uses mixed methods to review, map, and evaluate The Connection's impact in the last five years (2014-2019), understand its unique model of practice, and to consider insights and priorities that could be applied to education systems in the future.

**Impact evaluation:**

**Is The Connection making an impact?**

The impact evaluation is used to measure the first key evaluation question - 'Is The Connection making an impact?' This is explored in detail in Chapter 3 and measured by way of three key outcomes - collective

capability, school improvement practices, and student learning outcomes. (These short-term and long-term outcomes are considered as a close proxy to measure impact (Weiss, 1998). The impact evaluation will be of particular interest to key stakeholders, and anyone directly or indirectly associated with The Connection, who is interested in understanding its overall impact.

**Process evaluation:**

**What is driving the impact?**

The design and delivery of The Connection model is a complex intersection of academic research, the fluid mental models of the program designers and implementors, and the changing needs of Australian schools. Therefore, in this type of evaluation, it is important to understand the key characteristics of The Connection design and delivery and the enabling conditions in the school systems that are driving the impact. Chapter 4 examines this second key evaluation question - What is driving the impact? - giving academics, government and funders an understanding of the unique value in The Connection design and delivery process.

**Developmental evaluation:**

**What could be done differently?**

This type of evaluation uses the results from the impact evaluation and process evaluation to continuously improve the design, delivery, and evaluation of the program. To this end, Chapter 6 answers the third key evaluation question — 'What could be done differently?' Based on the findings from the impact and process evaluation, the developmental evaluation is most valuable for The Connection team as it suggests improvement and innovation in The Connection model through a continuous feedback process (Weiss, 1998).

The report presents analysis, findings and recommendations from this three-step process.

## 1.5 Key Objectives and Structure of the Report

As mentioned in section 1.4, the purpose of the three different types of evaluations is to answer three key evaluation questions:

1. Is The Connection making an impact?
2. What is driving the impact?
3. What could be done differently?

These evaluation questions were co-constructed with The Connection team at SVA to understand the overall patterns, trends, and the types of impacts The Connection has made since its inception. Each of these key evaluation questions have sub-questions, which will also be discussed in the subsequent chapters. The structure of the report reflects the sequential order of the three evaluation questions.

This **Introduction** positions The Connection program within a global policy landscape grappling with inequity in education. It describes the genesis of the program and outlines the purpose of this report in detail.

**Chapter 2** answers the preliminary question '*What is the SVA Bright Spots School Connection?*' It provides detailed information about the purpose and functions of the program and examines The Connection's unique theory of change and logic model. Chapter 2 concludes with a detailed discussion of the evaluation's purpose and poses sub-questions to further explore the three key evaluation questions listed above.

**Chapter 3** addresses the first substantive evaluation question - 'Is The Connection making an impact?'. It presents insights and findings about the program's short–term impacts on educators' collective capability and school improvement practices and the long-term impact on student outcomes. These findings and insights are supported by analysis of annual evaluation survey responses and qualitative data collected from participant interviews, focus groups, case studies and artefacts.

**Chapter 4** considers the second key evaluation question "What is driving the impact?". This chapter explores the unique characteristics of The Connection, together with the conditions in which it operates, to examine what is

driving the impact observed in Chapter 3. A conclusion on the causal links between these characteristics and conditions and the program's impact is beyond the scope of this evaluation. Nonetheless, themes from the evaluation's qualitative research and review of the literature begin to shed light on the features of The Connection and the wider conditions that drive its impact.

Having established The Connection's impact and its supporting characteristics and conditions, the report seeks a deeper understanding of this impact in **Chapter 5** — '*Putting the impact of The Connection into wider context*'. This chapter provides an overview of the global trend towards collaborative professional development practices and discusses the theoretical distinctions and interactions between Collaborative Leadership Development Networks (Cridge, 2019) such as The Connection, and other collective professional development initiatives. Chapter 5 also analyses the components, characteristics and conditions of five comparable networks from other education systems in the United States, New Zealand, British Columbia (Canada), England (United Kingdom) and Victoria (Australia). This analysis is grounded in a review of literature on the features of relevant networks in five countries.

**Chapter 6** answers the final evaluation question — '*What can be improved*?' — by providing eight recommendations for the future of The Connection. Some of these recommendations focus on the evolution of the program, and the development of similar practices among other partnerships and community-level initiatives working at a similar level. Other recommendations focus on how the insights and capabilities generated by the SVA Bright Spots Schools Connection can be built and leveraged by policymakers and institutional leaders in education systems, to achieve systemic impact and grow system leadership to overcome educational inequity, now and in the future.

Finally, **Chapter 7** takes stock of the insights drawn from this evaluation, to offer working conclusions about the potential future direction of Collaborative Leadership Development Networks, such as The Connection.

# 2 WHAT IS THE SVA BRIGHT SPOTS SCHOOLS CONNECTION?

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“ The Connection is a Collaborative Leadership Development Network that has reached 50 Australian schools, representing three states, 2900 educators, and a community of approximately 50,000 students across five years.

The Connection is a collaboration of 50 Australian schools (including eight Powerhouse Schools) representing three states, 2900 educators, and a community of approximately 50,000 students across five years (Cridge, 2019), see Table 1 below.

Table 1: The Connection participating schools (excluding eight Powerhouse Schools)

| State/ School type | STEM schools | | Star Hub Schools | | Totals |
|---|---|---|---|---|---|
| | Primary | Second. | Primary | Second. | |
| VIC | 4 | 1 | 6 | 2 | 13 |
| NSW | 0 | 4 | 9 | 2 | 15 |
| SA | 5 | 1 | 5 | 3 | 14 |
| Totals | 9 | 6 | 20 | 7 | 42 |

Note: In 2019, three Catholic Schools from Victoria were constrained by budget cuts, and subsequently withdrew from The Connection, which lowered the total number of schools to 39.

These schools are tiered into three cohorts – eight Powerhouse Schools (2014-2019), and 42 Connection Hub schools, divided into 27 Star Hub schools (2017-2019) and 15 STEM Learning Hub schools (2017-2019). These schools are located across three Australian states – New South Wales (NSW), Victoria (VIC), and South Australia (SA). A brief explanation of each of these school cohorts is provided below:

### Powerhouse Schools

Eight Powerhouse schools (2014-2019) formed the inaugural cohort of The Connection when it began in 2014. These schools were selected from a referred list of 84 schools that had demonstrated a significant impact on improvements in student learning in low socio-economic communities and were integral in initiating the work of The Connection's Collaborative Leadership Development Network (CLDN).

In 2019, they became The Connection's first alumni and during their five years in the program demonstrated outstanding outcomes in their disadvantaged school communities, including in areas such as family, parent and carer engagement, collaborative partnerships and digital citizenship competencies.

### The Connection Hub Schools

Over time, The Connection's CLDN has expanded dramatically - to an additional 39 schools in 2019 (down slightly from 42 schools in 2017). These Hub schools demonstrated a promise and an aspiration to become an emerging Powerhouse School in their respective state systems and enabled The Connection to test the design and examine outcomes of a hub-based collaborative leadership development model (Cridge, 2019). The Connection Hub schools are further divided into two sub-categories including:

Star Hub schools – a collective of school leaders and educators ready to improve student learning outcomes in low socio-economic communities. The Star Hub launched in 2017, with three Star Hubs, covering 27 schools across NSW, VIC, and SA.

STEM Learning Hub schools – launched in 2017 across 15 schools in NSW, VIC, and SA the STEM Learning Hub was implemented with thanks to a collaboration with Samsung Electronics Australia. Schools in this cohort problem solve, curate, and implement effective practices in STEM-based approaches to teaching and learning and feed expertise and insights back into the wider cohort.

All schools selected to participate in The Connection were selected using five key criteria:

1. Be an emerging leader or have demonstrated expertise in a specific Science, Technology, Engineering, and Mathematics (STEM) or general practice area;
2. Have an ICSEA (Index of Community Socio-Educational Advantage) score less than the national median score of 1000;
3. Have National Assessment Program Literacy and Numeracy (NAPLAN) scores that are trending upward on a positive trajectory for at least three consecutive years;
4. Have demonstrated improvement against the nine domains of the National School Improvement Tool (NSIT);
5. Be committed to collaboration – demonstrate a willingness to invest, collaborate, co-design, share and improve, with an outward-facing leadership disposition.

The CLDN approach enables participating school leaders and educators to share knowledge, develop mindsets, and learn about effective and innovative system-wide and school-based improvement practices through The Connection events. In addition, the events also support the participants to build networks of relationships with other schools, industries, businesses and education providers beyond these formal activities. The Connection offerings include:

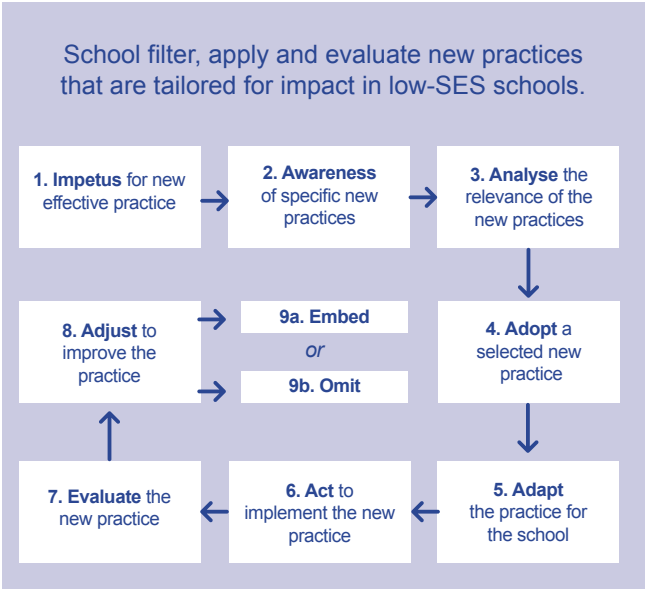
- **Thought Leadership Gatherings (TLGs)** – these are three-day, nationally-convened professional learning events held once a term. They include two days of seminars, workshops, reflection sessions and networking opportunities and a final day, which is an optional School Visit. TLGs bring together school leaders from all three school cohorts – Powerhouse Schools, Star Hub schools and STEM Learning Hub schools — to share insights from their work, be exposed to new ideas, challenge their thinking and build relationships with other participating schools at both a local and national level. The events include keynote speakers and presenters from the education sector, as well as from other sectors, such as technology. Each event emphasises a specific theme related to one of the four focus areas, including: 'Effective Leadership', 'Partnership', 'Innovation' and 'Resources'.
- **Hub Days** – these are collaborative, best-practice exchange sessions, which bring together school leaders and teachers from Star Hub and STEM Learning Hub schools within each state. The Hub Days are opportunities for participating schools to come together to reflect on the learnings from the TLGs, observe effective implementation of school-based improvement practices and discuss the key priorities and progress of each schools' Project Action Plans (PAPs) — a strategic guide for approaching its school improvement planning. Held once a term, often on-site, in schools, the focus of each Hub Day is co-designed by participating schools in conjunction with The Connection team.
- **Webinars** – these are virtually-facilitated events that serve a similar purpose to Hub Days but are intended to be more accessible for schools that are geographically isolated and face challenges travelling to in-person meetings. The Connection uses webinars to share information and resources to help support schools' Project Action Plans (PAPs), and while most webinars have a STEM-related focus, all schools are invited to participate. The webinars also provide an online platform to promote discussion and troubleshoot any issues related to the Samsung technology used in classrooms by the STEM Learning Hub cohort of schools.
- **School Visits** – these are optional professional and leadership learning opportunities, whereby participating schools are invited to join a coordinated, full-day visit to observe other high performing schools in action. These events provide an opportunity for schools to learn about the host school's improvement journey, tour the school to see specific teaching and learning practices in action, and conclude with a reflection session. School Visits are typically conducted adjacent to Thought Leadership Gatherings or aligned to Hub Day activities.
- **Connection International Explorations (CIEs)** – these are annual international educational trips that expose school leaders to new education contexts, ideas, resources, and practices that support the goal of improving student learning outcomes in their home schools in Australia. An additional purpose of these trips is to develop relationships with international practitioners and education experts who can continue to support participating school leaders in the longer term. In the past, The Connection has offered CIEs to the US, Canada, England and New Zealand.
- **Engagement Visits** – these offer direct support from The Connection's convenors, who have extensive experience both as educators and in supporting systems to drive successful school improvement. They are conducted by way of four engagement visits per year by the convenors to participating schools to help The Connection better understand the priorities of each school and to support the schools' progress, by sharing relevant resources and brokering relationships with industry and academic partners. Convenors also engage with schools to ensure the schools' needs are being met through the design of The Connection events.

- **School Projects** – supported through the delivery of the Project Action Plan (PAP), Engagement Visits and Hub Days, each school selects a project that addresses an identified issue and key focus for improvement. The Connection school relationship managers then support and coach each school through setting a strong measurement framework, including the development of a Program Logic to measure the implementation and progress of this project over the course of the year.

Attending events offered by The Connection is optional but critical to improving participants' knowledge and mindset relevant to their role but it is not enough on its own. As described above, participants engage with other features of The Connection, such as action learning, referred to as a PAP, or inquiry cycle.

The PAP is an intervention into a problem, issue or practice within a school and also acts as an accountability tool. The PAP allows educators to conceptualise the key challenges, activities, outputs and outcomes that the intervention requires or produces. In advocating such an approach, The Connection supports educators to adopt a step-by-step inquiry cycle (see Figure 1 below), which is an evidence-informed continuous process to create intentional improvement within the school and ensure the improvement practices chosen by educators are informed by and responsive to the evidence.

Figure 1: The Connection's inquiry cycle




## 2.1 The Connection program logic

The Connection program logic defines the design and delivery of the program. In its simplest form, the program logic is presented as The Connection's theory of change (see Figure 2). As part of this evaluation, the evaluation team worked with The Connection program team to define, clarify and test the logic model, and then used it to create the evaluation framework.

The Connection's theory of change states that if school leaders and educators from low-socioeconomic school communities participate in a CLDN, then they will be able to build knowledge and mindsets relevant to their role. Improvement in knowledge and mindsets will, in turn, lead to the implementation of innovative and evidence-informed school-based and system-wide improvement practices. Finally, improvement in school leaders' and educators' knowledge and mindsets, and implementation of improvement practices will result in improvements in student learning outcomes.

The intention of The Connection has always been that these inter-linked practices and activities would work simultaneously, in multiple school sites and communities, and be intertwined with the ongoing operation and development of those schools. Part of the design challenge for the initiative, and others like it, is to find practical, effective and relevant ways to organise those activities so that they can be sustained amidst the other coordinating challenges of delivering education from year to year and aligning the learning and knowledge that might be gained and shared from these activities with the wider school-based activities of teaching, learning and community engagement.

While changes in knowledge and mindsets are pre-requisites for implementing school-based and system-wide improvement practices, it is important to acknowledge that experiencing the implementation of new and evidence-informed school-based improvement practices can also result in changes in knowledge and mindsets among the participants.

In other words, both the practices and the evidence-based knowledge of educational leaders and practitioners may continue to influence each other in ongoing ways. The process of learning, developing and applying effective practices is not linear. The school and community settings

in which these practices and knowledge are being used are complex, with many conditions simultaneously influencing the behaviour and the learning outcomes of participants.

This means there is complexity in The Connection's theory of change; the relationships between knowledge, mindsets, and school-based improvement practices are not strictly linear (see Figure 2), but rather fluid.

Indeed, the challenge in realising the program's intent, is to find the right *alignment* between different activities and relationships for the participating schools and learners, so that those activities come to reinforce each other and contribute to cumulative gains in learning over time.

In that sense, the design of The Connection reflects a working hypothesis that if relevant, evidence-informed knowledge is shared in particular ways between school leaders and practitioners, who also share similar intent and work in community settings that share some relevant features, then the activities will lead to the formation of greater capability for learning and positive impact, simultaneously, at more than one level of implementation.

These levels begin with student learning and extend to school-based improvement practices – of teachers working together, and with students and community partners, to find ways to improve student learning experiences and outcomes. They also include the level of 'collective capability' – the idea that school leaders and leadership teams will, through their combinations of learning, collaboration, and knowledge-sharing through networks, develop greater shared capacity for action and leadership, which could be deployed across the wider systems in which they work.

## 2.2 The Connection logic model

The evaluators found that The Connection's theory of change sits within a broader logic model, which addresses explicitly both the wider contextual conditions that enable learning and action, and also the longer-term outcomes which act as a point of reference for The Connection's own moral purpose and definition of effectiveness.

The Connection logic model outlines how the existing conditions and key characteristics of The Connection may lead to inter-related short-term and long-term outcomes.

Figure 2: The Connection theory of change

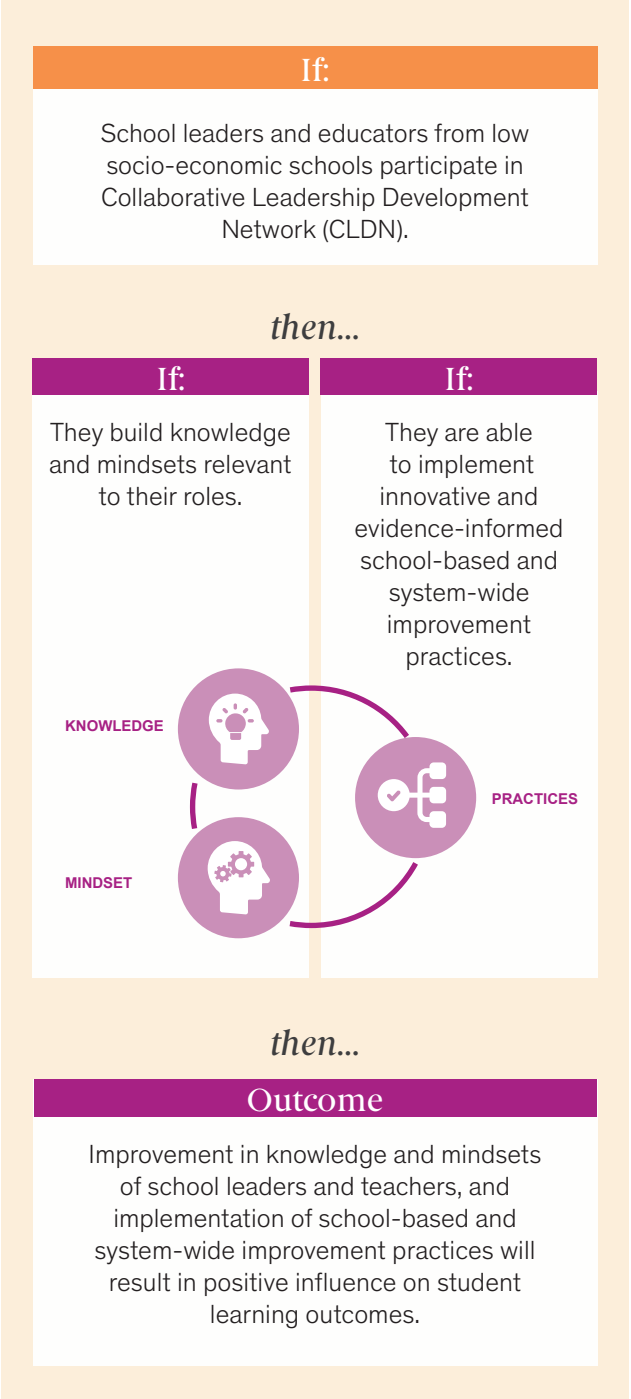
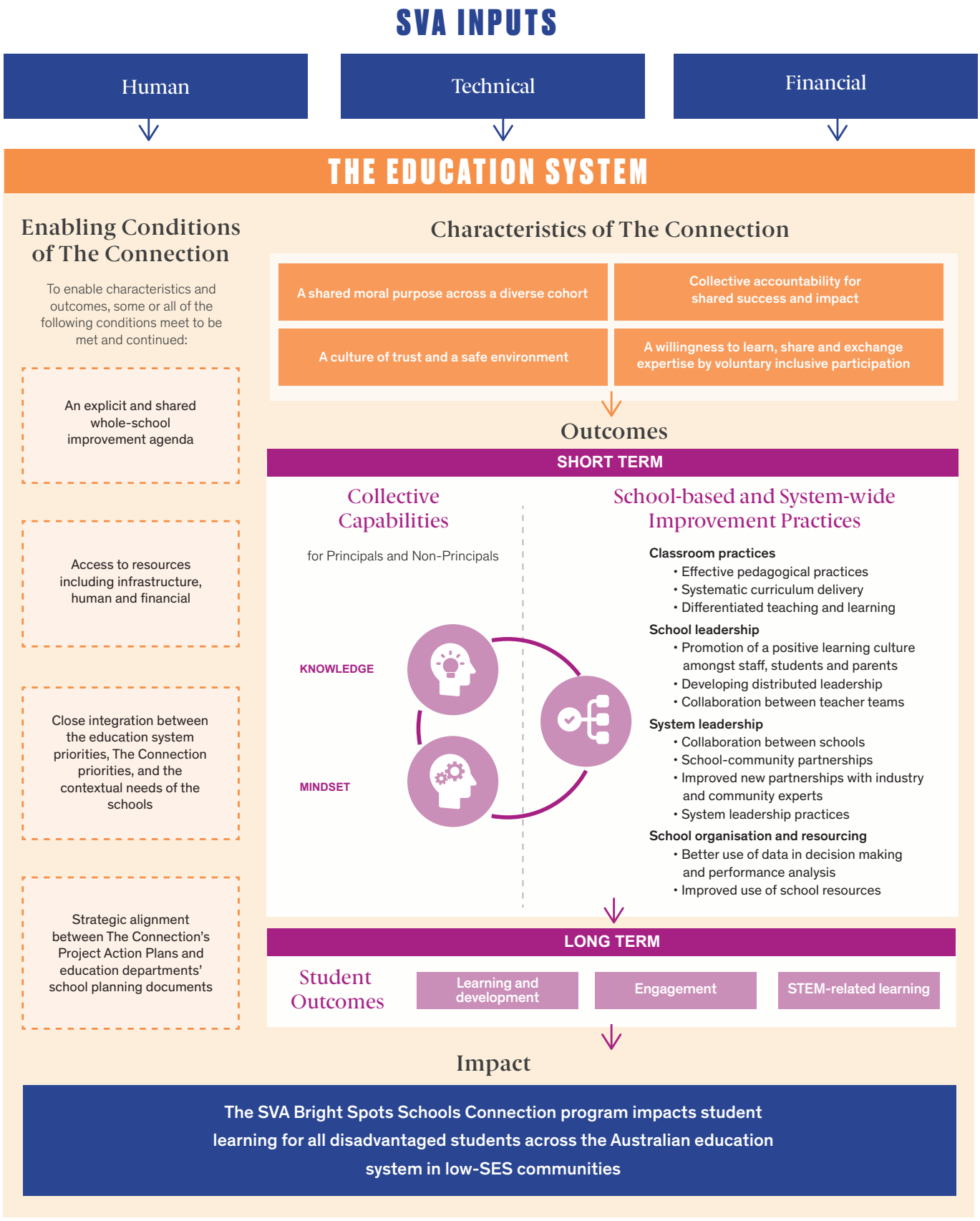


Figure 3: The Connection logic model



In the logic of The Connection, these outcomes combined lead to an overall, dynamic and systemic impact on the learning and development of disadvantaged Australian students. Figure 3 illustrates The Connection logic model.

The components of The Connection logic model are:

### Inputs

Inputs are the resources that The Connection program contributes to facilitate its design and delivery. These inputs include human resources (such as The Connection staff members, teachers and school leaders of the participating schools, external experts, evaluators such as RMIT and ACER), technical resources (any information technology associated with the smooth functioning of the program, including efficient coordination and communication with participants and other stakeholders), and financial resources (such as funding for program management, implementation, and evaluation).

(The detailed discussion of these inputs is out of the scope of this evaluation.)

### Enabling Conditions

Schools are complex sites, subject to many conditions external to The Connection that affect their work in the network. This evaluation investigates the conditions of the wider school environment that enable the success of The Connection. These enabling conditions are:

- **Condition 1:** An explicit and shared school improvement agenda at the whole school level
- **Condition 2:** Access to infrastructure and financial resources
- **Condition 3:** Close integration between system priorities and The Connection offerings
- **Condition 4:** Strategic alignment between The Connection's Project Action Plans and education departments' school planning documents

Although these conditions are partly outside of The Connection's direct sphere of influence, The Connection could leverage these conditions to continuously improve the program and its influence across school systems.

### Characteristics

Characteristics are the key features of The Connection design and delivery that drive impact. Unlike the enabling conditions, they are within SVA's direct control. The key characteristics of The Connection are:

- **Characteristic 1:** A shared moral purpose
- **Characteristic 2:** A culture of trust and safe environment
- **Characteristic 3:** Collective accountability for shared success and impact
- **Characteristic 4:** A willingness to learn, share and exchange expertise by voluntary inclusive participation

Though discussed separately, these characteristics are interrelated, and work cumulatively to drive The Connection's impact.

### Short-term outcomes

Short-term outcomes are the direct results that the participants receive through their engagement in The Connection. The Connection results in two short-term outcomes – collective capability and school-based and system-wide improvement practices. This logic model proposes that improvements in collective capability lead to the implementation of new, evidence-based school improvement practices, and vice versa.

### Long-term outcomes

Long-term outcomes are indirect results that arise from the short-term outcomes over an extended period. The logic model posits that by improving educators' collective capability and schools' improvement practices, The Connection will achieve the long-term outcomes of improved student engagement, learning and development, and STEM-related learning.

### Impact

The impact is the ultimate vision that the program seeks to achieve. If The Connection successfully improves the short and long-term outcomes of its logic model, the program can potentially scale and diffuse effective school improvement practices to 4500 disadvantaged Australian schools. Its impact will be to improve student learning for all disadvantaged students across the education system in low socio-economic communities.

## 2.3 The Connection and its role in the Australian education system

In education system terms, the top refers to the state and federal education departments, the middle refers to networks of collaboration, such as The Connection-like models, and the bottom is schools and school communities. Previous research into system-reform has shown that a top-down approach does not have a lasting impact since it is too difficult to get buy-in from the widespread schools at the bottom (Fullan,2015).

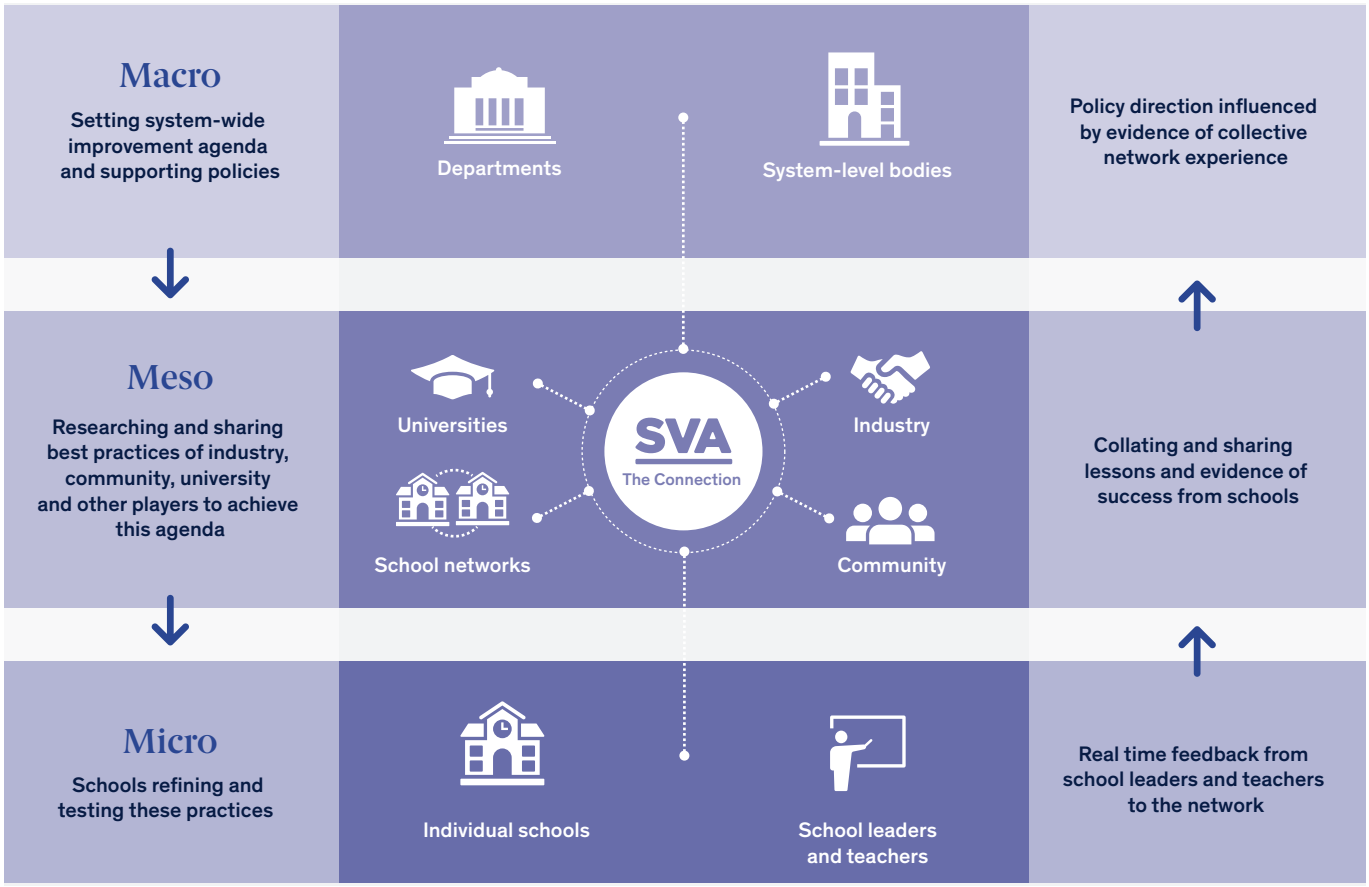
Similarly, bottom-up change also does not result in overall school improvement; some schools might improve while others do not and the gap between high and low performers grows even more (Fullan, 2015; The Education Commission, 2020).

In this regard, The Connection is uniquely positioned in the middle to advance the learning experiences and outcomes of *all* disadvantaged learners in Australia.

The CLDN-approach of The Connection acts as a mediator between the individual schools at the micro level, the network of schools at the meso level, and the education system at the macro level (see Figure 4).

The Connection builds partnerships vertically between schools and the education system-level bodies, and horizontally across the meso level, between participating schools and representatives from industry, community groups, researchers and tertiary education institutions. The nature of these relationships are bidirectional. Through The Connection, school participants not only receive knowledge and resources from macro and meso level players – they also build collective capability of the participants to exert influence and leadership throughout these different layers of the education system. On the other hand, implementation of improvement practices via The Connection provides feedback to the policy makers. In other words, policy directions is influenced by practice-based evidence of collective network experience.

Figure 4: The Connection and the wider education context



## 2.4 The Connection Evaluation Purpose

Having summarised and explained the origins, organisation, and activities of the SVA Bright Spots Schools Connection and laid out its theory of change and system logic model, we can return to the purpose of our evaluation project, and the insights and findings that emerge from the many different types of material we have drawn on for this project.

The purpose of this evaluation is to answer three key questions:

1. Is The Connection making an impact?
2. What is driving the impact?
3. What could be done differently?

Each of these three key evaluation questions leads to specific sub-questions (see Figure 5), which reflect the theory of change and have guided our observation and analysis. These questions and subsequent sub-questions are answered in Chapters 3, 4, 5 and 6, drawing on all the sources of material available to us. More details about the evaluation framework, method, data inputs, and results can be found in Appendices 1–3.

Figure 5: Evaluation Questions Framework

### 1. Is The Connection making an impact?

**Collective Capability**

1. Are participants improving knowledge?
2. In which areas, and by how much, have participants improved knowledge?
3. How much have participants mindsets improved, and in which areas?

**School Improvement Practices**

4. What are these new and innovative improvement practices?
5. How are schools implementing innovative and evidence-informed improvement practices?

**Student Learning Outcomes**

6. Are student outcomes improving?
7. What are these improvements in student outcomes?

### 2. What is driving the impact?

1. What are the characteristics of the network design, and how do they drive impact?
2. What are the enabling conditions in schools and the education system, and how do they drive impact?

### 3. What could be done differently?

1. What are suggested improvements for the design and delivery of The Connection?
2. How do we grow system-wide capability for collaborative, network-based systems leadership?

# 3 IS THE CONNECTION MAKING AN IMPACT?

—

“ Our findings paint a clear picture of a positive, if widely varied, impact on school improvement practices and student learning, arising from participation in The Connection.

This chapter presents the findings, and an analysis, of the kinds of impact The Connection is having. The findings and their interpretations reflect the evaluation questions and draw on all available sources of data, including Project Action Plans, Project Artefacts, school case studies, interviews, focus groups, NAPLAN data, and the annual participant surveys conducted by SVA from 2017 to 2019.

A total of 22 findings, relating to both short and long-term outcomes, are outlined in detail. The order of the findings reflect the key areas of the outcome and key aspects of the logic model, and are recorded according to the proportion of principals and non-principal[1] school staff members who report a particular indicator.

The following key is used throughout this chapter to discuss the findings:

- 0-29%: small proportion
- 30-59%: moderate proportion
- 60-89%: high proportion
- 90-100%: very high proportion

Overall, across three states and all participating schools, The Connection has shown several signs of relatively high impact on the short-term outcomes of collective capability and school improvement practices, compared to its long-term outcomes related to student learning. It is important to note that there is variation in self-reported acquisition of new knowledge from year to year, state to state, and across principal and non-principal roles.

The program's theory of change holds that if The Connection improves participants' collective capability, this will increase their ability to implement improvement practices, which will ultimately lead to improvement in student outcomes. The program logic suggests that if collective capability, and leaders' understanding of how to implement improvement practices instead of school-based practices, are developed through the experiences


School leaders at a SVA Bright Spots Schools Connection Thought Leadership Gathering, Victoria 2019, (James Henry Photography)

of collaboration and knowledge-sharing that are facilitated by The Connection, then the collective capability of leaders, professionals and school communities to contribute to systemic educational change over time will also be enhanced.

The different sources of data and feedback we have been able to gather and synthesise provide many findings and insights that can help to cast light on this logic, and whether it is being achieved in practice. However, the available data does not allow the evaluation to draw any *causal* associations between the short and long-term outcomes, both because of the complexity of interactions that occur between different factors and influences among the participants, and because of limitations in the data. For example, since many schools implement several improvement initiatives and activities concurrently, changes that schools might report in their Project Action Plans (PAPs) and Project Artefacts (the reflective template schools completed in 2019) cannot be necessarily attributed to the school's participation in The Connection.

Nonetheless, our evaluation has uncovered clear patterns and insights, including a series of practitioner perspectives on what they have learned, and how those learnings have been, or could be, applied in their school communities. Where relevant, the section below discusses the depth, distribution, and variability across different periods of time, school systems, and participant groups.

1. School staff surveyed included principals and a range of other school roles, grouped under the category of 'non-principals'.

The findings and analysis outlined in this chapter address Evaluation Question 1 - 'Is the Connection making an impact?' and are structured according to the sub-questions outlined in Figure 6.

## 3.1 Collective Capability

Collective capability is the combination of knowledge and mindsets that educators and school leaders develop collectively through their participation in professional learning, connections and working relationships across the system, and their readiness to contribute to new practices and solutions through working together.

To achieve sustained, system-wide improvements, educators must be supported to improve not only their professional knowledge, skills and mindsets, but also their ability to work together to deliver better outcomes across the entire system. Collective capability also encompasses educators' ability to work together as a network or in partnership to compound these improvements, to implement and diffuse effective practice in other schools, and to influence system leadership and policy agenda.

Alongside the direct influence of teachers' actions on student learning through school level practices, the impact of school and community-level leadership — the factors that influence the quality of teaching and learning across the whole school community — is so profound, that improving the capabilities of school leaders is essential for the system-wide improvement The Connection seeks. It is even more critical in communities working to overcome higher levels of socioeconomic disadvantage (Leithwood, Seashore Louis, Anderson, & Walhstrom, 2004, OECD, 2009).

Several frameworks guide Australian educators in their development of professional knowledge and mindsets. The Australian Institute for Teaching and School Leadership (AITSL) has published Teacher and Principal Standards to document the expected knowledge, skills and practices that educators should possess during different stages of their careers (Australian Institute for Teaching

Figure 6: Evaluation question 1, 'Is The Connection making an Impact?'

### 1. Is The Connection making an impact?

**Collective Capability**

1. Are participants improving knowledge?
2. In which areas, and by how much, have participants improved knowledge?
3. How much have participants mindsets improved, and in which areas?

**School Improvement Practices**

4. What are these new and innovative improvement practices?
5. How are schools implementing innovative and evidence-informed improvement practices?

**Student Learning Outcomes**

6. Are student outcomes improving?
7. What are these improvements in student outcomes?

and School Leadership, 2019a, 2019b). The New South Wales School Excellence Framework (NSW Department of Education, 2017), South Australian Teaching for Effective Learning Framework (South Australian Department for Education, 2018a), and Victorian Framework for Improving Student Outcomes (Victorian Department of Education and Training, 2019), all synthesise research on best practice, and aim to support schools' development of professional capability.

This evaluation explores The Connection's impact on collective capability by analysing evidence of participants' professional knowledge acquired and system leadership mindsets (see Glossary) by examining the examples and types of collaboration that are developed both at school level and between schools.

**Insight 1:**
Participants in The Connection have acquired new knowledge and mindsets, varying from year to year, state to state, and across principal and non-principal roles

### 3.1.1 Are participants improving knowledge?

**Finding 1:** A very high proportion (75-100 per cent) of The Connection participants have acquired new knowledge relevant to their role.

The survey data in Figure 7 shows that in 2019 all participating principals in NSW and SA agreed they had acquired new knowledge relevant to their roles. Among non-principals in NSW and SA, self-reported acquisition of knowledge was 100 per cent in 2017 and just over 80 per cent in 2019. In Victoria, 80 per cent of non-principals agreed they had acquired new knowledge in 2019 (up from 57 per cent in 2017). Meanwhile all participating Victorian principals self-reported knowledge acquisition in 2017, dropping slightly to 75 per cent in 2019.

Figure 7: Evaluation survey – principals and non-principals respond "agree" or "strongly agree" to the statement: "I have acquired new knowledge relevant to my role"


Source : Evaluation surveys 2017 (principal N=17, non-principal N=17), 2018 (principal N=25, non-principal N=56), and 2019 (principal N=20, non-principal N=43)

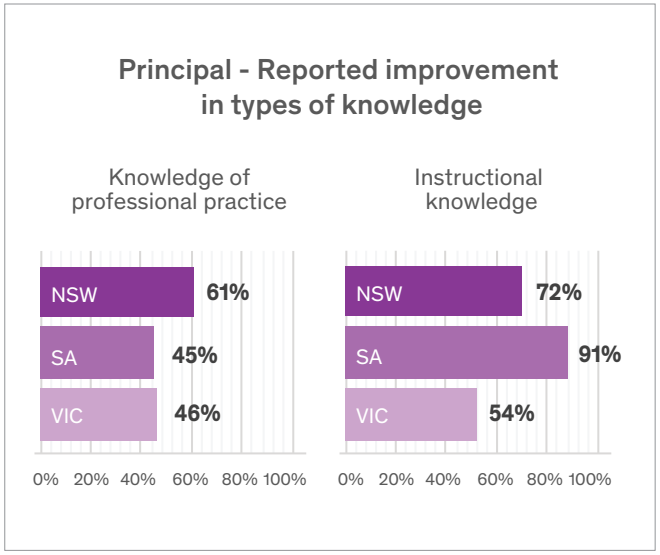
## 3.1.2 In which areas, and by how much, have participants improved knowledge?

**Finding 2:** A moderate to very high proportion (45 to 91 per cent) of principals report improvements in instructional knowledge and knowledge of professional practice.

Across all three states, most school principals reported improvements in their instructional knowledge, varying from 91 per cent in SA, 72 per cent in NSW and 54 per cent in VIC (see Figure 8). Improvements in knowledge of *professional practice* were also commonly reported by principals, though to a slightly lesser degree (45 to 61 per cent).

In this section, we outline the types of improvement in both instructional knowledge and professional practice that can be found across schools in The Connection. For instructional knowledge, these improvements include a) Student Agency and b) STEM-related approaches in teaching and learning.

Figure 8: PAP and Project Artefact analysis: reported improvement in types of principal knowledge




Source: Schools' most recent Project Action Plans and Project Artefacts. N=42.

### Instructional knowledge

#### *a. Student Agency*

An analysis of Project Action Plans (PAPs) and Project Artefacts, showed eight schools reported improvements in their instructional knowledge regarding student agency – their ability to set learning goals, reflect and act on their learning - and student voice – their ability to co-design their learning with their educators.

NSW schools reported the highest proportion of principals whose knowledge in this area improved over time. While in one interview, a VIC Powerhouse School principal said the school's involvement in The Connection had been instrumental in enhancing his understanding of student agency and subsequently led to the introduction of a comprehensive student-teacher observation program at the school (see Case Study 2 in Appendix 1 for further detail).

When principals discuss learning about student agency in their work, it is often described as transformative.

> "Student voice was never something that I had ever considered in my paradigm of leadership. It is now so influential that it drives me now."
> – NSW Star Hub School principal

The South Australian Department for Education's Teaching for Effective Learning framework (TfEL) is a rich resource when it comes to student agency. Over time, The Connection has been instrumental in connecting system leaders in different states to facilitate further dissemination of knowledge in this area. In 2019, for example, The Connection invited representatives from Amplify – which works to enhance student voice and agency in VIC - to a Thought Leadership Gathering. The Amplify team had the opportunity to hear presentations from various schools, who detailed their work in student voice and agency, and met representatives from SA's TfEL. The Amplify team has since travelled to SA, visiting schools and seeing their work in student voice and agency in action.

### *b. STEM-related approaches in teaching and learning*

A total of 12 schools reported improvement in instructional knowledge relating to STEM approaches in teaching and learning. A commonly-cited source of learning for the participants was the Canberra Thought Leadership Gathering (TLG) in 2017. At this gathering, Professor Tom Lowrie, Director of the STEM Education Research Centre at the University of Canberra, presented a paper titled: "STEM education for all young Australians" (Lowrie et al, 2017). The paper argued that STEM practices, such as problem solving, critical thinking, and teamwork, should be taught across the whole curriculum.

One STEM Learning Hub principal said learning about Professor Lowrie's work was key to the school adopting a new direction in teaching with a STEM approach across the entire curriculum, rather than just for STEM subjects. Another Victorian principal said Professor Lowrie's paper was instrumental in bringing into sharp focus the new direction he wanted his school to take.

> "We had started work on developing a Research and Development culture at the school. Where Tom Lowrie talked about STEM practices, we talked about R&D. That's where we wanted to move our practices into the future. It just all matched up really well." — VIC STEM Learning Hub School principal

## Knowledge of professional practices

The evaluation also found many examples of improvement in knowledge of professional practices. In this section, we detail these improvements in two key areas: a) Distributed Leadership and b) Knowledge of the school improvement agenda.

### *a. Distributed Leadership*

Overall, six participating schools reported they developed skills and knowledge in how to develop distributed leadership and a greater understanding of why it matters. This led some schools to implement formal governance structures to embed leadership across the school beyond the formal executive team.

One Victorian Star Hub School, for example, reported that a key learning from their participation in The Connection was "the importance of building internal capacity."

> "We realised that upskilling middle leaders in coaching and developing teachers, as well as building the data literacy of leaders and teachers were crucial ingredients to the school's improvement in recent years." — VIC Star Hub School leader.

Another Victorian Star Hub school reported that its participation in The Connection saw it embed "distributive leadership to drive the work of the school, including a strong connection to the Principal Class Team."

### *b. Knowledge of the School Improvement agenda*

When school leaders have explicit knowledge of their school's improvement agenda they can make a far greater contribution to improving the quality of classroom teaching and learning. This is highlighted in the National School Improvement Tool (NSIT), developed by the Australian Council for Educational Research (ACER), which encourages school leaders to establish a strong, evidence-based improvement agenda for their school, and to communicate this with parents, families, teachers, and students (ACER, 2016.).

An analysis of PAPs and Project Artefacts from The Connection revealed principals from at least 13 participating schools believed they had improved their knowledge of the importance of a whole-school improvement agenda. The the actual number may be significantly higher, given schools were not explicitly asked to report on this particular outcome.

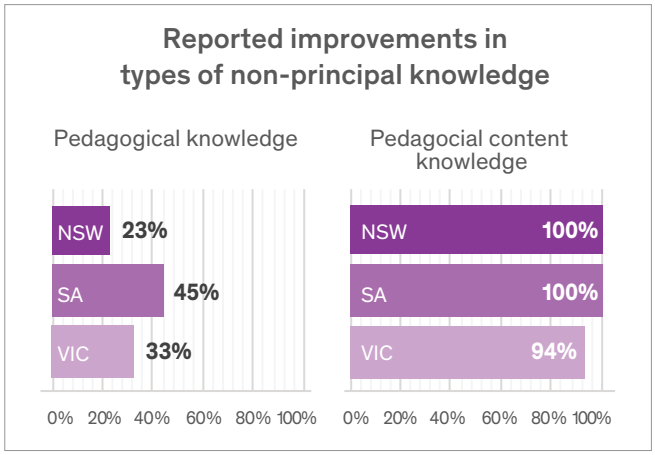
One SA Star Hub school, for example, reported that, through its work with The Connection, the school's improvement strategy had been "narrowed down to four major, integrated areas" and that as a result "leaders are better able to articulate to staff how these four areas are intertwined and manage resourcing and workload better with a narrowed focus."

Another school noted that its "strategic directions, vision statement, and values" had now been implemented because of its participation in The Connection, leading to further engagement in collaborative teacher teams to promote professional development. Case Study 1 (see Appendix 1) provides details about how the leadership team of the participating school worked with The Connection to create its strategic objectives and embed them into the school-wide improvement agenda.

**Finding 3:** A small to very high proportion (23 to 100 per cent) of non-principal educators report improvements in pedagogical knowledge and pedagogical content knowledge

Figure 9, below, shows that across all three states, almost every school reported improvement in non-principals' pedagogical knowledge, and a small number of schools reported improvements in pedagogical *content* knowledge. The next section discusses the nuances of these reported improvements.

Figure 9: PAP and Project Artefact analysis: Reported improvements in types of non-principal knowledge




Source: Schools' most recent PAPs and Project Artefacts. N=42

## Pedagogical knowledge

### *a. Visible learning strategies*

Nine schools reported their participation in The Connection improved their teachers' knowledge of Visible Learning strategies (see Glossary for detail). One school, for example, reported that "all staff received updated professional learning and are trialling Learning Intentions and Success Criteria (LISC) in mathematics". While another school, which engaged a professional learning provider, noted that it focussed on "feedback that makes learning visible"

### *b. Inquiry-based learning and project-based learning*

Fourteen schools reported developing their non-principals' knowledge around inquiry-based or project-based learning approaches (see Glossary for details). One NSW Star Hub School, for example, funded an "inquiry-based learning" mentor to support their teachers' learning and practice of this pedagogical approach. Meanwhile, a SA STEM Learning Hub school developed its own inquiry-based learning model to implement across English, Humanities, Maths, and Science.

### *c. Other innovative pedagogies*

Other improvements in non-principals' pedagogical knowledge reported by participating schools, include knowledge about how to implement high impact teaching strategies and development of school-wide assessment and moderation practices. This was reported across three schools in NSW and SA.

One NSW Star Hub school, for example, developed a school-wide "Powerful Learning Framework" based on evidence of best-practice teaching and learning (see Appendix 3 for an excerpt of this framework). This school used their time in The Connection to embed these general approaches to improving teaching and learning.

## Pedagogical Content Knowledge

### *a. STEM approaches to teaching and learning*

Improvements related to pedagogical content knowledge were predominantly reported across STEM, as a whole, and in the individual subjects of science and mathematics. All STEM Learning Hub schools reported improvement in their non-principals' pedagogical content knowledge in STEM approaches to teaching and learning.

> "Teachers gained a greater understanding of the inquiry approach. They have designed STEM units of work that have incorporated a Design Thinking approach and engaged students more in their learning. Teachers are also finding authentic ways to embed digital technologies into these Inquiry lessons, so they are used with purpose and increase students' understanding." - VIC STEM Learning Hub school

> "STEM teachers review and modify teaching programs to maximise learning experiences with new digital technology based on teacher and student feedback." – NSW STEM Learning Hub school.

However, improvement in knowledge of STEM-based approaches was not just limited to STEM schools; seven Star Hub schools across three states also reported improvements in their teachers' STEM pedagogical content knowledge.

### 3.1.3 How much have participants mindsets improved, and in which areas?

Educators' mindsets – their beliefs and attitudes towards their work - has a significant influence on their effectiveness in improving student outcomes (Dweck, 2012). In fact, Professor John Hattie – best known for his Visible Learning research - has found that among more than 250 variables affecting student achievement, the 'collective efficacy' of teachers – the belief that they and their colleagues can have a positive impact on student learning – is the most powerful influence of all (Hattie, 2019).

> "You can't build high expectations unless you know what you can achieve, and you can't know that until you see it in action at other schools. Being in The Connection has doubled our expectations of ourselves."
>
> *— SA Star Hub principal*

The OECD also recognises that "the field of teacher education and educational effectiveness is giving greater credence to the importance of teachers' self-beliefs" (Ainley & Carstens, 2018). Accordingly, in its most recent Teaching and Learning International Survey (TALIS), it included measurements for teacher self-efficacy, job satisfaction and motivation.

In this evaluation, improvements in educator mindsets relate to *Self-Efficacy* and *System Leadership.*

**Improvement in Self-Efficacy** is assessed through three survey questions which relate to changes in educators' 'motivation for being in education to address inequity', 'their confidence in their own ability as an educator', and 'their level of engagement in their role'.

**Improvements in System Leadership** mindsets is explored through a single statement put to educators – 'I am more motivated to share knowledge and expertise outside my school as part of my role as a system leader'.

In addition, our qualitative research also found examples of **Collective Efficacy** emerging as a potential improvement in mindsets.

The Connection's impact on the mindsets of participating educators, including principals and non-principals in these three areas — Self-Efficacy, System Leadership and Collective Efficacy - is assessed in reference to several sub-constructs (see Appendix 2 for details). This means the analysis of mindsets in this report is limited by the nature of the survey questions, which ask respondents to report how much certain aspects of their mindset, including their professional motivation, confidence, engagement, and attitude, have changed over the previous 12 months.

Although the 2019 iteration of the survey clarified that "change" referred to increases in certain mindsets, and "negative change" referred to decreases, this still does not reveal the actual state of respondents' mindsets.[2] Accordingly, the evaluation cannot report on the actual state of educators' mindsets, but only the degree of self-reported change.

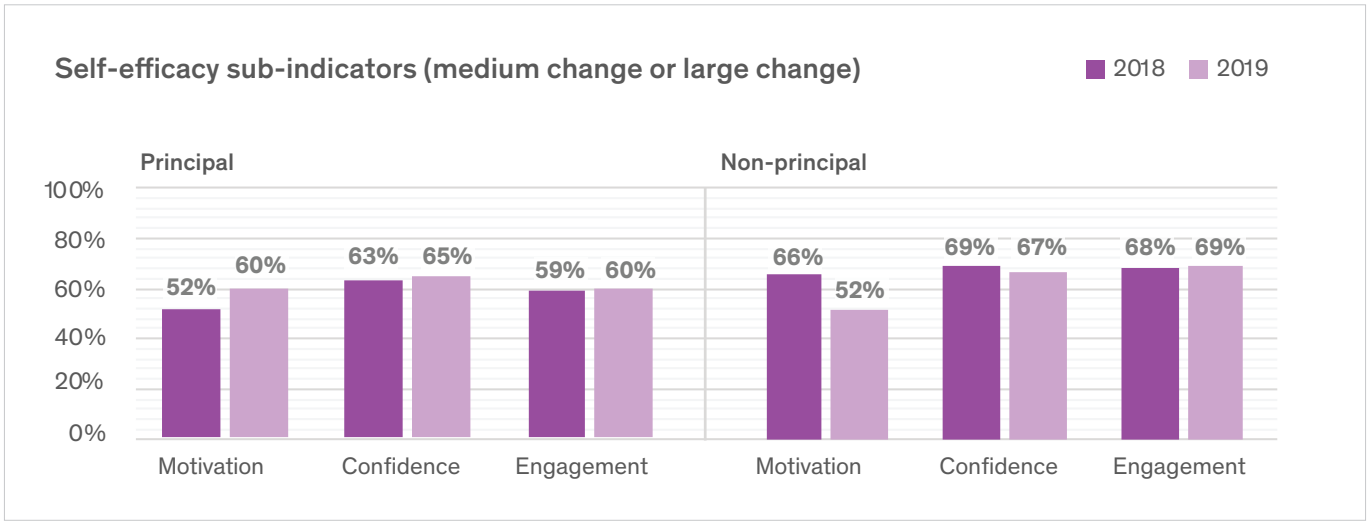
Overall, self-reported increases in indicators of Self-Efficacy are consistent. A very high proportion of participating principals reported increases in their motivation to share knowledge and expertise with other schools, ranging from 63 per cent to 100 per cent in NSW, indicating a positive contribution towards a system leadership mindset. Eight schools also focussed on improving collective efficacy, through their PAPs, and explicitly reported improvements in this mindset.

The next section discusses in further detail, the discrete findings related to shifts in participants' mindsets.

**Finding 4:** A moderate to high proportion (52 to 69 per cent) of participants reported increases in self-efficacy over three years

Figure 10 shows that, across three years, the proportion of principals reporting moderate to large improvements in the indicators of Self-Efficacy increased slightly. Non-principals reported slightly higher rates than principals, except for the indicator relating to *'motivation for being in education to address inequity',* which fell from 66 per cent to 52 per cent between 2018 and 2019. The proportion of non-principals reporting a medium or large change in the other indicators of Self-Efficacy, such as confidence, also decreased, but only slightly.

Figure 10: Evaluation survey – Principals and non-principals reporting "medium change" or "large change" to questions relating to improved self-efficacy




Source: Evaluation surveys 2018 (principal N=25, non-principal N=56) and 2019 (principal N=20, non-principal N=43).

2. Respondents do not report on whether they have high or low motivation, but what degrees of change they experienced. For example, principals who had very low confidence in their role, which improved to moderate confidence, might report a large change, whereas principals whose confidence was already high throughout the entire program might report no change. Explanatory material from the 2019 survey: How much change have you observed in the following areas in the last 12 months? Consider: No change - the same amount as more than 12 months ago; Small change - you or some teachers show a slightly noticeable increase; Medium change - most teachers show a slightly noticeable increase, or you and some teachers show a moderately noticeable increase; Large change - you and most teachers show a very noticeable increase (and beyond what would be reasonably expected; Negative change - there is a noticeable decrease.

**Finding 5:** A high proportion (63 to 100 per cent) of participants reported developing a system leadership mindset

In order to assess participants' System Leadership Mindset, the survey asked respondents to 'agree' or 'strongly agree' to the statement: "I am more motivated to share knowledge and expertise outside my school as part of my role as a system leader." Figure 11, below, shows that in NSW, the proportion of principals who reported they were motivated to share knowledge and expertise outside their school, as part of their role as a system leader, increased significantly, from 78 per cent to 100 per cent between 2018 and 2019. SA principals reported System Leadership motivation at the next highest rate in 2019, at 78 per cent, though this fell slightly from 90 per cent in 2018. For Victorian principals, the results remained steady at 75 per cent throughout 2018 and 2019.

While there are differences in the participants' ability to develop System Leadership Mindsets from year to year, state to state, and across principal and non-principal roles, the findings show it was a common area of development for many participants in The Connection.

A SA Star Hub school reported that a key insight from participating in The Connection was its need to "maximise connection opportunities for ourselves, our teams and students, both within our settings and beyond."

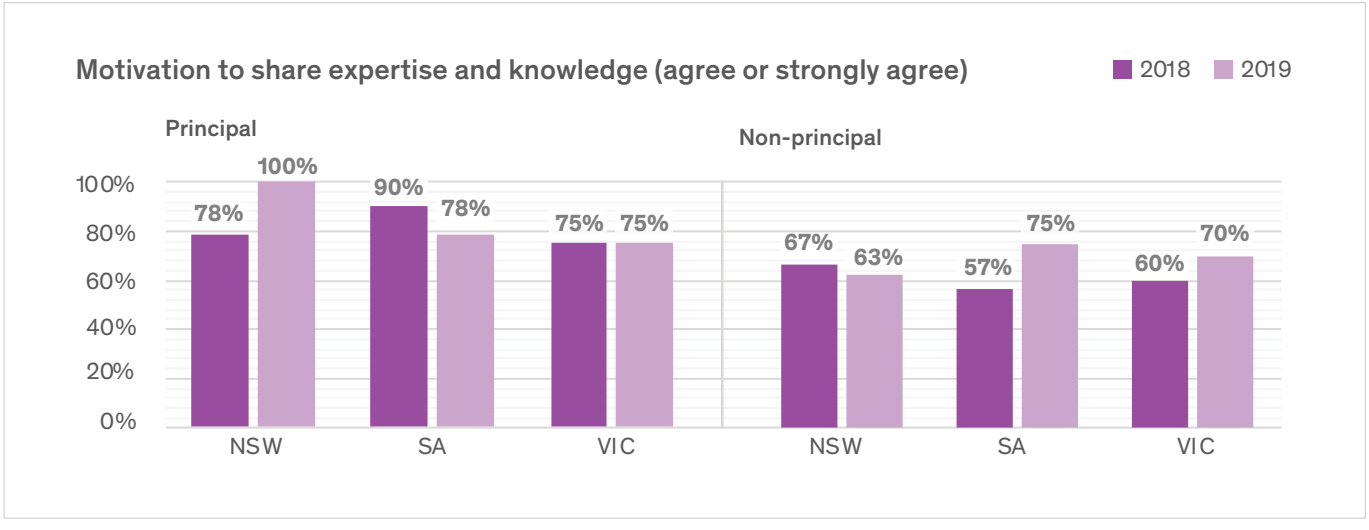
In the end of year evaluation survey, a Victorian Star Hub school assistant principal also reported that:

> "participation in The Connection has built my knowledge of the system, the need for system change and the understanding of how to go about this."

The self-reported changes in motivation to share expertise beyond their school increased among non-principals in VIC and SA between 2018 and 2019. In NSW, however, this fell slightly from 67 per cent to 63 per cent in 2019. In all three states, non-principals' motivation to share expertise was lower than that of principals.

Overall, these survey results confirm that educators participating in The Connection believe their experience increases their motivation and readiness to contribute to improved student learning, and to contribute to systemic efforts beyond their individual schools. We do not find it surprising

Figure 11: Evaluation survey – Principals and non-principals respond "agree" or "strongly agree" to "I am more motivated to share knowledge and expertise outside my school as part of my role as a system leader".




Source: Evaluation surveys 2018 (principal N=25, non-principal N=53) and 2019 (principal N=20, non-principal N=42)

### Vignette 1:
### Possible impact of The Connection on participants' Collective Efficacy

In the analysis of PAPs and Project Artefacts, eight participating schools (three in NSW, three in SA, and two in VIC) reported improvements in educators' mindset related to collective efficacy. Collective Efficacy initiatives focus on the idea that the collective belief of educators to positively influence student outcomes is greater than the sum of individual beliefs of educators. Anecdotal examples of Collective Efficacy mindsets from participating schools across all three states include:

1. A SA school, which states that through their work with The Connection, it had affirmed the idea that *"collective we are stronger (a "we" approach is better than a "me" approach)."*
2. A NSW school leader who reported that *"our engagement with Melbourne schools and Thought Leadership Gatherings led to a shift in my mindset around building trust with our students. It is important that we develop collective responsibility overall for students, not just the students in one class."*
3. A VIC Powerhouse School principal, who said Collective Efficacy was "*really important*" for his school and part of the reason he used The Connection to help develop graduate teachers' capabilities: He noted: *"if you are a teacher with 25 kids, some of whom are being taught by other teachers in the Reading Factory or English as an Additional Language class, you have to trust your colleagues."*

It is important to note that even though the participating schools are beginning to design, practice, and assess the impacts of Collective Efficacy on student learning. The evidence related to defining and measuring the impact and potential impact of the educators' Collective Efficacy and its direct impact on student learning is still limited. The work of The Connection has the potential to build both theoretical and empirical evidence in this space. Therefore, Collective Efficacy needs to be further investigated as a potential area of impact in the future cohorts of The Connection.

that principals are slightly more likely than non-principals to perceive improvements, given that for non-principals, gaining specific insights and benefits from participating in The Connection could be dependent on having a clearly defined focus for participation, being able to sustain participation between different gatherings, and being able to dedicate and get approval for focused participation time, including travel time for events.

## 3.2 School-based and system-wide improvement practices

Whole-school improvement processes are integral to student learning, and evidence shows that they can have a positive impact on student achievement (effect size of 0.28) (Hattie, 2019). Australia's interest in school-based improvement practices has continued to sharpen in recent years, for example, via the National School Improvement Tool (NSIT) (Center for Education Statistics and Evaluation, 2014). While improvement frameworks vary across different systems in their structure, terminology, and methods of implementation, a core set of focal areas appear across all frameworks, including improvement in teaching, learning, and leadership in schools. (NSW Department of Education, 2017) (Victoria Department of Education and Training, 2018) (South Australian Department for Education, 2016a).

For The Connection, school-based and system-wide improvement practices means specific forms of teaching, learning, and leadership, whether at

classroom, school, community and system level, that improve the knowledge and mindsets of teachers and school leaders, with the ultimate intention of improving student learning outcomes. These improvement practices may facilitate cultural, structural, and operational changes in schools and school systems, and in their relationships with other partners in the community, to improve student learning.

The Connection end of year evaluation survey adapts the nine domains of the National School Improvement Tool (NSIT) as possible answers to the question "*What has been the objective of the planned or implemented new practice(s)?*". The evaluation uses this framework, adapting and supplementing it in response to evidence of school improvement practice trends from the qualitative research, including focus groups, interviews, and hundreds of PAP and Project Artefacts synthesis.

The evaluation found participating schools implemented a range of innovative and evidence-informed improvement practices at classroom, school leadership, and system leadership levels, across all the nine domains of the NSIT. There are some additional practices, with patterns of variation, as highlighted in the findings below. Table 2 summarises the number of schools that implemented improvement practices in different domains, based on our analysis of their Project Action Plans and Project Artefacts.

Findings 6 – 17, which relate to the range of innovative and evidence-informed school-based and system-wide improvement practices adopted by participating schools, are listed below and outlined in further detail in Section 3.2.1 - 'What are these new and innovative improvement practices?'

Table 2: The number of schools reporting implementation of school-based and system-wide improvement practices in PAPs and Project Artefact analysis

| The focus of school improvement practices | Total | NSW | SA | VIC |
|---|---|---|---|---|
| **Classroom practices** | | | | |
| 1. Effective pedagogical practices | **27** | 11 | 8 | 8 |
| 2. Systematic curriculum delivery | **19** | 8 | 6 | 5 |
| 3. Differentiated teaching and learning | **6** | 2 | 2 | 2 |
| **School leadership** | | | | |
| 4. Promotion of a positive learning culture amongst staff, students and parents | **9** | 5 | 2 | 2 |
| 5. Developing distributed leadership | **6** | 1 | 3 | 2 |
| 6. Collaboration between teacher teams | **23** | 9 | 5 | 9 |
| **System Leadership** | | | | |
| 7. Collaboration between schools | **29** | 12 | 9 | 8 |
| 8. School-community partnerships (family) | **14** | 7 | 4 | 3 |
| 9. Improved new partnerships with industry and community experts | **29** | 14 | 9 | 6 |
| 10. System leadership practices | **17** | 6 | 8 | 3 |
| **School organisation and resourcing practices** | | | | |
| 11. Better use of data in decision-making and performance analysis | **12** | 7 | 3 | 2 |
| 12. Improved use of school resources | **9** | 4 | 3 | 2 |

Source: Source: Schools' most recent PAPs and Project Artefacts. N=42

### 3.2.1 What are these new and innovative improvement practices?

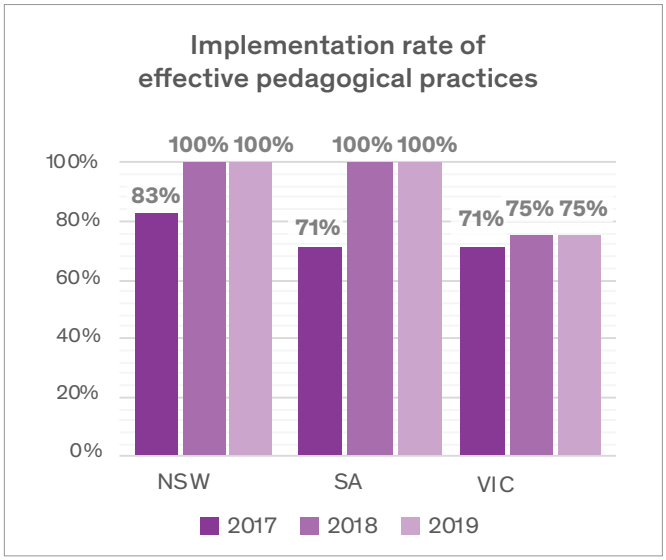
**Insight 2:**
The Connection uses an inquiry process, emphasising structured processes of shared inquiry, to implement innovative practices in Australian classrooms, and at school and system leadership levels

#### 3.2.1.2 Classroom Practices

**Finding 6:** Very high proportions (75 to 100 per cent) of participating schools reported implementing effective pedagogical practices

Survey data in Figure 12, below, shows that schools in all three states implemented what they identified as being effective pedagogical practices, with schools in NSW and SA reporting slightly higher rates of implementation, than VIC. Schools implemented these practices in a variety of ways (see Appendix 1). One example is the inquiry-based method of teaching and learning implemented by one SA case study school (see Box 2).

Figure 12: Evaluation survey – Principals reporting a "medium focus" or "large focus" on the implementation of effective pedagogical practices




Source: Evaluation surveys 2017 (N=15), 2018 (N=26) and 2019 (N=19)

## Box 2: Example of effective pedagogical practice from Mount Burr PS Cluster (Case Study 3), SA

As part of The Connection project, teachers at the Mount Burr cluster were trained in the delivery of inquiry-based learning. This pedagogical approach allows students to learn the content of Science and Maths curricula, while working together to answer an overarching question or problem. For example, to help guide the teaching and learning of engineering design in one particular class, the teacher posed the overarching question: "You have moved to the pines with your family to live. There is no house. How could you make a humpy to live in?" The question provided a very specific prompt for inquiry-based learning.

### Impact on student learning outcomes

Working in this way helps students to develop their collaboration skills, as well as the General Capabilities of Information and Communication Technology skills, Personal and Social Capability and Critical and Creative Thinking. At Mount Burr PS, year 7 students undertake collaborative projects with the Year 8 students at their local feeder high school, to ensure a smooth transition to high school by fostering connection between primary and high school. Projects that tackle community issues, such as the prevention of house fires, and disabled access to a local pool, helped students to connect their learning to real-world problems.

### Impact of the practice at the education system level

The other two schools in the Mount Burr cluster are also implementing these practices, working with local feeder high schools. Their in-school implementation of inquiry-based learning is developing, with guidance from Mount Burr PS. To learn more about the impacts of inquiry-based learning in the Mount Burr cluster, and to see an excerpt from an inquiry lesson plan, please see Case Study 3 in Appendix 7.

**Finding 7:** A moderate to very high proportion (43 to 100 per cent) of participating schools reported implementing systematic curriculum delivery

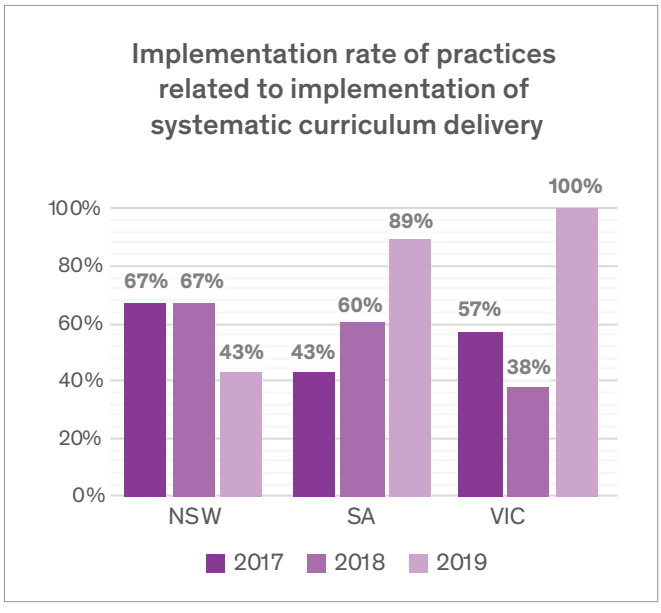
Figure 13 shows that all participating Victorian schools and 89 percent of SA schools implemented systematic curriculum delivery in 2019 and that this steadily increased over the three years (from 2017-19). In NSW, however, the proportion of schools that reported implementing systematic curriculum delivery fell from 67 per cent in both 2017 and 2018 to 43 per cent in 2019. These findings appear to align with the various state agendas during this period, at a time when both SA and VIC prioritised the implementation of state-wide curriculum priorities. See Box 3, on the next page, and Appendix 3 for details of practices adopted by different schools.

**Finding 8:** A moderate to very high proportion (43 to 100 per cent) of the participating schools report implementing differentiated teaching and learning

The survey data in Figure 14 shows that, over three years, Connection schools in VIC and SA, but not NSW, increased their implementation of practices related to differentiated teaching and learning. In 2019, all participating VIC and SA schools reported implementation of practices related to differentiated teaching and learning, while 43 per cent of NSW schools reported implementation of these practices.

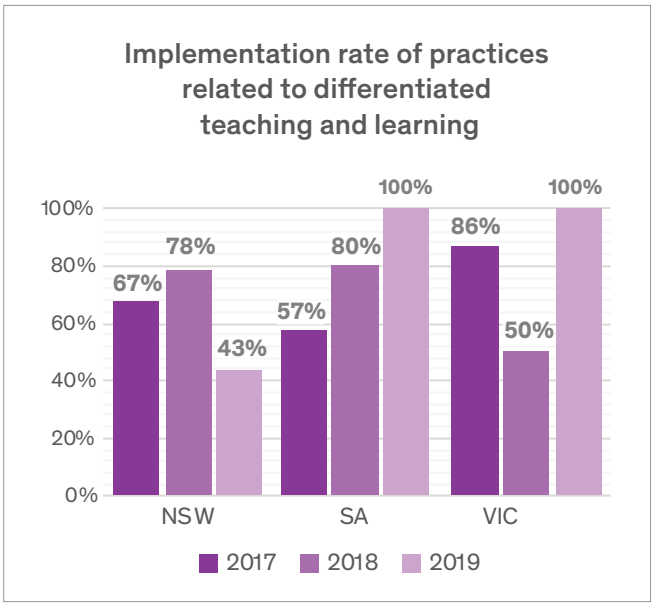
In contrast to the survey data, a lower proportion of schools in PAPs (six out of 42, or 14 per cent, see Table 2) explicitly reported practicing differentiated teaching and learning. The reason for this stark difference in reporting may be the open-ended nature of PAPs. Schools are not directly asked to report on the implementation of differentiated teaching and learning. Additionally, schools may have implemented this practice despite it not forming part of their PAP. Examples of this include a school which used a digital reading application that differentiated reading levels of newly arrived students; provided appropriate texts and guidance accordingly, and created unit plans with different entry-points for students at different levels (see Appendix 3 for further detail).

Figure 13: Evaluation survey – Principals report a "medium focus" or "large focus" on the implementation of systematic curriculum delivery.




Source: Evaluation surveys 2017 (N=16), 2018 (N=22) and 2019 (N=20)

Figure 14: Evaluation survey – Principals reporting a "medium focus" or "large focus" on the implementation of differentiated teaching and learning




Source: Evaluation surveys 2017 (N=16), 2018 (N=22) and 2019 (N=20)

## Box 3: Example of developing school-wide curricula at Stirling North PS, SA

Principal Adam Wilson and student, Stirling North Primary School, South Australia

Stirling North PS takes a systemic, school-wide approach to developing project-based learning curricula. Each term, educators come together to select a theme, which informs the project topics for that term.

Critical to the school's project-based learning curricula, is a project planning form, which enables teachers to enter the theme for the term, examine that theme alongside the Australian Curriculum, and identify which Learning Areas and General Capabilities they can meaningfully incorporate to explore the theme.

The project planning form also emphasises the incorporation of opportunities to develop students' Critical and Creative Thinking and asks teachers to consider how the project will "engage, challenge, and support" learners. It then asks teachers to "STOP" and give students the opportunity to define and demonstrate their learning.

One theme chosen by the school, for example, was 'Let's Unite'. In order to develop the students' critical and creative thinking around this theme, teachers developed a Humanities project, designed to teach students about different text types. To promote engagement in the program, teachers also planned excursions and brainstormed guest speakers to "unite" on Indigenous perspectives.

### Impact of The Connection in activating the practice

While Stirling North PS's principal, Adam Wilson, said he learned of the project planning form approach from a previous school he worked at, he noted the influence of The Connection on the school's overall approach to project-based learning was significant.

"Before joining The Connection, we struggled with projects," Adam says, crediting the program with giving the school "a way to map out the year" and a clearer understanding of how to implement project-based learning into the curriculum.

"We didn't know what project-based learning was meant to look like. Visiting another Connection school and seeing their work; being exposed to the Tom Lowrie paper about combining General Capabilities into the curriculum, it just made sense."

Adam says seeing "other Connection schools doing the same curriculum work" gave him "confidence, seeing their results and knowing this is what I'm after"

This is just one example of how The Connection's program logic model can be activated to bring about a positive impact on the effective delivery of the curriculum in a participating school.

For more details see Case Study 3 in Appendix 1.

### 3.2.1.3 School Leadership Practices

**Finding 9:** A moderate to very high proportion (57 to 100 per cent) of schools reported implementing practices that promote a positive learning culture

As Figure 15 shows, 100 per cent of SA principals reported that they implemented practices that promoted a positive learning culture amongst staff, students, and parents. Schools in VIC (75 per cent) and NSW (57 per cent) reported lower implementation rates. Schools in The Connection have adopted different strategies to promote positive learning culture, including explicitly teaching staff and students about growth mindset and building strong relationships with parents and the wider school community (see Appendix 3 for further detail).

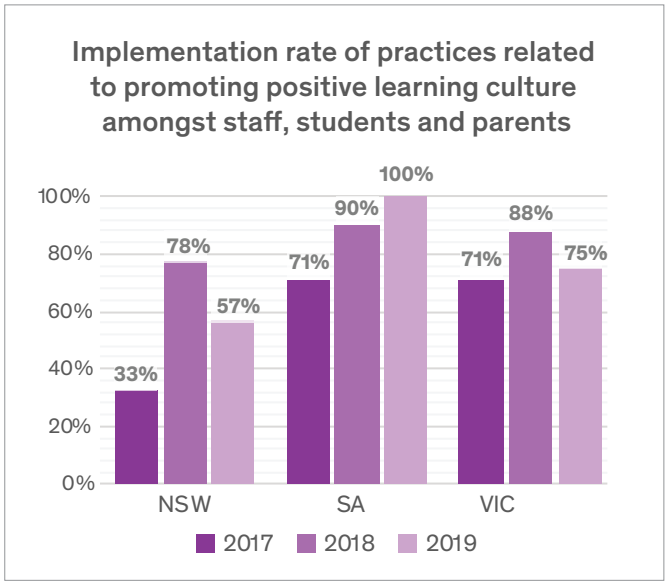
**Finding 10:** A moderate to very high proportion (50 to 100 per cent) of schools reported implementing practices focussed on development and collaboration between teacher teams

The survey data shows that in SA and NSW, from 2017-19, the proportion of schools that reported implementing practices related *to development and collaboration between teacher teams* grew strongly, to very high levels (see Figure 16). In VIC, this proportion remained relatively stable at around half of all schools. As with other practices, schools implemented this focus in several ways (see Appendix 3 for further details).

This evaluation further discusses two sub-categories of development and collaboration between the teacher teams: development of distributed leadership, and in-school teacher collaboration.

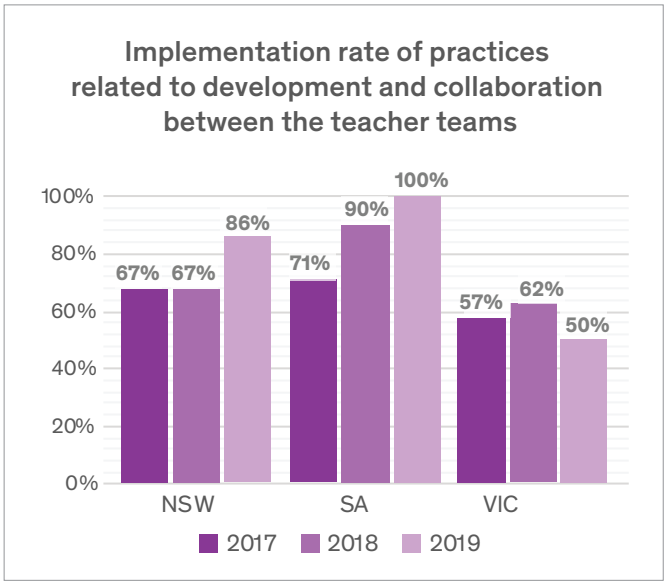
> "Changing the culture from a footy club culture to a learning culture, that was a major concern. Now when the bell rings, I hear the students say "Is that learning time?". That language has been really important to making the cultural change."
>
> — *STEM Hub School*

Figure 15: Evaluation survey – Principals reporting a "medium focus" or "large focus" on implementation of promoting positive learning culture amongst staff, students, and parents




Source: Evaluation surveys 2017 (N=15), 2018 (N=26) and 2019 (N=20)

Figure 16: Evaluation survey – Principals reporting a "medium focus" or "large focus" on the implementation of development and collaboration between the teaching teams




Source: Evaluation surveys 2017 (N=15), 2018 (N=25) and 2019 (N=20)

### *a. Practices for developing distributed leadership*

In Australia, leadership roles in schools undertaken by non-principals often include leadership by teachers across year levels, curriculum areas and teacher teams. The evidence states that leadership is not only the domain of principals – it can be distributed between different members within and beyond a school (Pont et al., 2008). Research also shows that implementing distributed leadership models across a school can play a critical role in effective school improvement and may contribute to increased student achievement (Broin, 2020; Leithwood et al., 2006).

Figure 17, below, shows that a high proportion (75 to 100 per cent) of participating principals, and significant proportions (53 to 62 per cent) of non-principals, reported increased distributed leadership within their schools. Implementation of these practices generally improved between 2018 and 2019, with large gains reported by NSW and SA principals, from 67 per cent and 50 per cent respectively, to 100 per cent, across both states. In Victoria, the growth reported by principals was more modest, increasing from 62 per cent to 75 per cent.

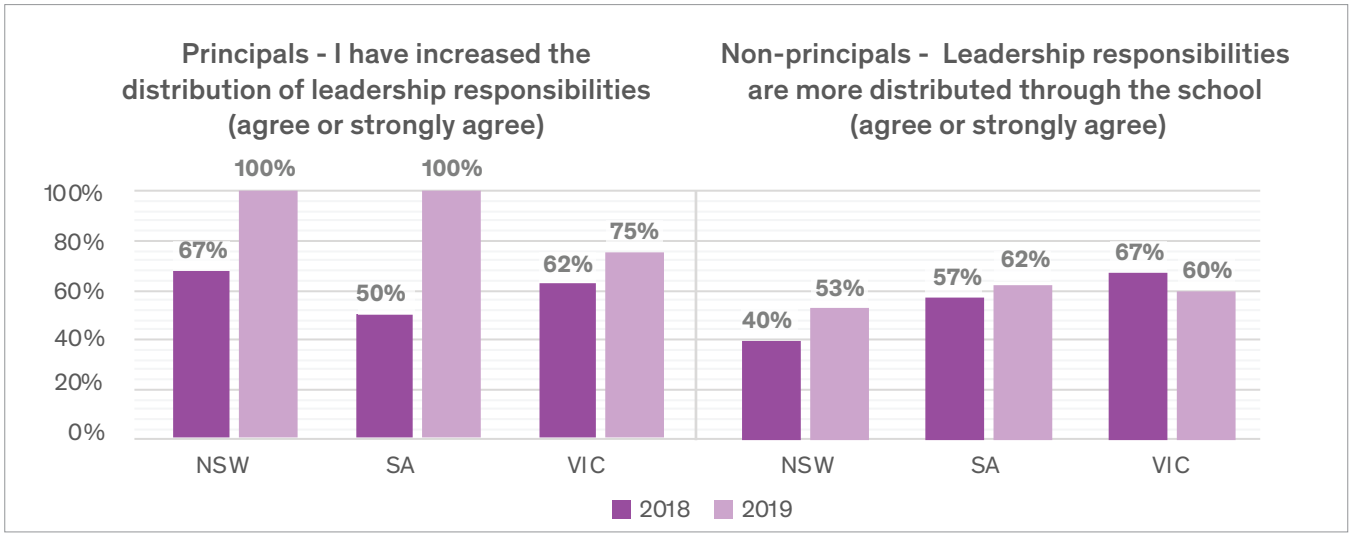
Analysis of PAPs and Project Artefacts revealed six out of 42 schools implementing distributed leadership practices: three from SA, two from VIC, and one from NSW. Examples include expanding the school leadership team, establishing teacher teams to lead curriculum and pedagogy, appointing professional learning community leaders, and developing teachers' leadership skills (see Appendix 3 for further details).

> "A high proportion of participating principals, and significant proportions of non-principals, reported increased distributed leadership within their schools.

### *b. Teacher collaboration*

The OECD recognises that "collaboration is a complex process" that can "support new ideas and challenge existing ones and can be a powerful form of teacher learning" (Ainley & Carstens, 2018). In total, PAPs and Project Artefacts show that 23 schools (9 each in VIC and NSW and 5 in SA) implemented teacher-specific collaborative practices. Schools undertook a wide variety of collaborative practices, with examples including: peer coaching to support the implementation of a new school-wide instructional model; collaborative moderation of student assessments; and collaborative inquiry processes (see Appendix 3 for further details).

Figure 17: Evaluation survey – Principals and non-principals responding "agree" or "strongly agree" to the statement: "I have increased the distribution of leadership responsibilities" and "Leadership responsibilities are more distributed throughout the school", respectively.




Source: Evaluation surveys 2018 (principal N=25, non-principal N=56), 2019 (principal N=20, non-principal N=43)

## Box 4: Example of a school implementing distributed leadership

### Developing teacher leaders and expanding the school leadership team

A SA STEM Learning Hub principal said she valued the professional development opportunities The Connection provided for her middle leaders. “The Connection is a great learning curve for all leaders, not just the principals. Hosting school visits was a great baby step for some of our leaders – those Connection visits are an opportunity to build a skillset that others don’t get”.

As part of the school’s Project Action Plan, this principal’s school has added two new positions to the School Leadership Team that are directly related to the school’s improvement agenda. These include a Senior Leader of Middle School Transformation, who oversees middle years project-based learning and inquiry learning, and a new Senior Leader with ‘Entrepreneurial/Industry Connections’ oversight, whose role is to strategically maintain existing links with industry, and to develop new links.

## Box 5: Examples of teacher collaboration practices

Schools from all three states reported that their staff engaged in collaborative professional development. Examples of these collaboration efforts include:

- A NSW Star Hub school, which reported that their ongoing collaborative professional learning “resulted in a sustainable shift of pedagogy and school culture”.
- A Victorian STEM Learning Hub school, which 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 SA 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.

### 3.2.1.4 System Leadership Practices

**Finding 11:** A moderate (38 to 68 per cent) proportion of participants reported implementing system leadership practices

One emergent role for school leaders is to work increasingly with others, across schools and community settings, with school leaders, professionals and community partners, collaborating and developing mutually beneficial relationships and trust to further the strategic goals and outcomes of the system they are working in. System leaders, as they are now called, care about and work for the collective success of other schools, as well as their own. In this evaluation, the *practice of system leadership* refers to the subset practices described in the TALIS Conceptual Framework (Ainley & Carstens, 2018; Pont et al., 2008), concerned with schools' interaction with and influences on public bodies and networks that operate across the wider education system.

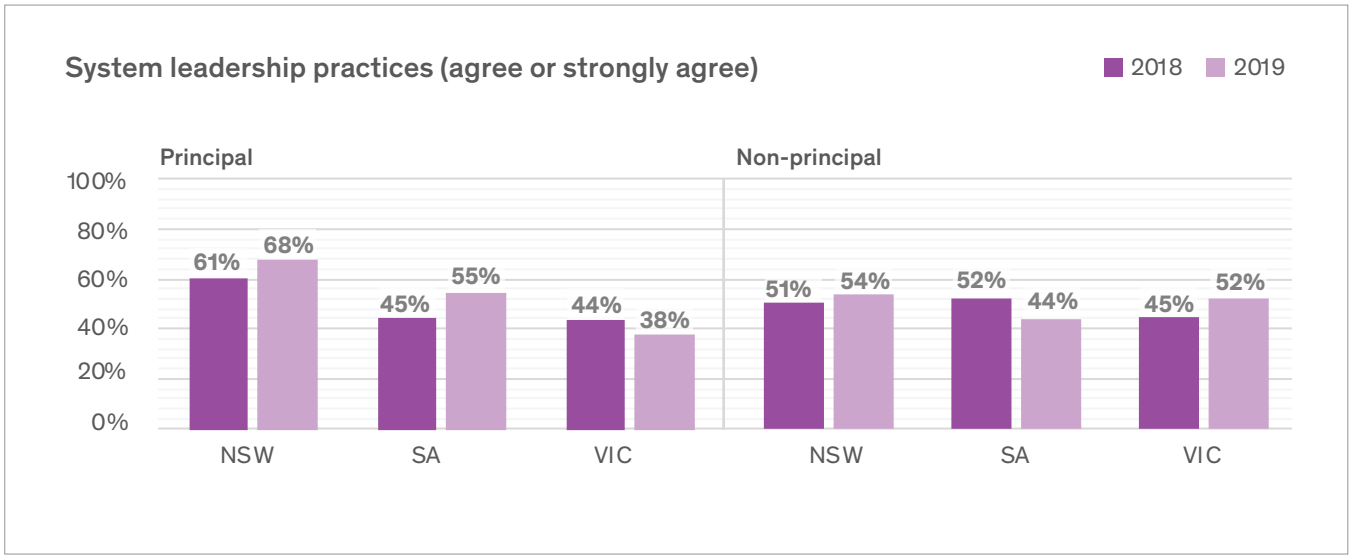
This domain of leadership is critical to the goals and logic of The Connection, since it relates so directly to the aim of increasing shared leadership capability for schools working in disadvantaged community settings, and to the possibility of increasing the wider capacity for innovation, improvement and collaboration to support educational achievement by disadvantaged students on a systemic scale.

For our purposes, the practice of systems leadership is a composite indicator, including these four sub-indicators:

- "Our school shares practices and knowledge acquired through The Connection with schools in our broader networks."
- "There is more positive interaction between our school and the network."
- "Our school has had a greater influence on the priorities of the system."
- "I observe that when people in our school move on, it is into positions of influence in the wider system."

Figure 18 below shows that in SA and NSW, the percentage of principals agreeing that system leadership practices have been implemented, increased between 2018-19. The percentage of non-principals reporting implementation of system leadership practices is somewhat lower, and stable at around 50 per cent, across all three states.

Figure 18: Evaluation survey – Implementation of system leadership practices (per cent agree or strongly agree)




Source: Evaluation surveys 2018 (principal N=25, non-principal N=53) and 2019 (principal N=20, non-principal N=42)

These are tentative indicators and may reflect uncertainty about the definition of system leadership, a lack of priority in participating schools, or other factors. It is worth noting that, in Chapter 3, section 1.3, a relatively higher proportion of principals and non-principals report developing a systems leadership mindset, arising from their own experience of participating in The Connection. Exactly how the development of system leadership mindsets and network-based working relationships might translate into the implementation of specific system leadership practices is an important question for further investigation.

Box 6, below, gives an example of how one participating school implemented System Leadership practices.

**Finding 12:** There is a high variability in the proportion (25 to 100 per cent) of schools reporting development of mutually beneficial working relationships

A crucial aspect of The Connection's theory of change is the role of inter-school collaborations, supporting the exchange of practice-based and evidence-informed methods between schools, to support greater student achievement.

Consistent with a pattern found across this evaluation, the survey results in Figure 19 show that in 2019, a very high proportion of NSW and SA principals (100 per cent) agree or strongly agree that via The Connection they have engaged in mutually beneficial working relationships with other schools. The proportion of Victorian principals reporting engagement in this practice was far lower, at just 25 per cent.

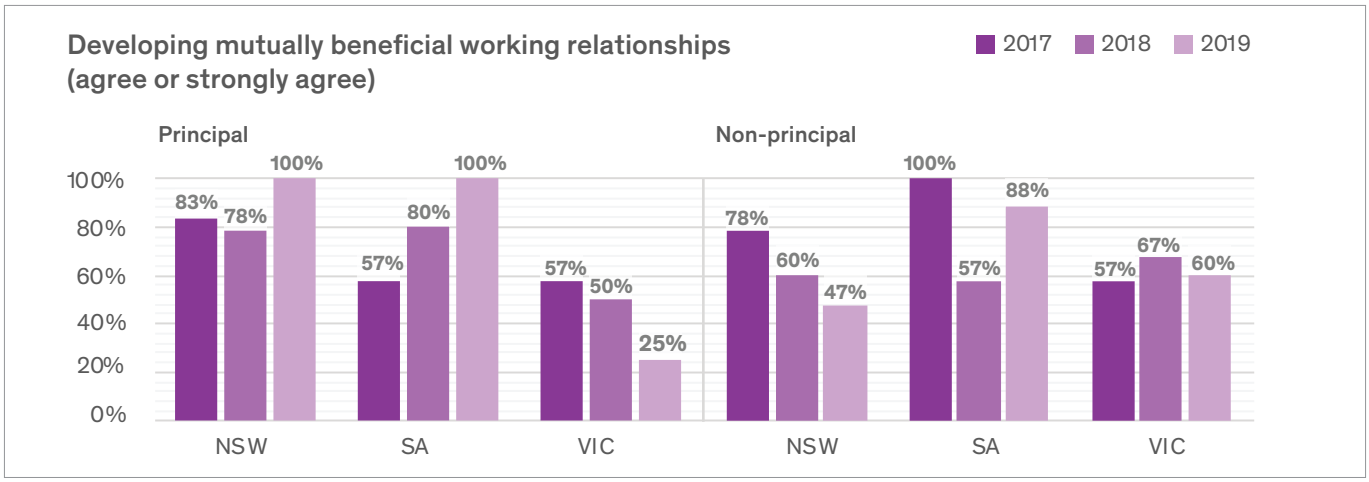
Among non-principals, the pattern is different (see Figure 19, overpage). In 2019, a higher proportion of the Victorian and SA non-principals reported developing mutually beneficial working relationships with schools across The Connection (60 per cent and 88 per cent, respectively), compared to their NSW colleagues (47 per cent). The results of the PAP and Project Artefact analysis reveal similar state-by-state trends in collaboration, with SA schools reporting the highest levels of mutually beneficial inter-school collaboration (82 per cent, n=9), followed by NSW (72 per cent, n=12), and VIC (62 per cent, n=8).

## Box 6: Example of System Leadership: working closely with education department personnel and other schools to share best practice

Stirling North PS (see Case Study 4), a SA Star Hub school, works closely with a member of the South Australian Department for Education to develop practices that promote student voice and agency across the school as part of the SA Teaching for Effective Learning framework. The school supports staff to co-design individual learning plans for students, has built-in opportunities for students to have input into their learning within curriculum planning documents, and develops student voice in the Early Years with the Walker Learning program for play-based individualised learning (Early Life Foundations, 2020).

Stirling North PS's principal advocates strongly for these practices across the system, using his position in other networks and organisations to share the success that his school has experienced. Three SA schools reported that Stirling North PS directly influenced their approach to developing student voice. This is one example of the way in which The Connection facilitates meaningful relationships between education department representatives, individual schools, and other school networks, to foster and diffuse effective practice across the system.

Figure 19: Evaluation survey – Principals and non-principals responding "agree" or "strongly agree" to the survey prompt: "My school has developed mutually beneficial working relationships with other schools"




Source: Evaluation surveys 2017 (principal N=16, non-principal N=17), 2018 (principal N=25, non-principal N=57) and 2019 (principal N=20, non-principal N=43).

Beyond the development of direct, collaborative, school to school relationships, our analysis of the PAPs and Project Artefacts found schools described adopting a range of specific school-based improvement practices, as a result of their participation in The Connection.

These include changes to school organisation or administrative processes, strategies for improved teaching and learning, methods for enhancing student voice and agency, approaches to professional development, and reporting practices (see Appendix 3). Data from our interviews and focus groups suggest four patterns of mutually beneficial working relationships, drawing on the network to share and apply knowledge, and in some cases to develop ongoing collaboration (see Figure 24):

a. *Smart borrowing* - adaption and/or adoption of a specific initiative, framework, and/or tool - nine instances reported
b. *Ongoing Collaboration* - mutual exchange of school improvement practices - 13 instances reported
c. *Limited Engagement* - to maintain contacts that can be used in the future or whenever necessary - six instances reported
d. *Loose relationships* - lack of clarity on depth and breadth of relationships - eleven instances reported.

The number and types of relationships that emerged from the interviews and focus groups are not exhaustive. Schools may have engaged in more of the above instances than reported because they were not explicitly asked to do so. Schools that were not interviewed may have built many more relationships than those represented in Figure 20, overpage.

### *a. Smart borrowing*

In several interviews with schools, the term "smart borrowing" is credited to The Connection's Director Sue Cridge. "Smart borrowing" describes the practice of learning about a particular practice from another school and adapting it to suit their own needs. Figure 21, above, illustrates the process underpinning this kind of relationship. The Connection provides a platform for participants to share their ideas and practices, which other participants find relevant to their needs.

Figure 21: Smart borrowing

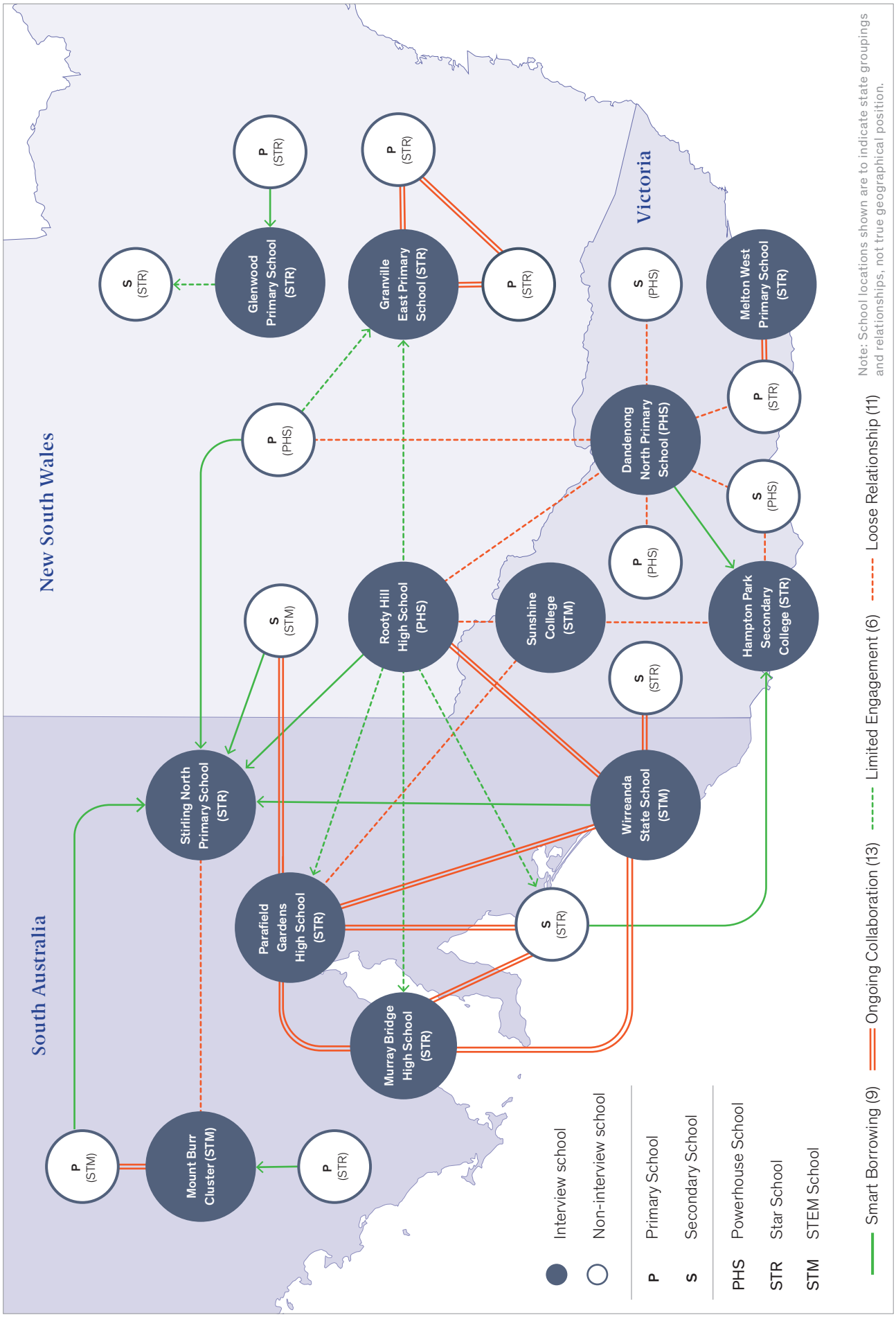



Figure 20: Map of inter-school collaboration from qualitative research (interviews and focus groups)

These participants analyse, filter and adapt these ideas to their own context, and apply it in their school. For example, a NSW 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. This was adopted after seeing the practice presented at a Connection event.

Further examples of "smart borrowing" are outlined in Appendix 3.

### *b. Ongoing collaboration*

The collaborative environment provided by The Connection has led to strong partnerships developing between some subsets of The Connection schools, which participants say are likely to persist beyond the formal program. We call this ongoing collaboration. In these relationships, schools share and develop new and fit-for-purpose improvement practices on multiple occasions and over a long period of time. As Figure 22 illustrates, these relationships involve participants from different schools coming together, combining their knowledge and experience, and collaboratively creating new ideas and practices that benefit each school.

For example, Rooty Hill HS (see Case Study 1, in Appendix 1), a NSW Powerhouse school, is leading a group of four SA Star Hub schools in developing their assessment of the General Capabilities. Leaders from two of these SA schools reported that they greatly value this collaborative relationship, and that the work has already influenced the way these schools explicitly develop the General Capabilities in the classroom.

One of these SA schools is also working closely with a Victorian Star Hub School, which reported that school leaders had visited each other 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 the SA Powerhouse School is "a very positive connection which will continue well beyond The Connection".

Interviews and focus group data show 16 instances of ongoing collaboration, some of which occur within groups of three or more schools (see Appendix 3 for details).

Figure 22: Ongoing collaboration

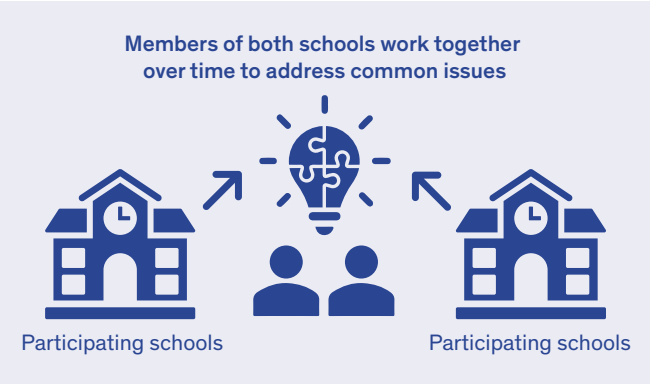
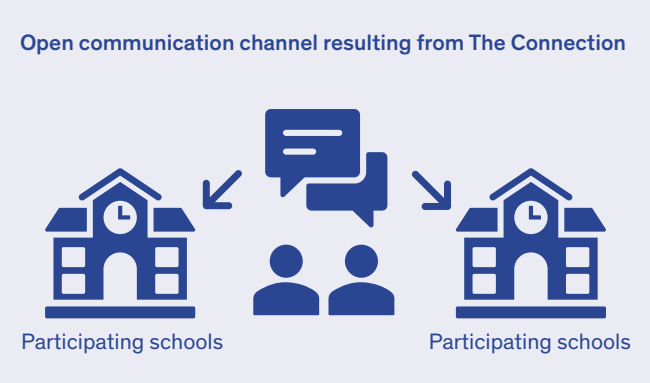



Figure 23: Limited engagement

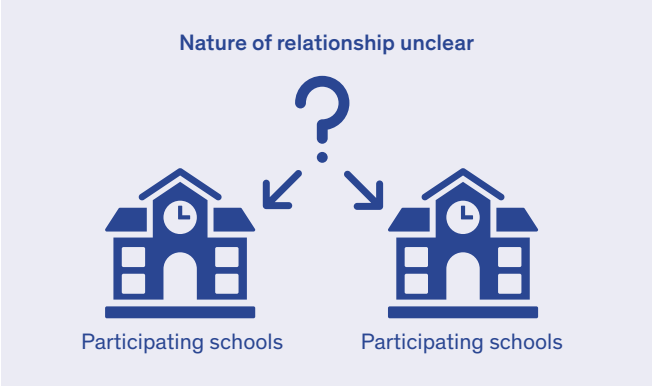



### *c. Limited Engagement*

The qualitative research also reveals that some schools established relationships that do not involve actively sharing practice, but where principals and teachers feel they can reach out to each other in the future as needed. This kind of relationship is referred to as Limited Engagement. As Figure 23 illustrates, above, limited engagement relationships do not involve active collaboration or transfer of ideas. Rather, they are open channels of communication that participants developed in The Connection, that they may call upon when needed in the future.

For example, the principal of a NSW Star Hub school said he had made connections with schools that he felt he could call upon as needed, but wasn't actively pursuing collaboration. "We've made some connections. We're not singing "Kumbaya" around the fire together, but now we have those introductions, I can pick up the phone if something comes up". As an example, the principal explained that his newly-formed relationship

Figure 24: Loose Relationships




with a leader of a local feeder high school, also involved in The Connection, meant he has been able to "open doors" for students who transition on to that high school. Six instances of this kind of relationship emerged from the interviews and focus group data.

### *d. Loose Relationships*

Loose relationships were mapped when a participant acknowledged they had connected with another school, but did not describe the nature of their relationship, or whether they had worked on a specific project together (see Figure 24). For example, the principal of Dandenong North Primary School (DNPS; Case Study 2, Appendix 1) named several Powerhouse Schools, who he valued having relationships with, however, the exact nature of those relationships was not clear. Overall, data from the interviews and focus groups revealed five loose relationships.

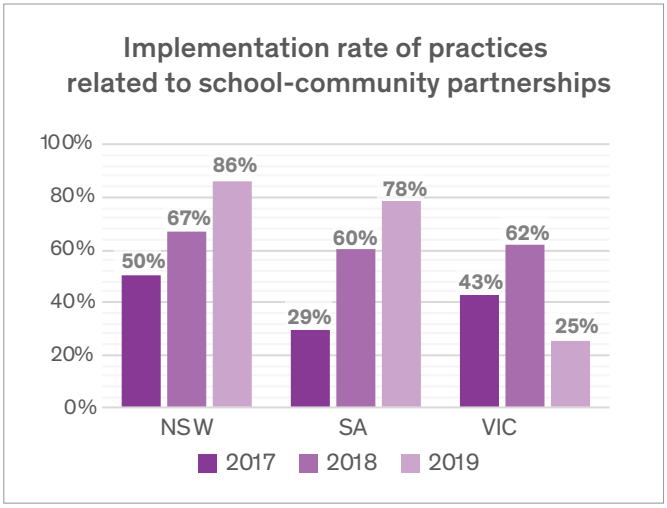
**Finding 13:** There is huge variation (25 to 86 per cent) in schools reporting the implementation of practices focused on school-community partnerships

The NSIT recommends that schools "actively seek ways to enhance student learning and wellbeing by partnering with parents and families, other education and training institutions, local businesses and community organisations". Our analysis of Project Action Plans and Project Artefacts examines how these kinds of partnerships occur in schools taking part in The Connection.

The survey data shows that over the three years, NSW and SA schools saw a steady increase in the implementation of practices related to school-community partnerships (see Figure 25). In Victorian schools, this practice increased in 2018 to 62 per cent, and then dropped to 25 per cent. The survey results align with the results from PAPs and Project Artefacts. While data from interviews and focus groups with Victorian schools does not entirely explain the reason for this drop, it suggests that factors including changes in school leadership and state-based policies restricting travel may be relevant.

Examples of school-community partnerships include one particular school, which undertook extensive consultation with parents and community members to inform the future direction of teaching and learning at the school  The school also asked students to personally invite family members to the school's open day, which resulted in far higher attendance. (See Appendix 3 for further detail; and Case Study 3, in Appendix 1, for an example of strengthening partnerships with the local community).

Figure 25: Evaluation survey – Principals reporting a "medium focus" or "large focus" on implementation of school-community partnerships



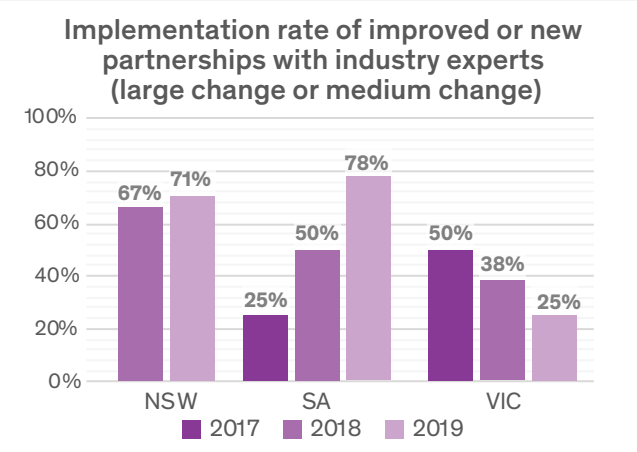

Source: Evaluation surveys 2017 (N=14), 2018 (N=23) and 2019 (N=20)

**Finding 14:** There is huge variation (25 to 78 per cent) in schools implementing practices focussed on new partnerships with industry experts

Collaboration by schools with employers and industry organisations is recommended by the ACER's NSIT as a means of "providing access to experiences, support and intellectual and/or physical resources not available within the school" (ACER, 2016). In NSW (71 per cent) and SA (78 per cent) of principals reported growing implementation of new or improved partnerships with industry experts (see Figure 26). In Victoria, the proportion of principals reporting new partnerships saw a steady decline, and in 2019 was substantially lower than in other states, at 25 per cent. The analysis of PAPs reflects a similar trend in this practice. Box 7 provides an example of how one Star Hub school proactively built partnerships with local industry to contextualise student learning and build the school's profile within the community.

The PAP and Project Artefact analysis reveals 23 schools that benefitted from a Connection-facilitated partnership with Samsung Electronics Australia. Schools received varying grants through this partnership, which they used to purchase technological infrastructure, such as Flip Boards, Windows Tablets, Notebooks, virtual reality headsets and 360 Cameras, and to improve the overall teaching and learning experience in their schools. The PAP and Project Artefact analysis also shows that four schools benefitted from a Connection-facilitated partnership with cloud-based software company, Salesforce. The assistant principal of one of these schools said the industry partnership had enabled students to experience a real-life, corporate workplace, describing the experience as highly valuable, because not many of the students' families could provide them with exposure to that kind of environment.

Figure 26: Evaluation survey – Principals reporting a "medium focus" or "large focus" on implementation of improved or new partnerships with industry and community experts




Source: Evaluation surveys 2017 (N=5), 2018 (N=24) and 2019 (N=20). Note: No responses to this question were received from NSW schools in 2017

## Box 7: Building industry partnerships to allow students to apply their learning in the real world, at Stirling North PS, SA

Stirling North PS is a remote school in SA, 300 kilometres from Adelaide and 7 kilometres from the regional centre, Port Augusta. The school's principal, Adam Wilson, sees connecting with businesses in the area as a way to further drive student engagement and inform them about local industries through project-based learning, as well as build the school's reputation in the community. "Any business that wants to engage in the school, we jump on. The default response is 'yes," Adam says.

Among the school's many industry partners are several renewable energy companies. One of these companies runs the local solar-powered tomato farm, which students visited as part a science lesson. Adam says forming these partnerships was "a no-brainer", given the importance of the industry to the region's future: "Port Augusta is planning to be the renewable energy hub of the southern hemisphere. Why not let students experience the industry and allow them to apply their learning in the real world?".

### 3.2.1.5 School organisation and resourcing practices

**Finding 15:** A moderate to high proportion (43 to 78 per cent) of the schools focused on implementing better use of data for decision making and performance analysis

Figure 27 shows that SA principals were most likely (78 per cent) to report growth in the implementation of practices related to the use of data for decision-making and performance analysis between 2017 and 2019. In NSW, the focus of schools on these practices increased from 2017 to 2018 and then dropped to 43 per cent in 2019. In Victoria, schools reported a consistent rate of implementing data use practice, across the three years, of around 50 per cent. Box 8, on the next page, gives an example of how one of the participating Powerhouse Schools implemented these practices effectively. See Appendix 3 for more detail.

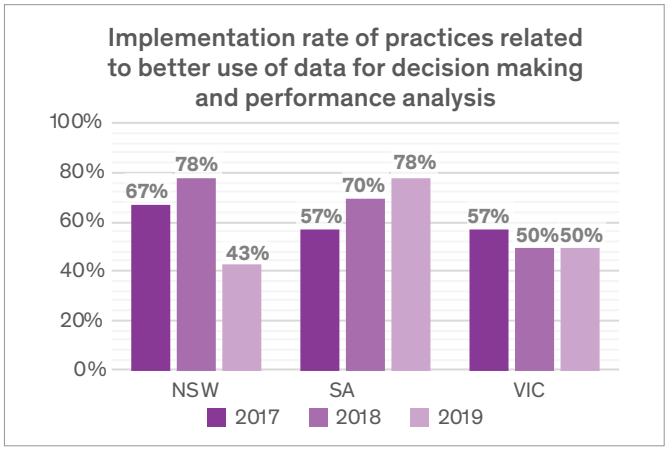
**Finding 16:** A low to moderate proportion (25 to 56 per cent) of schools reported implementing practices focussed on improved use of school resources

Compared to other improvement practices, described above, relatively few schools in The Connection focused on improved use of school resources, based on results from the Evaluation survey (see Figure 28). This is in line with results from the analysis of PAPs and Project Artefacts, which found that nine out of 42 schools (21 per cent) reported improved use of school resources.

SA schools (56 per cent in 2019) reported a steady increase in the implementation of this practice, as did principals from NSW (36 per cent). In the case of VIC, schools reported a

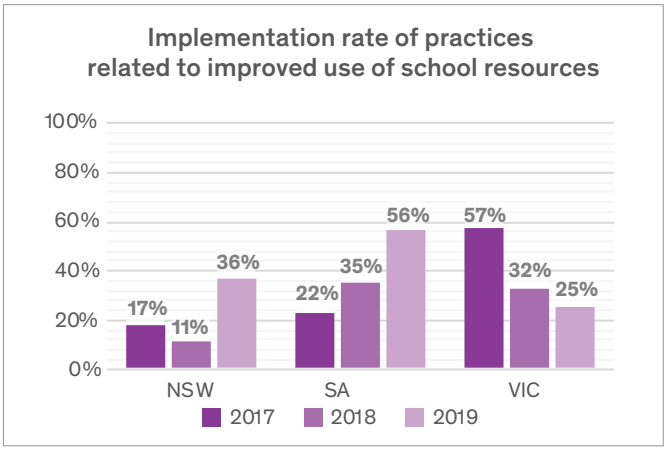
> "Industry was key. We live in an area where there's not a lot of scope for sustainable industry relationships. We want to engage with industry, it helps students to be interdisciplinary learners and provide the skills they'll need when they leave school.
>
> SVA has given us a step up, directly through Sue Cridge, to build our industry partnerships. Exposing kids to corporate excellence helps to overcome some of their equity issues"
>
> — *SA STEM Hub principal*

Figure 27: Evaluation survey – Principals reporting a "medium focus" or "large focus" on the implementation of better use of data for decision making and performance analysis




Source: Evaluation surveys 2017 (N=15), 2018 (N=24) and 2019 (N=20).

Figure 28: Evaluation survey – Principals reporting a "medium focus" or "large focus" on the implementation of the practices related to improved use of human or financial resources




Source: Evaluation surveys 2017 (N=16), 2018 (N=23) and 2019 (N=20)

downward trend in the implementation of practices designed to improve the use of school resources (from 57 percent in 2017 to 25 per cent in 2019). Examples of implementation of this practice include, but are not limited to: allocation of a 0.4 full-time equivalent position to mentor teachers and develop their capacity to effectively use technology in the classroom, and reallocating funding and time to enable more teacher collaboration (see Appendix 3 for more detail).

### 3.2.2 How are schools implementing innovative and evidence-informed improvement practices?

**Finding 17:** All participating schools use an inquiry approach for the implementation of improvement practices

As part of this evaluation, we assessed participating schools' implementation of new improvement practices against a five-step inquiry process and found all schools use an inquiry process[3] to implement improvement practices related to classroom, school leadership and system leadership, as mentioned above, in Findings 5-16.

Figure 29, on the next page, illustrates that five-step inquiry process. While Figure 30, on the

3 Find further details of what is an inquiry process in Glossary

## Box 8: Example of Rooty Hill HS implementing practices focused on using data for decision making and performance analysis

Understanding the impact of innovative use of evidence (data) for decision making – "We're obsessed with evidence"

> "SVA gave us permission to look way beyond the narrow measures of reading, writing, attendance, and suspension data. We're obsessed with evidence, particularly evidence taken from beyond the traditional high stakes, narrow focus testing." – Christine Cawsey AM, Principal.

Through a Connection-facilitated partnership with education expert, Michelle Anderson, Principal, Christine Cawsey and the leadership team at Rooty Hill HS have transformed their understanding of how to best collect and use evidence in their school. For example, they learned about Results-Based Accountability, and Cliff and Dan Heath's "moments theory", which directly influenced the ways in which they use data to measure their impact on student learning.

The Rooty Hill HS leadership team is interested in the evidence of the school's "value-add" to students, and the impact of their learning on their lives beyond school. This is evident in the way the school assesses student progress in General Capabilities. At Rooty Hill HS, students compile evidence of their development of the General Capabilities (such as Critical and Creative Thinking, or Information and Communication Technology), on the school's digital learner profile, My Learning Hub. This evidence includes videos, audio recordings, photos and other documents. Student use My Learning Hub to build up a holistic portfolio of their accomplishments, which can support their applications to further study and employment opportunities beyond school. To learn more about Rooty Hill HS's innovative approach in using data and evidence for decision making and the digital learner profile system My Learning Hub, see Case Study 1 in Appendix 1.

next page, illustrates the findings from evaluation surveys and qualitative research, which shows that during 2017-19, all the participating schools implemented the first three steps of this inquiry process - *Assess, Develop,* and *Implement* - while a lower proportion (54–69 per cent) implemented the two remaining steps - *Evaluate* and *Adjust.* For more detail on how this inquiry process relates to The Connection's nine-step Impact Evaluation Cycle, and how schools performed against each of these steps, see Appendix 3.

Figure 29: Five-step inquiry process to implement school-based improvement practices

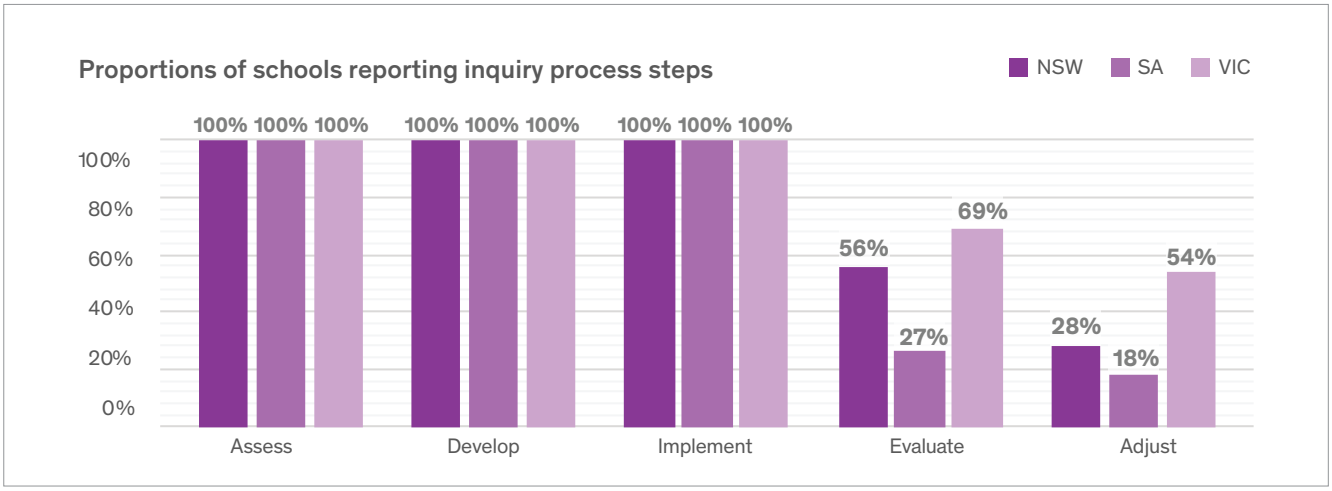

## 3.3 Student Learning Outcomes

The OECD *Education 2030 Learning Framework* offers direction on what today's children will need to shape a sustainable future for work and life, using their knowledge, skills and understanding to thrive in an uncertain and interconnected world. These include cognitive and metacognitive skills (e.g., critical thinking and self-regulation), socio and emotional skills (collaboration), and practical and physical skills (using Information and Communication Technology (ICT) devices).

Education 2030 emphasises the development of key 'transformative competencies' such as creating new value (e.g., innovating jobs, enterprise, and social practices) reconciling tensions and dilemmas (thinking in systemic ways that recognise interdependencies), and taking responsibility (recognising future consequences and acting ethically) (OECD, 2018; The Economist Intelligence Unit, 2019). The Australian Curriculum defines similar outcomes related to student learning, though organised as 'General Capabilities'.

Australian schools, and their systems, all aim to develop the knowledge, skills and understanding of students so they can learn to thrive.

Figure 30: PAP and Artefact analysis – Proportion of schools reporting on five-step inquiry process for implementing school-based improvement practices




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

In The Connection's logic model, educators working together to focus on evidence-informed and innovative practices that will lead to student achievement, is at the core of the design.

How to define and evaluate this progress by students is a complex question, nonetheless. The Connection focuses on using innovative practice, together with evidence, to enhance learning outcomes. While there are common elements to student achievement in every curriculum and school, there are also many diverse actions and factors that may influence those outcomes.

The Connection aims to connect and support schools facing similar situations and challenges, so that they can learn together from sources of expertise and innovation. At the same time, it aims to create network-based connections and common sources of knowledge that enable schools to learn from each other, as they build project-based action plans and develop collaborative strategies.

For schools serving students in disadvantaged communities, *both* the fundamentals of cognitive and content-based knowledge, including literacy and numeracy, *and* the general capabilities of reflection, collaboration and creative project-based learning, are important to the future thriving of students. Overall, The Connection has prioritised the acquisition and development of more innovative skills and capabilities, for example, those associated with STEM, and at the same time supported participants to develop their whole-school improvement capabilities, through leadership, technology, and project-based action planning. The specific objectives for learning pursued by different schools across The Connection are widely varied.

In this evaluation, we categorise student learning outcomes in three key domains: student engagement, student learning and development, and STEM-related learning.

**Insight 3:**
Educators perceive improvements in student engagement, student learning and development, and STEM-related learning over the life of The Connection. There is growing evidence of the impacts of The Connection on innovative measures of student learning such as Student Voice and Agency, Metacognition and General Capabilities

### 3.3.1 Are student outcomes improving?

**Finding 18:** A moderate to very high proportion (52 to 95 per cent) of the participants report perceived improvements in outcomes related to student learning outcomes, student engagement and development, and STEM-related learning

Overall, student outcomes are measured using three broad constructs: student engagement, student learning and development, and STEM-related learning. Most principals and educators agreed that student outcomes improved across all three constructs, with the level of this agreement increasing over time, between 2018-19.

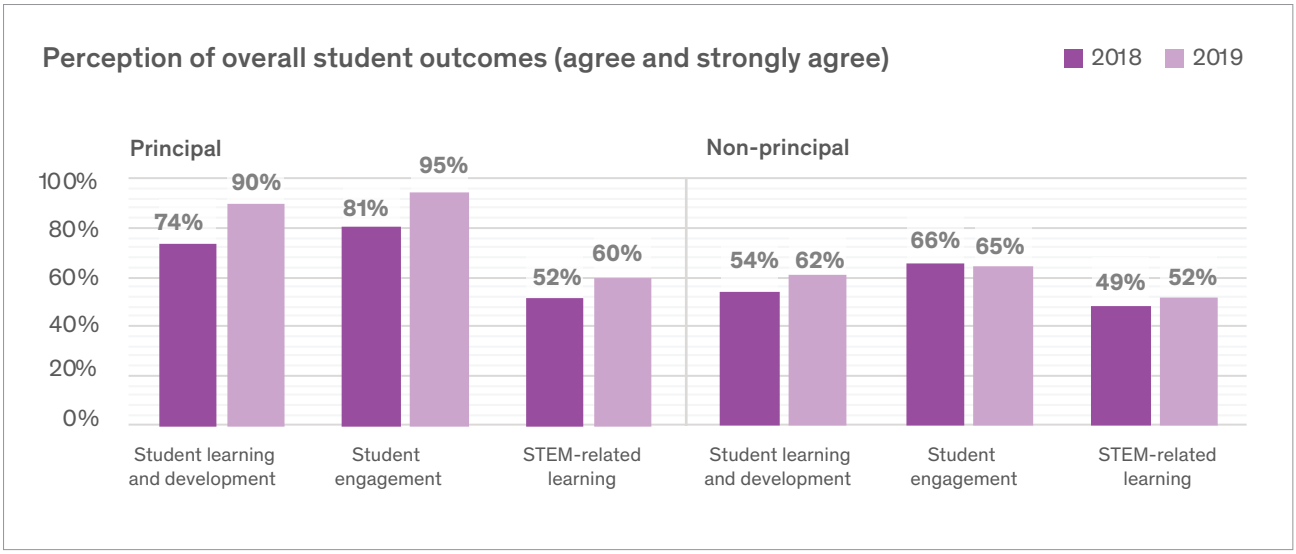
#### *Student learning and development*

The survey data in Figure 31 shows that, across two years, a high proportion of principals reported improved student learning outcomes. This proportion rose significantly between 2018 and 2019 (from 74 per cent in 2018, to 90 per cent in 2019). The proportion of non-principals reporting improved student learning outcomes similarly grew between 2018 and 2019 (from 54 per cent to 62 per cent).

#### *Student engagement*

Over time, the survey data showed a very high proportion of principals agree that students are engaged in learning. In 2019, almost all principals (approx. 95 per cent) and almost two-thirds (65 per cent) of non-principals agree that students are more engaged in learning.

Figure 31: Evaluation survey: Principal and non-principal perception of student outcomes (responding "agree" or "strongly agree" to prompts about improvement in student engagement, student learning and STEM-related learning outcomes)




Source: Evaluation surveys 2018 (principal N=25, non-principal N=54 (note, non-principal N for "STEM-related learning outcomes" =55)) and 2019 (principal N=20, non-principal N=43)

### *STEM-related learning*

In 2019, the survey data showed that 60 per cent of principals and 52 per cent of non-principals agreed there had been improvements in STEM-related learning outcomes. This rose from 52 per cent of principals in 2018 and 49 per cent of non-principals in 2018. Over time, a marginally higher proportion of principals than non-principals reported improvements in STEM-related outcomes.

The survey data shows significant variability in the participants' perceptions of outcomes related to student learning. This variability is difficult to explain. As noted in the Methodology (see Appendix 2), research suggests that discrepancies between principal and non-principal perceptions of change in student outcomes are common, but the research does not provide clear explanation of why this discrepancy occurs (Tucker et al., 2010).

In order to cast further light on specific areas of improvement in student learning, we investigated other sources of data including Project Action Plans, case studies, and school level outcome data.

## 3.3.2 What are these improvements in student outcomes?

### Specific improvements related to Student Learning and Development

**Finding 19:** A moderate to high proportion (36 to 73 per cent) of schools report improvements in academic outcomes, student voice and/or agency, and metacognition.

Figure 32, on the following page, shows that the most commonly-reported improvements were in relation to academic outcomes, followed by improvements in student voice/agency, and metacognition. Practices and outcomes related to student learning varied across states and our analysis shows that many of the practices are in the early stages of maturity in schools across The Connection.

### *a. Academic outcomes*

Analysis of PAPs shows wide variation in academic outcomes across participating schools, ranging from 73 per cent reporting improvements in SA to 54 per cent in VIC and 28 per cent in NSW. Improvements in academic outcomes were reported across a wide spectrum of assessments, such as NAPLAN scores, PAT results, and teacher judgement data A-E scores. Box 9, below, describes improvements in NAPLAN results, as reported by schools.

### *b. Student voice and agency*

Analysis of PAPs and qualitative research shows improvement in *student voice and agency* as the second most common type of improvement in student learning and development outcomes. Eighteen out of 42 schools have reported improvements in student voice and agency[4]. Fifty per cent of participating schools in NSW reported improvements in student voice and agency, compared to 45 per cent in SA, and 31 per cent in VIC (see Figure 32)

All three state education departments emphasise the need to embed student voice and agency in the classroom (Schoeffel, 2016; South Australian Department for Education, 2018a; Victoria Department of Education and Training, 2019). In 2016, The Connection program team prioritised the growing work of student voice and agency in SA, by convening the 11th Thought Leadership Gathering in Adelaide, with a focus on *Partnerships for Powerful Learning.*

Schools were invited to bring students to an event that explored how to co-design teaching and learning experiences with educators and school leaders (Schoeffel, 2016). Box 10 provides an example of student voice and agency in one case study school.

4. As there is no survey data on student voice and agency to triangulate the PAP and Artefact Analysis, the actual number of schools that had such improvements could be higher.

### *c. Metacognition*

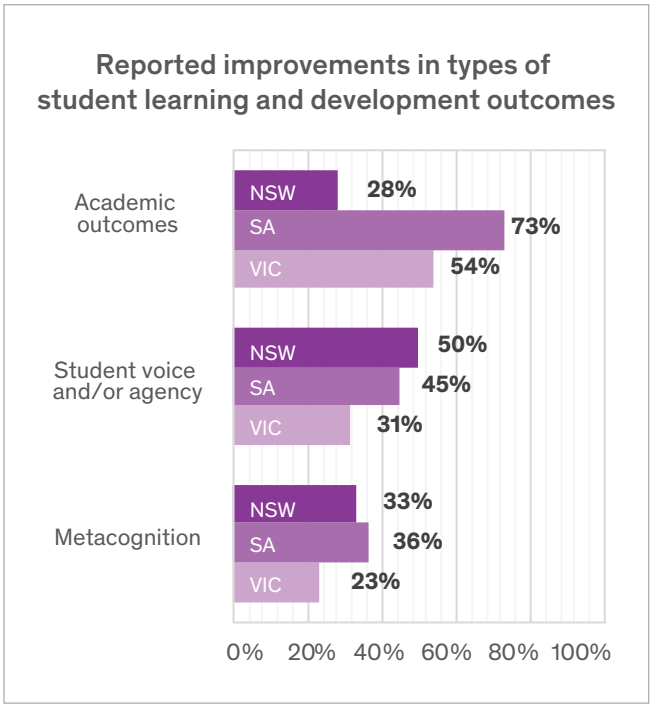
Metacognition refers to the ability to reflect, develop awareness and intention, and build strategies for one's own learning. Thirteen out of 42 schools (or 31 per cent) reported improvements in the Metacognition abilities of their students. The improvement in Metacognition was most frequently reported by schools in SA (36 per cent) and NSW (33 per cent). For five participating schools, Metacognition formed the core focus of their Program Action Plans.

Reported improvements in Metacognition by participating schools, included comments such as:

> "Students understand and can articulate their learning intention and success criteria." – NSW Star Hub participant

> "The mid-year survey showed that 79.1 per cent of students could recall the learning intention. 68 per cent of students could recall their learning goal, which was specific to writing, reading or numbers." – SA Star Hub participant

Figure 32: PAP and Project Artefact analysis – Reported improvements in types of student learning and development outcomes




Source: Most recent PAP and Project Artefact from all eligible schools (N=42).

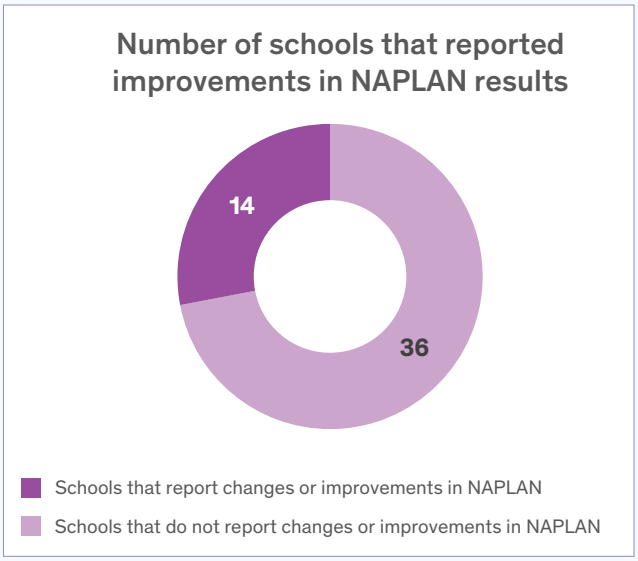
## Box 9: Emerging evidence of improvements in Academic Outcomes using NAPLAN analysis

Overall, a total of 14 out of 50 (approximately one third) schools specifically mentioned improvements in NAPLAN scores from 2017 to 2019. Reported changes of NAPLAN results over the two years (2017 and 2018) should be considered carefully in relation to implementation timing of Project Action Plans and limitations of the NAPLAN data.

### Important considerations related to the NAPLAN analysis

1. Implementation timing of the Project Action Plan: For Star and STEM Learning Hub schools, the NAPLAN test was administered in May 2017. At that time, participating schools had only started engaging with The Connection, implementing the first step of the PAP inquiry process – the assess phase. Given the five steps involved in the inquiry process, it would not be reasonable to expect any student outcome improvements in 2017. In 2018, the participating Star Hub and STEM schools began the third step – the implement phase - of the PAPs. Again, we would not expect the results of the NAPLAN tests, carried out in May 2018, to show any significant improvements in student learning outcomes, at this early stage of implementing the Project Action Plan. These PAP-related considerations do not apply to the participating Powerhouse Schools, who have been in The Connection for a longer period of time.
2. Limitations of the NAPLAN data: The evaluators only had access to school-level NAPLAN data from the My School website, which does not adequately show growth over time, because the evaluators cannot illuminate whether changes in mean scores are due to increased learning, changes in the student cohort, or changes in the teaching staff. Control group schools (in the analysis referred to as 'other similar schools') are randomly allocated by the My School website, based on the ICSEA index, therefore, schools might be similar in their index but the variations in the overall school environment is not appropriately captured.

Figure 33: PAP and Project Artefact analysis –The number of schools that reported improvements in NAPLAN results




Source: Most recent PAP and Project Artefact from all eligible schools (N=42).

### Results of NAPLAN analysis

1. Comparison with other similar schools: In Victoria, participating Connection schools that reported improvements in NAPLAN scores, obtained average scores that were above other similar schools across all the learning areas. In SA and NSW, The Connection schools followed the trend results of other statistically similar schools in most of the learning areas.
2. Comparison across states: Victorian Connection schools outperform in all the learning areas, followed by NSW Connection schools across most of the learning areas. In the case of SA, the schools consistently dropped their average scores in 2017, but then improved in 2018.

We would suggest that two years is a short period of time to understand any significant impacts of The Connection on academic outcomes such as NAPLAN results. In the future, a longitudinal study would be most beneficial for understanding and reporting on the long-term impact of The Connection. To see further details on NAPLAN analysis, see Appendix 3.

## Box 10: Student Voice and Agency at Dandenong North Primary School, Victoria

A valuable outcome of the school's participation in The Connection was learning more about developing student agency and exploring ways in which the school could foster student agency. Principal Kevin Mackay OAM said he had often wondered how students perceived their own learning and wanted to know how his teachers would react to having their lessons observed by students. He trialled this by sending small groups of students into classrooms to observe teachers, unannounced. As no teachers raised concerns, the practice continued

That initial trial has grown substantially in scale and sophistication to become DNPS's *Classroom Observation program.* A former student of DNPS has returned to the school to develop and administer this program, which was partly inspired by the school's work with The Connection.

The program runs as follows:

1. Students from Year 2 and above volunteer to participate in a Classroom Observation program.
2. Students select a teacher who is yet to be observed, and in groups of three or four, students spend 30 minutes in the classroom, observing the teacher. They take videos and photographs of the lesson and fill in a pro forma designed to help them analyse the classroom teaching.
3. The students spend 15 minutes discussing their observations afterwards. The program coordinator helps students to understand the pedagogical strategies that teachers are employing. She teaches them about "High Impact Teaching Strategies" – a pedagogy guide for teachers from the Victorian Department of Education – as a framework through which they interpret their observations.
4. The student committee reconvene during recess or lunch and provide their feedback to the teacher (see example in Figure 34 below).

Figure 34: Excerpt of student classroom observation form

**STUDENT OBSERVATION**

**Teacher Name:** X **Date:** 6/6/2019 **Team:** X

**What was the LEARNING INTENTION of the session observed?**
To be able to memorise your 9 time tables

| Photo Number | Observation | Clarification |
|---|---|---|
|  | Here is a warm up sheet that has a 9 times table and division questions. X started his lesson by doing this warm up sheet, he does this to always get the students ready for challening | HITS Strategy: Structuring Lessons |

Source: artefact provided by Dandenong North Primary School at interview, de-identified.

### Impacts on student learning and development

Kevin said that through this program, students have developed a sophisticated understanding of the learning process and an active voice in learning and teaching.

## Vignette 2:
## Unintended impact of The Connection on improvement in General Capabilities

There are emerging signs of improvements in General Capabilities, specifically related to Critical and Creative Thinking. Eleven schools (26 per cent of the total) reported working on projects related to embedding General Capabilities, and seven out of these 11 schools (63 per cent) reported instances of improvements in Critical and Creative Thinking.

Analysis of PAPs reveals a large variability in how schools define, plan, implement and measure Critical and Creative Thinking skills. Qualitative research suggests that The Connection schools see value in fostering Critical and Creative Thinking in their students, and that they are keen to develop effective assessment practices to support this work. Table 3, below, provides examples of how seven Connection schools reported on improvements in Critical and Creative Thinking skills at a student outcome level, and the data source used to measure these outcomes.

Table 3: Student outcomes related to Critical and Creative Thinking

| Schools | Data Source | Description of improvement in outcome |
|---|---|---|
| **STEM School, VIC** | • 'Tell Them From Me' student survey<br>• Project-Based Learning student survey | • *Students developed problem-based learning;*<br>• *Students increased critical and creative thinking from baseline to post-project* |
| **STEM School, NSW** | • Collaboration survey<br>• Observations of students | • *Students upskilled in the design thinking process* |
| **STEM School, SA** | • STEM assessment data<br>• Action Learning Plans data | • *STEM assessment data of student's collaborative, critical thinking and reflection skills revealed 63 per cent of students attained these two competencies, compared to 35 per cent in 2018.*<br>• *This data reflected an increase in student learning, a dramatic drop in non-submission rates for assessments, and an increase in student leadership and efficacy.* |

Source: Most recent PAP and Project Artefact from all eligible schools (n=42)

## Specific Improvements in Student Engagement

In this evaluation, Student Engagement is measured using five sub-indicators: *student participation in learning, student attitudes, student behaviour, attendance rates, and wellbeing*. Vignette 3, below, presents the emerging impacts of The Connection on Student Engagement.

## STEM-related learning outcomes

STEM is addressed in the Australian Curriculum through the learning areas of Science, Technologies, and Mathematics, and through General Capabilities, particularly Numeracy, Critical and Creative Thinking and Information and Communication Technology (ICT) capability. In The Connection model, the STEM Learning Hub was developed to address the potential risks of a 'digital divide' based on the socio-economic status of the school communities. Samsung Electronics Australia is a key partner in supporting the advancement of STEM-related teaching and learning approaches in The Connection schools, including through the provision of technology infrastructure.

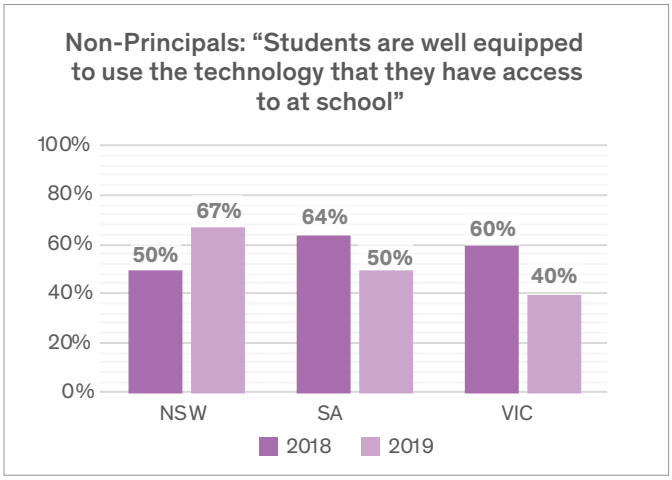
Specific improvements related to the introduction of Samsung technology and the overall focus on STEM were reported through three indicators: *participants perception of students being well-equipped to use technology, student aspiration to pursue STEM-related careers, and student engagement in learning after engaging with Samsung technology, via a Connection-facilitated partnership*. Across three states, there are mixed results related to improvements in STEM-related learning outcomes, as described in further detail below.

**Finding 20:** A moderate to high proportion (40 to 67 per cent) of participants reported that students were well equipped to use technology at school

Figure 35 shows that in 2019, 67 per cent of NSW non-principals reported students were well-equipped to use the technology they have access to at school, up from 50 per cent in 2018.

The proportion of non-principals from SA and VIC. who reported students were capable of using the technology available to them. was slightly lower - 50 and 40 per cent, respectively. Box 11, on page 54, provides an illustration of how one school introduced a student-led digital technology mentorship program, which also gave students an opportunity to build their ability to learn and work collaboratively.

Figure 35: Evaluation survey – Percentage of non-principals responding "Agree" and "Strongly Agree" to the statement "Students are well equipped to use the technology they have access to at school"




Source: Evaluation surveys 2018 (N=55) and 2019 (N=43).

## Vignette 3: Unintended impact of The Connection on Student Engagement

In the qualitative research, participating schools report emerging improvements in student engagement using five sub-indicators: student participation in learning (23 to 36 per cent), student attitudes (18 to 31 per cent), student behaviour (6 to 23 per cent), attendance rates (6 to 27 per cent), and wellbeing (11 to 27 per cent) (see Figure 36). The results vary from state to state and not all the participating schools reported on each of these five sub-indicators. Rather, schools reported the data that is most relevant to their contextual need.

### Student Participation

Improvements in student participation in learning is measured by students participating in extracurricular activities, facilitating workshops, taking formalised assessments, and – most commonly – students enrolling and participating in STEM classes.

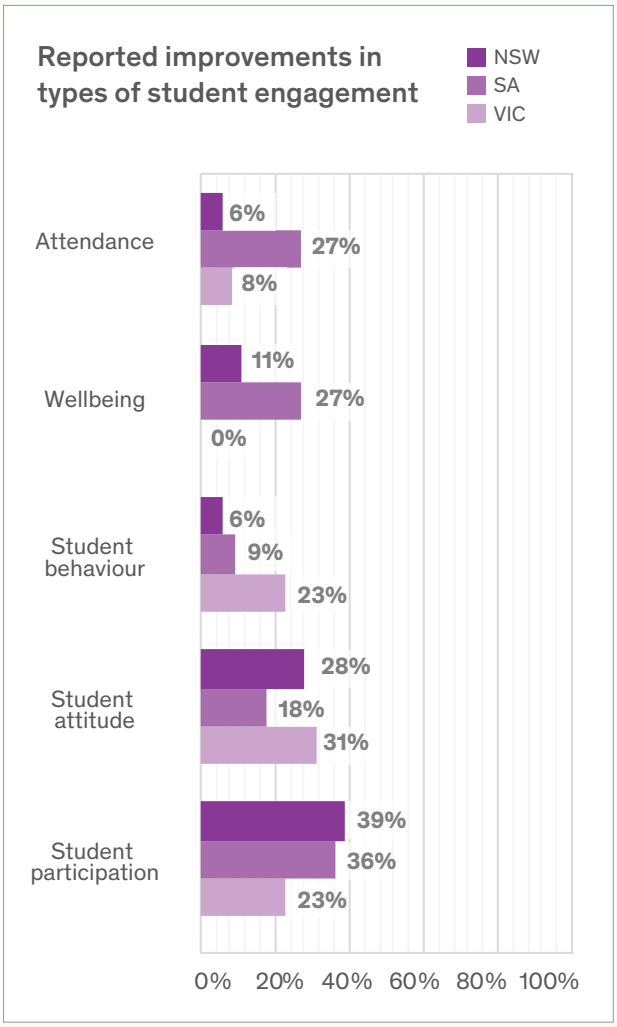
### Student Attitudes

Improvements in student attitudes are measured by participating schools using their education departments' student survey, such as The Attitudes to Schools survey in Victoria, or the Tell Them From Me (TTFM) survey in NSW.

One Victorian Star Hub School, for example, reported the following results from the Attitudes to School survey:

- Stimulated Learning - School average 83%, State average 81%
- Motivation- School average 89%, State average 85%
- Teacher Effectiveness - School average 91%, State average 86%

Figure 36: PAP and Project Artefact analysis – Reported improvements in types of student engagement




Source: Most recent PAP and Project Artefact from all eligible schools (N=42)

## Box 11: Inter-school, student-led peer coaching in digital literacy skills - Mount Burr PS Cluster, SA

Using technology provided by Samsung Electronics Australia to learn about the world beyond their towns, helped students to perceive themselves as "virtual global citizens". Students from Mount Burr PS were trained to teach digital skills to students from other schools in the cluster. This improved their digital literacy, their Personal and Social Capability and their ability to collaborate with people outside of their own communities (see Figure 37).

The school supplemented their digital learning program with a "Digital Ninja" initiative that they "smart borrowed" – adapted and implemented to suit their own context – from another Connection STEM Learning Hub school. The "Digital Ninja" initiative uses badges to award students who demonstrate digital competency. Once students earn a badge, they then pass their learning on to other students. To learn more, see Case Study 3 in Appendix 1.

Figure 37: Student-led digital peer mentoring

Source: Mount Burr Project Artefact

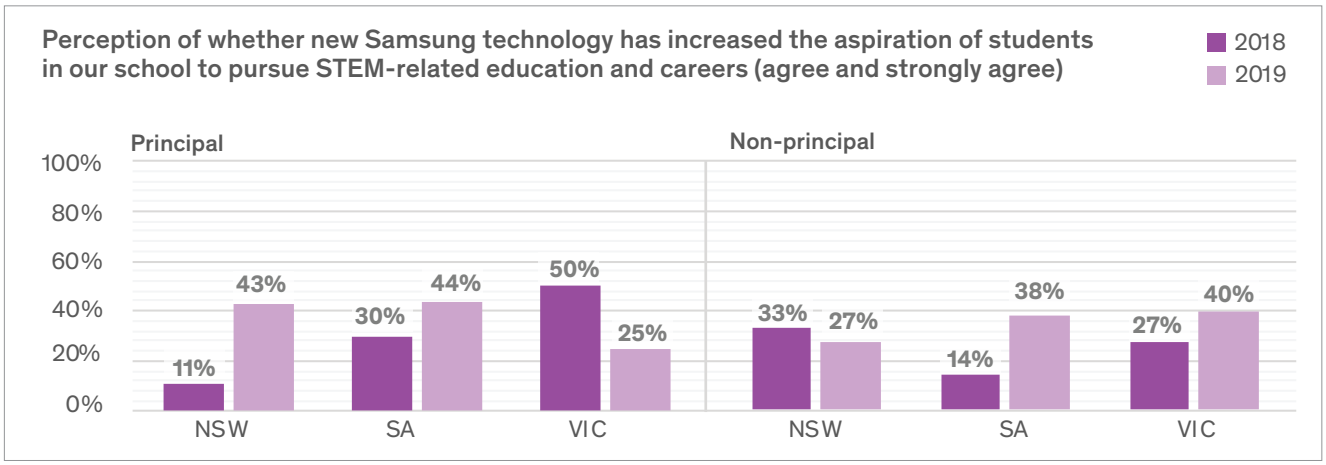
**Finding 21:** A low to moderate proportion (25 to 44 per cent) of schools reported that using new SVA brokered Samsung technology has increased the aspiration of students to pursue STEM-related education and careers.

The survey analysis found that in 2019, a similar proportion of principals in NSW and SA (43 and 44 per cent, respectively), reported that the new Samsung technology had increased students' interest in pursuing STEM-related education and careers (see Figure 38). In Victoria, this figure was significantly lower, with 25 per cent of principals reporting a perceived increase in student aspirations relating to STEM. This was down from 50 per cent the previous year.

Non-principals' perceptions of the role of the new technology on student aspirations in this field, was slightly lower, overall. In 2019, 40 per cent of non-principals in Victoria, 38 per cent in SA and 27 per cent in NSW, reported the technology had a positive impact on interest in STEM-related education and careers. Additional data to investigate the differences in perception is not available.[5]

5. It should be noted that data regarding this finding is taken from all schools, not only those in the STEM Learning Hub, to provide a picture of The Connection's impact across the whole cohort. Furthermore, it is important to consider that the schools in the STEM Learning Hub received significantly more technology from Samsung, and higher levels of support to effectively use that technology than Star Hub schools and that is one of the primary reason why proportions of schools reporting increases/ improvements on this indicator are low to moderate.

Figure 38: Evaluation survey – Principal and non-principal perceptions of the impact of new Samsung technology on increasing the aspiration of students to pursue STEM-related education and careers

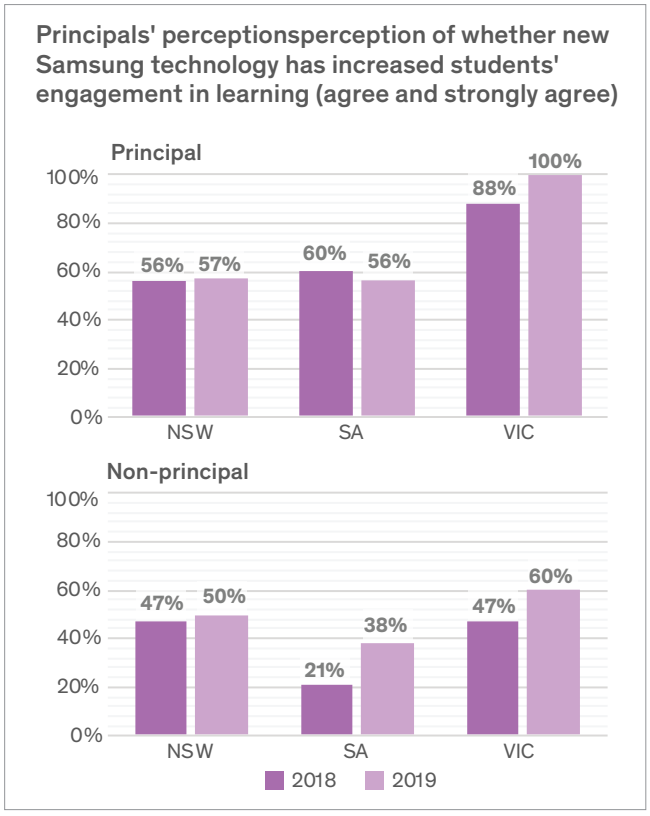



Source: Evaluation surveys 2018 (principal N=25, non-principal N=55) and 2019 (principal N=20, non-principal N=43)

**Finding 22:** Overall, a moderate to very high proportion (38 to 100 per cent) of principals reported that the new SVA brokered Samsung technology has increased student engagement in learning[6]

Overall, a higher proportion of principals than non-principals reported that new Samsung technology has increased students' engagement in learning (see Figure 39). In 2019, all participating Victorian principals agreed that the technology had increased students' engagement, compared to 60 per cent of Victorian non-principals. Similarly, in SA, principals' perception of increased student engagement in learning as a result of the new Samsung technology, was higher than for non-principals - 56 per cent compared to 38 per cent. Only in NSW, did similar proportions of principals and non-principals agree that the use of the technology had increased students' engagement in learning. It is unclear from different data sources why the perspectives of principals and non-principals varied so significantly.

Figure 39: Principal and non-principal perceptions that new Samsung technology has increased student engagement in learning




Source: Evaluation surveys 2018 (principal N=25, non-principal N=55) and 2019 (principal N=20, non-principal N=43).

6. It should be noted that data regarding this finding is taken from all schools, not only those in the STEM Learning Hub, to provide a picture of The Connection's impact across the whole cohort. Furthermore, it is important to consider that the schools in the STEM Learning Hub received significantly more technology from Samsung, and higher levels of support to effectively use that technology than Star Hub schools and that is one of the primary reasons why proportions of schools reporting increases/improvements on this indicator are low to moderate.

## 3.4 Conclusions: collective capability, school improvement practices and student learning

Overall, our findings paint a clear picture of a positive, if widely varied, impact on both school improvement practices and student learning, arising from participation in The Connection.

Participants – including principals and non-principals - consistently report improvement in their knowledge and mindsets and frequently report that their motivation to share and contribute to outcomes and collaboration beyond their own school has increased.

Schools across all three states have implemented a wide range of improvement practices over time, across integrated curriculum delivery, differentiated learning, student voice and engagement, collaborative professional inquiry, STEM-related learning, distributed leadership, and effective management of school resources.

In addition, there have also been many positive and productive examples of school-community partnerships – between schools, between schools and industry, and with other community groups.

As we would expect, the impact of The Connection's activities on student learning outcomes is still emerging. Evidence is currently limited by both the sources of data and the diverse range of influences that can impact participating schools in a variety of ways.

Our conclusions in relation to school improvement practices and student learning are reflected in the following three overall insights.

All these improvements, across three outcomes - educators' collective capability, school improvement practices and student learning - vary from year to year, state to state, and across principal and non-principal roles.

**Insight 1:**
Participants in The Connection have acquired new knowledge and mindsets

**Insight 2:**
The Connection uses an inquiry process, emphasising structured processes of shared inquiry, to implement innovative practices in Australian classrooms, and at school and system leadership levels

**Insight 3:**
Overall, there are perceived improvements in student engagement, student learning and development, and STEM-related learning over the life of The Connection. There is growing evidence of the impacts of The Connection on innovative measures of student learning, such as Student Voice and Agency, Metacognition, and General Capabilities.

# 4 WHAT IS DRIVING THE IMPACT?

> The Connection has enabled and driven a dynamic process of alignment, for many of its participating schools, between the macro system of which they are part, and the micro communities that they are working to serve.

Chapter 3 revealed a range of potentially transformative impacts of The Connection at the three interconnected levels of educators' collective capability, school improvement practices, and student learning outcomes across a wide number of Australian schools.

We found examples and evidence of impact, adoption and application of innovative improvement practices across a diverse range of schools, in different locations. We found evidence that many of the schools in the network are developing and implementing approaches which emphasise student voice and agency, general capabilities, and STEM-related skills to help equip students to thrive in the future. We also found them working to embed and align those practices with their whole-school objectives and activities.

However, just knowing that there are impacts is not enough to understand and explain them. In order to evaluate the overall impact of The Connection model, and consider its potential to contribute to future systems, it is critical to investigate what could be driving these impacts, as outlined in our Evaluation Framework (see Figure 40).

As we note in the methodology (see Appendix 2), this evaluation cannot comment on the causal relationship between specific characteristics and enabling conditions, in creating the various impacts that we outline in Chapter 3. This is both because the characteristics and conditions are complex and diffuse – they inter-relate, and may act on specific outcomes, in myriad ways.

Because of the systemic approach to learning and collaboration taken by The Connection, because schools operate in their communities, and because of limitations in the data that can be gathered, sorted and compared about these activities, it is inherently difficult to identify and attribute cause and effect.

Nonetheless, the problem that The Connection schools have set out to tackle, is about how to identify actions and organising principles that successfully support more effective learning and learner growth amidst these working conditions.

Figure 40: Evaluation Question 2, "What is driving the impact?"

## 2. What is driving the impact?

1. What are the characteristics of the network design, and how do they drive impact?
2. What are the enabling conditions in schools and the education system, and how do they drive impact?

The conditions themselves involve acting amidst complexity, engaging with diffuse influences and diverse learning needs. So, gaining a clearer understanding of how the practices work at the micro-level of schools, communities and groups of learners, and seeking to clarify how they operate and can be built up at the broader, meso and macro-levels of a system, is crucially important.

In Chapters 5 and 6, we examine further the wider system context for these practices, by reviewing relevant literature and features of school networks in some other countries, and then making recommendations for the future based on the whole evaluation. This includes understanding how evaluation and inquiry can be used to deepen understanding of where learning occurs, build up the effectiveness of these leadership practices, and contribute to the cumulative impact of these collaborative and network-based approaches.

Our analysis below suggests that the combination of both *characteristics* and *conditions* is important for The Connection to achieve a long-lasting impact on students, educators, schools, school communities, and in the wider education system.

The combination matters because conditions and characteristics are inter-related and may work together to drive The Connection's impact. Analysis of these characteristics and conditions is based on qualitative data from interviews and focus groups, Project Action Plans and Project Artefacts, as well

as observations. The evaluation team, for example, have observed and participated in Thought Leadership Gatherings.

Characteristics are key features of The Connection's activities and organisation — of how the program is designed and delivered — that drive impact and are within The Connection's locus of action and decision. The key characteristics of The Connection model are:

- **Characteristic 1:** A shared moral purpose across a diverse cohort
- **Characteristic 2:** A culture of trust and safe environment
- **Characteristic 3:** Collective accountability for shared success and impact
- **Characteristic 4:** A willingness to learn, share and exchange expertise by voluntary inclusive participation and structured inquiry

These characteristics correspond closely with those found in our comparative international analysis of collaborative school networks, and with key features of the Collective Leadership Development Network (CLDN), as proposed by Suzanne Cridge ( 2019). They are discussed in further detail in Chapter 5, as we examine the insights and conclusions that arise from both the literature, and from comparing The Connection model alongside other network initiatives in different countries.

Conditions are factors or resources existing in the wider schools' environment, including the policies, structures and priorities of the education system, which may support or constrain the actions and learning of specific schools and their communities. While the actions of The Connection cannot control these broader conditions, understanding how they may influence outcomes for schools and students and, crucially, *how they could be aligned* with the intent and the practices of school communities, is crucial to The Connection's potential for wider systemic impact.

Our framing of these enabling conditions is derived from the synthesis of literature (see Chapter 5) and from the themes identified in the qualitative research (including Project Action Plans, Project Artefacts, interviews and focus groups and observations of Thought Leadership Gatherings).

The conditions are:

- **Condition 1:** An explicit and shared whole-school improvement agenda
- **Condition 2:** Access to resources, including: infrastructure, human and financial
- **Condition 3:** Close integration between education system policy priority areas and The Connection priorities
- **Condition 4:** Active, strategic alignment between The Connection's Project Action Plans and education systems' school planning frameworks

## 4.1 What are the characteristics of the network design, and how do they drive impact?

### Characteristic 1: A shared moral purpose across a diverse cohort

While The Connection is designed to work specifically with schools whose students face educational disadvantage — to help bridge inequity and improve their access to a great education — there is nonetheless great diversity amongst the participating schools. The Connection brings educators together from across three states, including both primary and secondary schools, and schools from metropolitan, regional and remote areas. This aspect of the program's design provides a forum for knowledge to diffuse across

> "The moral imperative that is shared across The Connection is crucial. For these schools, it's not just about getting the pay packet. There's so much more pride when we see our students improve."
>
> *— VIC Star Hub leading teacher*

the Australian education system, where it may have otherwise remained siloed by traditional school network structures based on local proximity and school type (Cridge, 2019).

Our comparative analysis of collaborative networks (see Chapter 5) suggests that in order to work effectively, networks should foster a shared moral purpose amongst participants, regardless of their diversity. Overall, 50 per cent of the schools who were interviewed or part of the focus groups (six out of twelve), report that The Connection fostered a shared moral purpose amongst participants. Data from two of the schools' Project Artefacts also emphasise the need for a shared moral purpose[1].

Participants widely reported that the shared moral purpose of The Connection is to bridge inequity in learning, particularly for students from disadvantaged communities. We found variation, as expected, in how The Connection schools achieve this purpose at the school level. One South Australian Star Hub principal, for example, perceived The Connection's purpose as promoting holistic education, and valued the opportunity to lift his focus from NAPLAN results, to consider the "whole child", living in a low socio-economic community. Meanwhile, a teacher from a Victorian Star Hub school, who believes traditional aspects of learning, like literacy and numeracy, are fundamental to improving the lives of disadvantaged students, expressed caution about The Connection straying too far from these conventional aspects of learning. Different school leadership teams bring in a wide variety of perspectives, expertise, and capability to support each other in the program, and have the autonomy to decide their focus for improvement. A key operating feature of The Connection is that it works to vary the specific method, or action, through which the shared moral purpose is applied to the varying local contexts in which different schools are working.

Participants stated that the key aspects of The Connection network design driving shared moral purpose across The Connection schools are:

- Context: The similar disadvantages faced by the school leaders and educators, and their similar attitudes despite varied contexts
- Content: The content of the professional learning experiences, which participants found relevant to their mission of improving the lives of disadvantaged students

Through its design and execution of strategies for collaborative learning and knowledge sharing — the combination of project action planning, Thought Leadership Gatherings, school and international visits and digital information sharing — The Connection has made it possible to establish and sustain this shared purpose among schools facing similar challenges and, who otherwise, would have been unlikely to connect.

### Characteristic 2: A culture of trust and a safe environment

The literature review (see Chapter 5) suggests that a culture of trust and a safe environment are key ingredients to the effective delivery of professional learning networks. Establishing trust, both with other Connection schools and with The Connection team, is important. One school, for example, reported they had built trust in The Connection brand because:

> "Each next step we need to take we find that SVA is able to assist. When SVA present new findings or products, you know they have already done rigorous research to ensure it is of a high quality."
> – Victorian STEM Learning Hub participant.

Overall, six Connection schools[2] reflected on the importance of having a safe environment with a deeper sense of trust between members of The Connection schools. Participants reported that

1. Note that no participants were asked directly to comment on whether they perceived a shared moral purpose. As with many findings from this evaluation's qualitative research, further investigation is required to determine and confirm the actual prevalence of this characteristic across the entire program.

2. Note that no participants were asked directly to comment on whether they perceived a shared moral purpose. As with many findings from this evaluation's qualitative research, further investigation is required to determine and confirm the actual prevalence of this characteristic across the entire program.

key aspects of The Connection design that drive a safe and trusting environment across the participating schools are:

- The selection of schools from similar contexts, facing similar challenges
- The appropriate length of the program
- The quality of the professional development experiences and the support provided

### Characteristic 3: Collective accountability for shared success and impact

All of the school networks analysed in the comparative analysis in Chapter 5 discuss strong accountability mechanisms as a key feature, with each school in the network monitoring and evaluating their progress and performance.

Similarly, The Connection team collects data from individual schools and from shared activities to help synthesise and analyse their collective development and success. The Project Action Plans (PAPs) are the key accountability tool used by The Connection to report on the program logic, including outcomes, activities, and progress, to help keep schools, as well as The Connection team, accountable to achieve their theory of change.

One participating school reported that the Project Action Plans provided an "accountability cycle" that "is reflective and also empowering, as I look back to year one and all we have achieved". Another noted the program logic process, as part of the PAPs, "kept us on track."

A further four participating schools described the Project Action Plans as being supportive of their whole-school improvement planning.

A principal from a South Australian Star Hub school, for example, reported that the program logic process in the Project Action Plan "has influenced improvement planning across my school".

Three other school leaders reported that aligning their Project Action Plans to their relevant education department's whole-school improvement planning, streamlined their focus and aided their overall improvement planning and outcomes.

In one case study school (see Case Study 1, Appendix 1), for example, the principal noted that after its first year in The Connection, the school's leadership team shifted their Project Action Plan from one with discrete activities, to one that was strategically aligned to their education department school improvement plan. Now, the principal says, "if it's not in the school plan, it doesn't happen."

> "When we talk about the key components of our school, we talk about SVA as a key component of what we're about as a school... Everything we've been doing is aligned to the whole-school improvement journey."
>
> *— SA STEM Learning Hub principal*

Similarly, a Victorian Star Hub school noted that: "we strategically align the work of the School Improvement Plan initiatives with our SVA program logic to ensure we did not start something that had a different focus".

Broadly, we can say that schools have found the process of working through a Project Action Plan to be a valuable source of accountability, as well as a source of strategic guidance for their work in The Connection, and their approach to whole-school improvement planning.

Different schools have used these Project Action Plans, and the Program Logic model, with varying levels of intensity. Over time, it seems, these project-based planning methods have supported both the introduction of specific, targeted, innovation activities across schools, and their integration into whole-school processes of planning, implementation and improvement.

The Project Action Plans also provide a crucial source of information, data and feedback across the whole Connection program, enabling analysis of common trends and patterns of variation among the different participating schools. Finding effective ways to draw on this analytical data, to combine it with other sources of feedback, such as participant

surveys, case study observations, expert guidance, and so on, is another important dimension of collective accountability and learning. How to build structures of knowledge-sharing, data capture and processes of cross-organisational feedback and reflection in more explicit and systemic ways, is discussed further in Chapters 5 and 6.

## Characteristic 4: A willingness to learn, share and exchange expertise by voluntary inclusive participation

Along with their school-based project work and learning, The Connection builds the capability of its participants to learn, share, and exchange expertise relevant to teaching, learning, and leadership events such as Thought Leadership Gatherings, Hub Days, school visits, engagement visits, Connection International Explorations, and webinars.

Several schools participate as part of a local *cluster* - an approach that enables smaller and less-resourced schools to access The Connection program, and to build collective capability together. There are two local clusters in the STEM Learning Hub, and a local cluster in the South Australian Star Hub. Representatives from state education departments also regularly participate in The Connection events.

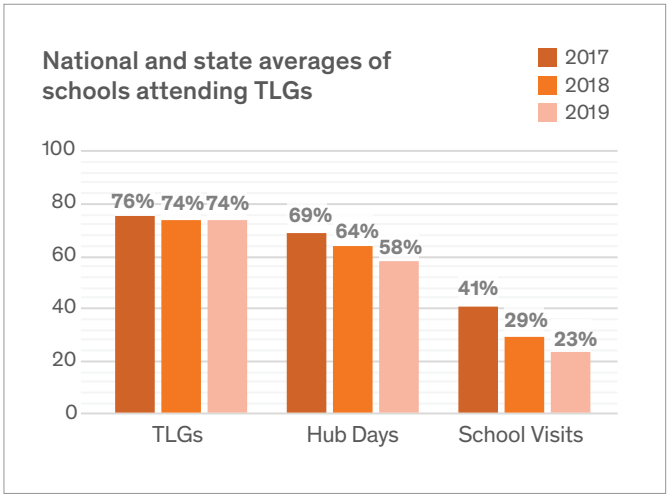
The Connection program is designed for voluntary participation, enabling schools to attend the events most relevant to their needs. Across all the events, there has been significant variation in attendance. The Thought Leadership Gatherings have been the most highly-attended, (with 74 per cent of participating schools attending, on average), This compares to school visits, which are typically offered as an optional third day to the TLGs and were found to have the lowest attendance – with, on average, 23 per cent of schools taking part.

On average, slightly fewer participants attended all events in 2018 and 2019, compared to 2017, while TLGs have remained the most popular events over the three years, from 2017-19. (see Figure 41).

### *a. Thought Leadership Gatherings*

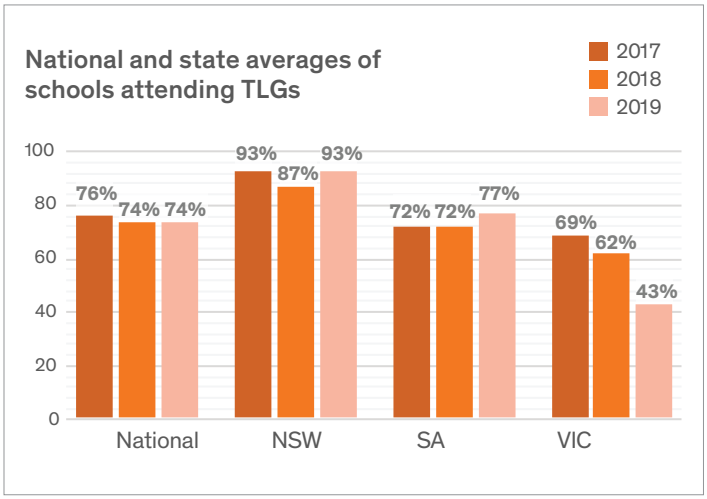
Over time, a higher proportion of schools from NSW and SA attended TLGs, compared to previous years (see Figure 42). In contrast, a significantly lower proportion of schools from VIC attended TLGs in 2019, compared to previous years. At a national level, the overall decrease in attendance is largely due to the significant drop in the average proportion of Victorian schools that attended TLGs in 2019. Feedback from school interviews suggest that a combination of factors at school and education system level may have had some impact on their

Figure 41: Attendance – National averages of schools attending each event over the three years




Source: The Connection event attendance data 2017, 2018, 2019.

Figure 42: Attendance – National and state averages of schools attending Thought Leadership Gatherings (TLG)




Source: Connection event attendance data 2017, 2018, 2019.

dwindlng attendance in more recent years (including changes to travel permission processes effecting Victorian schools, along with other schools).

### *b. School Visits*

Over time, a significantly lower proportion of participants have attended School Visits. In 2019, only 23 per cent of all schools attended the School Visits (10 per cent in VIC, 20 per cent in NSW, and 20 per cent in SA) compared to 2017, when 41 per cent of the schools attended these events (see Figure 43). It should be noted that School Visits are offered as an extension to TLGs and are not intended to be attended by a large proportion of schools.

### *c. Hub Days*

Over time, on average, a slightly lower proportion of schools attended Hub Days in comparison to the previous years (see Figure 44). This decrease could be due, in particular, to the geographical spread of participating schools in the STEM cohort and the gradual initial uptake of webinar options for STEM schools. Falling attendance in the STEM Learning Hub has been addressed by combining Hub Days for both Star Hub and STEM Learning Hub schools and offering additional redesigned online webinars for STEM Learning Hub schools.

### *d. Webinars*

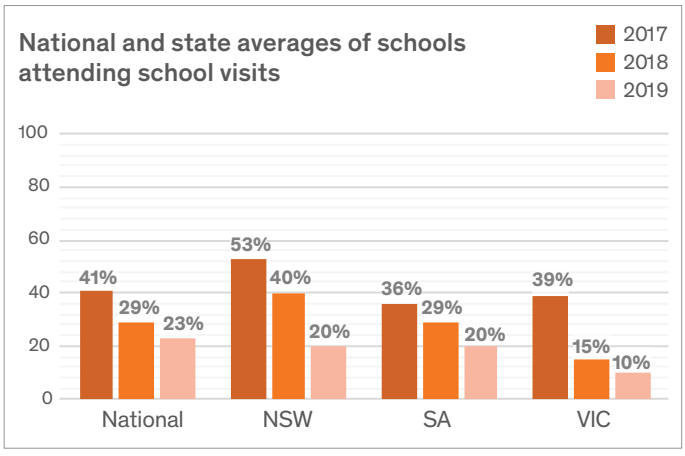
Additional webinars were added for STEM schools in 2019 to make content more accessible for the more isolated and geographically dispersed STEM cohort. The attendance data for 2019 therefore constitutes a baseline for this activity. Approximately half the STEM schools in VIC and NSW, and a third of STEM schools in SA attended each of the webinars offered in 2019 (see Figure 45, on the next page).

### *e. Connection International Explorations*

Over the three years, between 2017-2019, all schools had the opportunity to participate in The Connection International Exploration (CIE) visits to Canada and the USA (2017), the UK (2018), and New Zealand (2019). CIEs involved visits to innovative schools and other system-level stakeholders and organisations operating in high-performing education systems. These included the Education Endowment Foundation, New Zealand Teaching Council, University of Auckland and Citizen Schools USA, among others. Schools that participated in the CIE self-funded and sent small teams of staff to investigate problems in practice and seek new insights.

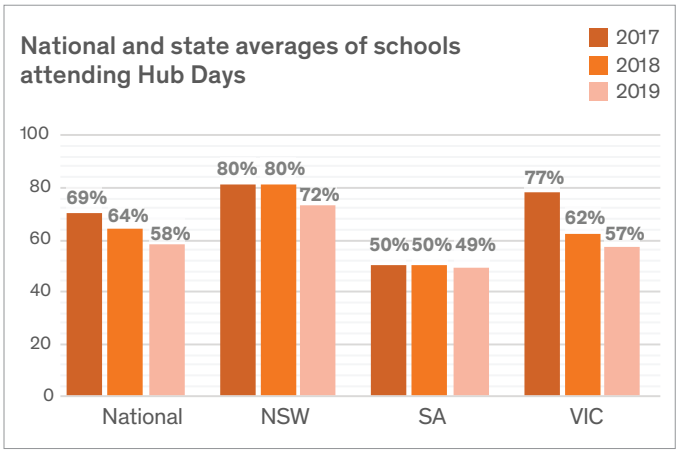
In 2019, the year after the CIE visit to the UK, which included visiting the Doncaster community of schools, 15 educators from several of the

Figure 43: Attendance – National and state averages of schools attending School Visits



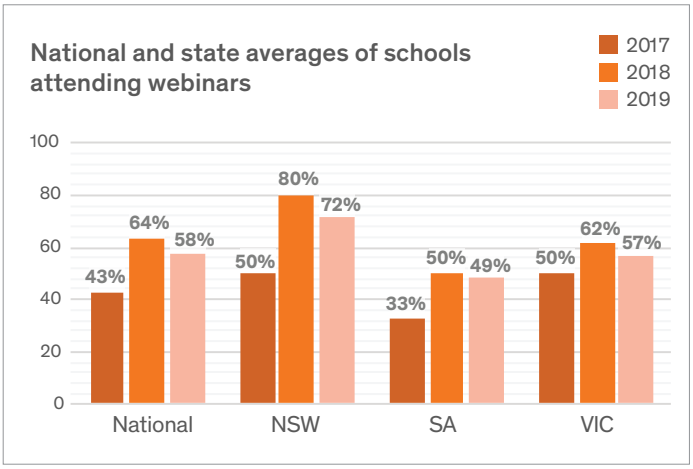

Source: Connection event attendance data 2017, 2018, 2019.

Figure 44: Attendance – National and state averages of schools attending Hub Days (inclusive of STEM Learning Hub)




Source: Connection event attendance data 2017, 2018, 2019.

Figure 45: Attendance – National and state averages of schools attending webinars




Source: Connection event attendance data 2017, 2018, 2019.

Doncaster schools reciprocated the visit, by coming to Australia and spending time at some of The Connection schools.

Participants of the CIEs reported overwhelmingly positive professional experiences, and many have implemented new evidence-informed practices as a direct result of their engagement in CIE visits. Excerpts from the interview transcripts include:

> "Going to see the XP Doncaster School was perfect timing. They had done a lot of work on values-based education. We had just changed our school values before joining The Connection. Doncaster were the best part of two years ahead of us. I thought, 'that's what we want'. The London learning lab was amazing. Seeing that in action, we understood why we get our students to present to community. You realise you're on the right track. Seeing Doncaster had a massive impact on me." – SA Star Hub school principal.

> "The trip to New Zealand. Oh, my goodness, it was like everything just suddenly aligned. There were some schools that had genuine involvement, integration, of all cultures, it was just amazing to see. So, what are the things we can take away from that to get us to that point? The first thing I did was make a commitment to myself that I would learn acknowledgment of country in the local Indigenous language. One of our transition officers is my language coach. Beginning of next year, I'll open assembly with that. I talked to the local people on staff, and said why aren't we recognising and celebrating culture?" — SA Star Hub principal.

In addition to the survey data, qualitative data collected from the interviews and focus groups suggests that irrelevance of professional development content, and/or insufficient funding, may sometimes pose barriers to schools' engagement with The Connection (each reported by four of the twelve schools interviewed). However, it is important to note that all the events are invitational and the range of events from which to select from has been significant, and can sometimes stretch the knowledge and mindset of the participants out of their comfort zone. Other possible barriers to school's engagement with The Connection include staff turnover, and education department travel policies (each reported by three of the twelve schools interviewed).

This data and the feedback from participants show how the four key characteristics of The Connection design may complement and reinforce each other: linking together moral purpose and intent with a focus on how to organise, in practice, learning activities that can bring people together from across diverse sites and contexts, to identify new insights related to learning, leadership, and teaching practices and then support each other to apply them, where relevant, and learn from the experience. The Connection design explicitly seeks to provide an infrastructure of project planning, communication, access to relevant and stimulating expertise, and ongoing mutual support, on the basis of voluntary participation and collective accountability. Key aspects of the network design, including the rhythm and timing of key gatherings, the availability of digital information and tools, and the sharing of international expertise and opportunity across the whole network, also reinforce this intent, and work to make it possible for the learning activities to occur among schools spread across a wide range of locations, while they also continue the intense and demanding daily work of delivering education. In the next section, we turn to how these characteristics interact with a wider set of enabling conditions in schools and education systems.

## 4.2 What are the enabling conditions in schools and the education system, and how do they drive impact?

### Condition 1: An explicit and shared whole-school improvement agenda

The National School Improvement Tool (ACER, 2016) states that one of the important ingredients of success for highly effective schools is to set explicit and clear school-wide improvement goals and targets and communicate them to teachers, students, parents, and families, along with accompanying timelines. In The Connection, 11 schools reported that deliberately cultivating a shared vision about their improvement journey within the school, or across the school cluster (a group of schools), was a condition that enabled effective implementation of their projects. This enabled the whole school community to know and take actions collectively to advance their efforts towards whole-school improvement in student learning and engagement.

An explicit and shared improvement agenda was particularly visible in the Victorian schools In addition, three schools each from NSW and SA respectively also reported this as an enabling condition for effective engagement with The Connection. An illustrative example can be seen in the following excerpt from a Victorian STEM school's Project Artefact:

> "Clear vision is vital for any successful change within an organisation with all stakeholders – leadership, teachers, educational support staff and students – having a clear understanding of what it is, why that vision is for the benefit of student learning and an understanding of how and why it is going to be implemented."
> – VIC STEM Learning Hub participant

### Condition 2: Access to resources including infrastructure, human and financial

The second most commonly reported condition that influenced schools' work in The Connection was access to sufficient resources. The Project Artefact analysis revealed nine schools who noted the importance of availability of resources, such as finance infrastructure and specialist expertise. as a condition that affected their participation in The Connection. (This included three NSW schools; two in SA and 4 in VIC).

In the Project Artefacts, the availability of appropriate infrastructure was generally reported positively, as a condition that had enabled a school's work. Some examples, include:

> "In order for our school to offer integrated STEM in stage 4 we had to develop infrastructure to support its implementation (rooming and timetabling) " – NSW STEM Learning Hub participant

> "[a precondition for success is that] the resources and means to create suitable learning spaces that are well resourced, such as the Hip Hop studio, has enabled the work to take place efficiently using professional, industry approved equipment." – NSW Star Hub participant

Furthermore, some schools reported availability of financial resources as an enabler, whereas non-availability of finances hindered some schools' engagement with The Connection. Therefore, having sufficient financial resources is one of the critical preconditions for successful engagement with The Connection.

Along with philanthropic support from SVA, support from the wider education system can be crucial to ensuring that schools can afford to fully participate in The Connection. Three Catholic schools did not receive funding from the Catholic sector to participate in the final year of The Connection, and had to subsequently withdraw from the program, providing a stark counterfactual example of the importance of resourcing.

## Box 12: Example of an explicit and shared whole-school improvement agenda

### Defining an explicit and shared whole-school improvement agenda

The Victorian STEM Learning Hub school quoted on page 66 worked to explicitly define its improvement agenda, and to build the school's professional development, resourcing and curriculum documentation around this agenda. Specifically, this school, like many in The Connection, aims to equip their students with "21st Century Skills" – the knowledge and skills they will need to be successful in the future, using STEM education. The school listed its shared understanding of STEM in its Project Artefact, extracted below:

"STEM stands for science, technology, engineering, and mathematics. Rather than a curriculum, STEM is an approach to teaching and learning that integrates these four areas into real-world, rigorous, relevant learning experiences for students that develop 21st Century skills, or tools students need to succeed in the workplace of the future."

### What does STEM look like in the classroom?

- "Students working together to solve a problem
- Inquiry-driven lessons that spark students curiosity
- Less direct instruction and more inquiry-based learning
- Engages students who are buzzing with excitement
- There are multiple solutions to a problem and students are encouraged to understand that failure is a part of learning."

### Alignment of activities to the shared improvement agenda

The school's professional development agenda focussed on building teachers' capacity to plan and deliver STEM education that fulfilled the school's vision as defined above. The school hired a Digital Technologies Learning Specialist, and organised lessons for teachers and their classes to learn about coding, robotics, 3D printing and virtual reality. This learning provided a foundation of knowledge and experience for teachers, which supported them to successfully teach STEM units planned for the following year.

Teachers also formed targeted professional development groups, in which they personalised their learning to "upskill themselves in areas (aligned with the strategic plan) of professional need to deliver learning to students that was of a high quality". The school reported that this approach of aligning individual teachers' professional development to the whole-school improvement agenda resulted in teachers seeking out specific knowledge "in small supportive groups, tailored to the projected needs of what students required to be able to deliver a high quality education."


Students from STEM Learning Hub schools on a learning excursion to Taronga Zoo, Sydney 2019

Schools in The Connection were supported in different ways by their relevant systems and corporate partners, and accordingly, resourcing implications varied significantly amongst the cohort.

In its Project Artefact, one rural, Victorian STEM Learning Hub cluster school noted the challenges that a lack of sufficient financial resources had created for their participation in The Connection. Along with the financial barrier, it is important to note that schools in this cluster experienced significant leadership turnover, which resulted in less stable buy-in to The Connection program, exacerbating some of the difficulties they were already experiencing. Another rural STEM Learning Hub cluster reported that while the schools found great value in sending teachers to The Connection events, the schools' small size requires them to hire casual relief teachers each time they do so. The principals in this cluster said they strategically selected the events they and their teachers attended, to minimise this expense.

In interviews, schools that did receive funding to participate in The Connection expressed that this had supported their engagement, to varying degrees. One South Australian STEM Learning Hub principal said that although her school was well-funded, what had really driven her success in The Connection was her school's strategic approach to the work, and willingness to pursue deep partnerships with other schools, a point which also emphasises the importance of system leadership and collective capability. By contrast, a NSW Powerhouse School deputy principal stated that the funding they received to participate in The Connection was a pivotal condition that finally enabled the school to bring their plans into fruition, by enabling them to release staff more often, allowing them to attend professional development and work on implementing the school's project. The principal of a Victorian Powerhouse School said that his school was well-funded and "didn't need the money" that came with participation in The Connection.

To sum up, schools in diverse circumstances, and with varied levels of resourcing and organisational infrastructure, influenced by their size and location as well as by their demographics and professional expertise, all reflected on the importance of accessing appropriate resources to enable effective participation in collaborative improvement and innovation. These resources work in tandem with other conditions and characteristics of the network design, to influence the types of learning outcomes that become possible. How to focus and align these resources effectively, so that they serve the specific efforts of schools in ways that are fit for purpose, is an ongoing challenge for education system design, leadership and program development.

### Condition 3: Close integration between the education system priorities, The Connection priorities, and the contextual needs of the schools

Our qualitative research found that many schools appreciate how The Connection has offered participating teams a way to learn about improving teaching and learning that is closely integrated with both the state education system priorities, and that matches the contextual needs of the schools. 10 schools explicitly reported the importance of this condition in PAPs, Project Artefacts or interviews. In particular, school leaders and educators expressed the need to develop knowledge and skills to

prepare learners for an uncertain and ambiguous future; an education to help their students build on longstanding measures of academic success and extend them to develop critical and creative thinking, student voice and agency, and metacognitive abilities.

One South Australian Star Hub principal reported that:

> "The Connection has opened the door for us to focus our efforts on developing capabilities of our students. Also, the research from the SACE board and ACARA shows that developing student capabilities is far more likely to support students to be successful in whatever pathways students choose."

Three out of the the four schools interviewed in South Australia commented on the South Australian Department for Education's heavy focus on literacy and numeracy in the new school improvement planning model (South Australian Department for Education, 2018). These schools appreciated the breadth of teaching, learning, and leadership practices they gained through The Connection's professional learning experiences, which built upon the professional development programs available via their state department.

In a South Australian STEM Learning Hub cluster focus group, principals said they valued SVA' s "pull" to obtain national and international education experts as speakers that the school could not arrange for themselves. A leading teacher from one of the cluster schools observed that "as a state-based education department, sometimes you don't know what else is out there." A principal in this cluster said that The Connection stood for a broader perspective that brought value to core work and "education for all".

The deputy principal of a New South Wales Powerhouse School stated that The Connection brought together a wide variety of schools from across the system with similar priorities, but different perspectives and backgrounds, whereas in the local networks, "schools have shared ignorance".

A participant from a Victorian Star Hub school remarked that they saw close alignment between the work they did in The Connection, and the state education department's resources. A leading teacher from that school described the relationship as "almost chicken-egg", in that the content of the work with both The Connection and departmental resources support and enhance each other.

Overall, these findings suggest both that there is value in the range and diversity of the expertise, stimulus and network connections that The Connection is able to access and mobilise, *and* that for participating schools, these diverse improvement opportunities may often work best when they are able to match them to their own specific contexts, *and* to integrate them closely with the priorities and improvement activities of their own wider education system. For many of these schools, there is a positive value in bridging and connecting beyond the existing channels, and they find that in order to apply what they learn, there is also great value to working within a broadly aligned framework for improvement and innovation.

For example, four schools reported that being able to align their Connection work to the education department-mandated school improvement plan also supported their engagement with The Connection. This condition was transformative for the principal of a NSW Powerhouse School, who said that working to create alignment had changed her approach to whole school improvement, with the school plan driving all professional development, partnerships and teaching and learning initiatives. Similarly, a South Australian STEM Learning Hub principal said that "our [Connection] work is complementary to the core work of the school and our Site Improvement Plan, it's not just a side project", which had been "a double layer, an absolute bonus".

### Condition 4: Strategic alignment between The Connection's Project Action Plans and Education Departments' school planning documents

Beyond the alignment of broader system and policy priorities, we found that where schools were able to achieve alignment between their Connection objectives and action-based projects, and their whole-school strategic planning, they perceived even greater value. This involved working to align, connect and embed their priorities for learning, improvement, and collaborative innovation, with the whole-school plans generated with their education departments.

> "Over time we moved from a recipe-driven, fill-out-the-form kind of thing, to thinking "how can you take the best information from your actual school planning, that allows you to have an integrated project?". Having SVA and their partners walking alongside was really helpful. We are a Powerhouse now"
>
> — *NSW Powerhouse Principal*

Three South Australian schools discussed the value of working with the education department staff to align their Connection Project Action Plans to their Site Improvement Plans (SIPs). One STEM Learning Hub principal said that she approached the task with her supervisor who supported her to incorporate her school's focus on student General Capabilities into the plan. Two schools in SA reported the role of the South Australian education department staff member as instrumental in pursuing this work.

Two other conditions mentioned less frequently but reported by some schools to have affected their engagement with The Connection, were: rigid interstate travel policies of education departments and; the risk of regular turnover of leadership team members in some schools, that can limit the momentum and engagement that might otherwise have been generated by The Connection events and activities.

### Conclusion: key characteristics and enabling conditions

Overall, our evaluation suggests that the interaction of these different characteristics and conditions is very important. The Program Logic of The Connection aims to help participating educators to learn about effective and innovative school-based practices, while also developing mindsets, relationships and knowledge that enable them to have greater impact on student learning, under changing conditions, over time.

In order to undertake valuable learning and shared work, which is worth the effort and cost, leaders and educators need to be able to identify and select what kinds of evidence-informed and innovative practices and approaches may be most relevant and meaningful, and then apply and integrate them with their wider professional routines and organisational structures.

This involves an ongoing process of 'sorting and matching' - drawing from a potentially endless range of different possibilities, and then 'embedding and reflecting' in order to generate learning value from the approach.

For individual schools, much of this latter activity takes place at a micro-level of organisation – individual teams, single organisations, local, everyday relationships. For education systems, the level is more macro – hundreds or thousands of schools, scores of local communities, tens of thousands of workers.

In an increasingly networked, data-intensive environment, with great population diversity and many knowledge-based connections, education systems are increasingly understood on an 'eco-system' model.

In order to apply evidence and innovative practice effectively, schools and educators need to be able to 'sort and select' from a potentially infinite range

of options, drawn from the macro-environment, while also continuously applying knowledge and intent to their micro-level conditions.

Our evaluation suggests that the activities, relationships and methods developed by The Connection, to enable and support schools to apply these practices, occur at an 'in between' level – which can be described as the 'meso level' of organisation. Meso-level organisations are an important element of theories of organisational systems and change, across different sectors. In the comparison of school networks discussed in Chapter 5, this meso-level role of framing, brokering and supporting alignment between macro-level systems and micro-level actions is sometimes described as the 'intermediary' organisation.

Our analysis of the key network characteristics and enabling conditions, suggests that The Connection has established this intermediary role, at a meso-level, for a cohort of schools who would not otherwise have been able to act together, learn from each other, or develop a shared ecosystem relationship.

While many features of The Connection's approach are emergent and their specific effects are not possible to quantify, we see consistent, intentional patterns of organisation and relationship in the activities undertaken, and in the effects reported by the educators who took part.

Given the importance of alignment, integration and data synthesis to achieving cumulative impact on learning outcomes over time, the role of the intermediary in helping to achieve this alignment is also crucial. Such a role may be played by intermediaries in other forms, such as state regional offices, specialised consultancies, or non-profit educational associations.

Our observations suggest that The Connection has pioneered a distinctive organisational model and a proactive working method for playing this role, across a diverse network of schools, in three jurisdictions, and varied geographies, in ways which support differentiated implementation of specific strategies by smaller clusters of schools, while maintaining a coherent overall network. One crucial part of that role is that The Connection has enabled and driven a dynamic process of alignment, for many of its participating schools, between the macro-system of which they are part, and the micro-communities that they are working to serve.

# 5 PUTTING THE IMPACT OF THE CONNECTION INTO WIDER CONTEXT

—

“ Effective comparative networks of collaboration require a shared vision and a deep commitment to improving student learning and development. The Connection provides a distinctive contribution to the growing spectrum of collaborative efforts and program designs in education.

## 5.1 The shift in professional development to collaborative leadership development

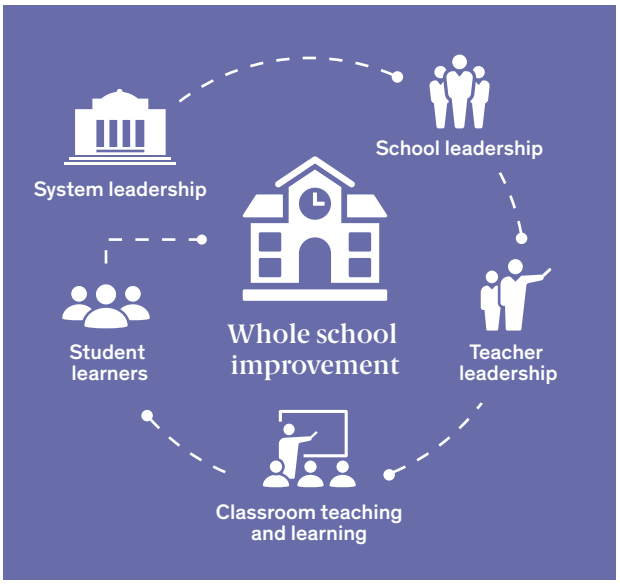
Improvement in student learning outcomes and experiences is an ultimate goal of all education systems but achieving them is not so simple. Bringing about such improvements involves all stakeholders — education system leaders, school leaders, teachers, peers, and parents — working together to contribute skills, knowledge, ideas and practices that collectively will better student learning outcomes (Hargreaves, 2019; OECD, 2019, Hattie, 2018). As the African proverb says, "it takes a village to raise a child." When this ethos of collaboration is applied to the process of learning, we can say that it takes a community — of education professionals, system leaders, peers and parents — to educate a child. International evidence indicates that the quality of educators and teaching is the fundamental determinant of improving student learning outcomes at the school level (Education Commission, 2020).

In the uncertain, complex and interconnected environments that we now live and learn in, improving the quality of teaching and learning also requires schools and teachers to connect and align with wider influences and conditions that impact student learning. John Hattie's research concludes that, to improve the quality of teaching, collective teacher efficacy has the greatest potential to accelerate improvement in student achievement (Hattie, 2019). Collective teacher efficacy is not easily built through traditionally established forms of professional development experiences, where teachers working in relative isolation is prioritised (Hargreaves, 2019).

Traditionally, professional development programs were designed to improve skills, knowledge, and the expertise of individual teachers and leaders to run schools. More recently, in high performing education systems such as Singapore, Hong Kong, Shanghai (China), and British Columbia (Canada) emphasis has shifted towards the idea of the collective - where school improvement is a collaborative responsibility of teachers, school leaders, and system leaders (Breakspear et al., 2017; Timperley, 2015); (Leithwood, Seashore Louis, Anderson, & Wahlstrom, 2004).

Figure 46 illustrates how a collective effort is required to achieve whole school improvement, leading to improved student outcomes. It highlights the impact system leaders have on school leadership effectiveness to, in turn, impact teaching practices and student outcomes (The Education Commission, 2020).

Figure 46: Whole school improvement is a collective effort of system leaders, school leaders, and teachers




Professor Andy Hargreaves' research into professional learning communities in Ontario, found that for collaborative cultures to develop amongst educators, they must have the backing of school principals, along with increased preparation time. He found these two elements were critical to enhancing collaborative efforts and helped to facilitate a collegial environment where teachers trust that they can learn from each other and work together in teams to improve student learning (Hargreaves, 2019; Microsoft, 2018).

In Australia, as in many OECD countries, the self-reported rate of participation in some form of professional development among teachers, (99 per cent) and principals (100 per cent) is universal (Thomson & Hillman, 2019). Yet, it is not reasonable to expect that seasonal, disjointed professional development activities will improve outcomes for teachers, leaders, and students.

A key question, therefore, is: *what makes professional development programs effective?* Our synthesis reviews recent studies in global education systems (Hattie, 2012; Jensen et al., 2016; Thomson & Hillman, 2019; Timperley et al., 2007), and suggests four key characteristics of effective systems for professional development.

These are:

1. Teachers and school leaders work collaboratively, i.e. they learn by engaging, sharing practices, and challenging each other's beliefs
2. Access to external expertise to ensure that educators develop subject-specific knowledge
3. An inquiry process that organises and focuses educator learning around student learning needs
4. Creating time for learning over an extended period, with multiple touchpoints.

Evidence relating to collaborative teaching, dating as far back as the 1980s, has shown that teachers who work in collaborative cultures tend to see higher results in reading and mathematics among their students, compared to colleagues who work in cultures of individualism (Archer, 2012). Evidence in New Zealand, for example, shows that opportunities for collaborative leadership development have greater influence on student achievement than isolated and individual professional development opportunities (Timperley et al., 2007).

Research from high performing school systems has also emphasised the power of collaborative leadership for school leaders along with other forms of leadership such as instructional and distributed leadership (Breakspear et al., 2017; The Education Commission, 2020; Timperley, 2015). The evidence in New Zealand shows that opportunities for collaborative leadership development have more influence on student achievement than does isolated and individual professional development sessions (Timperely et al., 2007). In line with Timperley's research, the 2019 OECD's Teaching and Learning International Survey (TALIS), found that teachers report that professional learning experiences based on collaboration have the most impact on teaching in the classroom (OECD, 2019b).

A recent report from The Education Commission, *Transforming the Education Workforce: Learning Teams for a Learning Generation* (2020) found that developing teams of educators at the school, district and state levels is a crucial strategy to support large-scale improvements for students worldwide. The Education Commission[10] proposed that building robust school networks that enable schools and the system to work together to "generate and exchange knowledge about effective instruction and management approaches" would support education systems to become self-improving learning systems that adapt and evolve to meet the challenges of the disruptive future (The Education Commission, 2020).

This report also highlighted the role that networks play in connecting schools with employers, researchers and others, who can accelerate the achievement of marginalised students and close the gap between these students and their peers, as well as with system representatives, to enable greater policy input from schools (The Education Commission, 2020).

Given the growing evidence about the impact of collaborative practices in the professional development of educators and school leaders, a crucial next question is to ask *how do we blend and build collaborative approaches to professional development and align them with the ongoing work of schools, so that we can enhance the collective expertise of educators and school leaders to support student learning?*

The formation of The Connection, in 2014, offered an innovative organisational approach to this challenge. One premise of this approach is that it makes logical sense for groups of schools to pool their expertise and knowledge and develop actions that best respond to the collective contextual learning needs of students. The Connection trialled the *Collaborative Leadership Development Network (CLDN),* as a solution to find, connect, and disseminate an untapped pool of knowledge and resources to raise the collective quality of knowledge, expertise, and practices across school leaders and educators (Cridge, 2019).

## 5.2 What does a Collaborative Leadership Development Network (CLDN) look like?

Collective and socially-based approaches to educator development have existed for centuries. An important contribution to the theory was by American educational change expert, Shirley Hord, who, in 1997, coalesced the idea of a school as a learning community and the teacher as a professional leader into a single concept. Hord defined the 'professional learning community' as one where teachers inquire into how to improve their practice together and take collective responsibility for

implementing what they discover. Since then, education academics, practitioners, and researchers have approached the concept of collaborative professional learning in endlessly varied ways and given it a variety of names, from communities and networks to chains, families and clusters (Hargreaves, 2010).

In simple terms, collaboration is the act of sharing effort, knowledge, and resources to pursue a common purpose (Bentley & Cazaly, 2015). Networks are a set of people or organisations with direct and indirect connections that enable exchange effort, knowledge, and resources (Gallardo & Fullan, 2015). In this regard, a CLDN provides an opportunity for a group of school leaders and educators to connect and share expertise, knowledge (both new and old) and resources for the collective improvement of student outcomes (Cridge, 2019). International education systems commonly use three types of collaborative structures for developing professionals and school leaders. These are:

- Professional Learning Communities (PLCs)
- Coaching and mentoring
- Observation and feedback

High-performing education systems have created collaborative structures with specific models, such as British Columbia's Learning Communities, the Shanghai Research and Lesson Groups, and Singapore's Professional Development Groups, enabling educators to constantly engage and analyse student learning data and focus on continuously improving the impact of their practice on student learning (Jensen et al., 2016).

However, clarifying what collaboration could and should look like in practice is challenging: given how widely its implementation can vary. Different kinds of collaboration can be harmful rather than helpful, and it can be difficult to assess whether different ways of collaborating have more impact on students' and teachers' learning than others (Coulson, 2008). The research clearly states that simply putting teachers and school leaders in a room and telling them to work together will not improve student learning outcomes. Educators who have primarily worked in isolation for their whole life might feel anxious or reluctant to share data and teaching practices (Daly, 2017). In contrast to traditional forms of professional learning communities (PLCs), three crucial dimensions of CLDNs, which may influence the quality and outcomes of the learning they produce, are:

- Structure: Some professional learning communities focus on formal interactions between a community of educators within geographical proximity and with a specific and pre-determined focus area. The CLDN, on the other hand, focuses on formal and informal gatherings of like-minded school leaders and educators (and sometimes system leaders as well), from across geographical boundaries. The CLDN has a program agenda but keeps it fluid enough to contextualise and adapt the program to meet the diverse needs of the participating schools. Participation in such networks is voluntary, and not bound by the geographical proximity of the schools.
- Relationships: The focus of CLDN is to build formal and informal relationships with other similar schools, both from intra-state and interstate. In some cases, the priority is to actively develop relationships between schools and community partners, including businesses and tertiary education providers, since education doesn't just happen in isolated classrooms (Bentley & Cazaly, 2015). Traditional professional learning communities are often not stringent about the development of relationships among groups of school leaders and teachers.
- Cognitive Professional Dialogue: Maintaining effective structures and working relationships is pointless unless teachers and principals are able to have meaningful professional discussions that can be applied to their ongoing practice. Therefore, as in other forms of professional learning communities (PLCs), the discussion of expert knowledge and skills relevant to professional work and school-based improvement practices is key to the functioning of CLDNs. While PLC participants often focus on addressing the same professional issue across their different sites, CLDNs do not require all schools to work on the same issue, allowing flexibility in the precise content and purpose of their discussions, based on each school's individual needs.

In summary, a CLDN is a community alliance, somewhat different from other professional learning communities in its structure, relationships, and cognitive professional

dialogue, albeit with a similar aim of improving student learning outcomes (Cridge, 2019). The CLDN approach is characterised by some specific design attributes: a shared common moral purpose, an aligned commitment to action, ability to work across diverse locations, voluntary inclusive participation with a flat hierarchy of shared leadership, a willingness to share and exchange expertise, collective and mutual responsibility and accountability for shared success and impact, and respectful relationships in a culture of trust and goodwill (Cridge, 2019).

These features, and the working model established by The Connection, provide a distinctive contribution to the growing spectrum of collaborative efforts and program designs in education.

## 5.3 What do we know about the effectiveness of collaborative education improvement networks?

Now that we understand what CLDNs are, and some critical design principles of their approach, this section examines key characteristics of collaborative networks in education, putting The Connection model alongside five other education improvement networks that have developed over the last two decades, which all aim to mobilise research-based knowledge and evidence in schools, develop leadership capabilities, build teacher knowledge and skills, and systematically implement school improvement practices.

The comparative analysis examines the vision, impact, characteristics and conditions of the five networks, alongside The Connection. Our analysis of network characteristics is supplemented by a review of literature, identifying characteristics of effective networks to understand how the six examples align with the available evidence in collaborative network design and delivery. Along with The Connection, these five collaborative networks operate in a specific context in the US, UK, Canada, New Zealand and Australia, and were shortlisted from a list of 30 global education networks.

These networks are:

### Networks of School Improvement (NSI), USA

The NSI was initiated in 2018 and supported by the Bill and Melinda Gates Foundation — a large philanthropic organisation based in Seattle, in the United States. The NSI's focus is to build schools' capacity to use inquiry process practices to improve student outcomes. NSI is a collection of 25 networks, spread over more than a dozen states across America. Cumulatively, 298 schools participate in these networks, with participating schools enrolling approximately 250,000 students, of whom 29 per cent are black, 43 per cent are Latino, and 70 percent come from low-income families. The program provides $130 million (USD) in funding to intermediary bodies to facilitate these 25 networks. The intermediaries apply this funding within their networks to support schools to develop their ability to continuously improve student learning (Bill and Melinda Gates Foundation, 2019a).

### Research Schools Network (RSN), UK

The RSN in the United Kingdom aims to learn and share knowledge about how to best implement evidence-based practices in schools (Research Schools Network, 2020). Two independent charities, the Education Endowment Fund (EEF) and the Institute of Effective Education (IEE), established the RSN in 2016. It began with five schools who had previous research experience, with second and third waves of schools joining in the following years. Each school connects with other schools in their region to share knowledge and lead improvement across the system. Research schools are funded by the EEF and IEE for three years - receiving 60,000 (GBP) in the first year, and 40,000 (GBP) in the following two years, with the aim that the network will become self-sufficient after this time. The schools can choose to charge attendance fees for the network events that they host.

### Networks of Inquiry and Indigenous Education (NOIIE), Canada

The NOIIE in British Columbia, Canada, is a voluntary network of inquiry-based schools first established in 2000 and initially funded by the British Columbia Ministry of Education (Networks of Inquiry and Indigenous Education, 2020). The Aboriginal Enhancement Schools Network (AESN) is part of NOIIE and supports schools to improve learning results for aboriginal learners by building teacher and principal capacity through an

School leaders at a SVA Bright Spots Schools Connection Thought Leadership Gathering, Victoria 2019, (James Henry Photography)

annual cycle of inquiry and the application of the latest educational research. AESN comprises 75 schools, with approximately 400 teachers and principals participating in its events. The network's funding protocols have changed over time. Initially, NOIIE was funded by both federal and provincial grants, which allowed the network to provide a $500 (CAD) start-up grant to participating schools, and $1000 (CAD) upon the schools' completion of their inquiry projects and case studies. Schools used this funding to buy resources, fund release time for participating staff, or to attend professional conferences.

### Communities of Learning/Kahui Ako, New Zealand

New Zealand's Communities of Learning/Kahui Ako are a collection of school networks established and facilitated by New Zealand's Ministry of Education in December 2014 (Ministry of Education, 2019). The Kahui Ako is a part of the government's $359 million (NZD) *Investing in Educational Success (IES)* initiative. The focus of the Kahui Ako is to provide opportunities for collaborative inquiry and knowledge-sharing, to transform New Zealand's education landscape and improve the quality of teaching and leadership. There are 221 Communities of Learning spread across New Zealand.

The Ministry incentivises schools' participation by not charging fees and providing funding and significant time release for special roles within the school to support engagement with the networks. These roles include:

- the Community of Learning leadership role (one principal - 0.4 FTE) selected per Kahui Ako, who is provided an allowance of $30,000 (NZD);
- the Community of Learning teacher (across community) role (one teacher - 0.4 FTE), allocated for every 50 FTE teachers in the Kahui Ako;
- and the Community of Learning teacher (within school) role (one teacher - 0.08 FTE), allocated per every 10 FTE teachers in each school.

Additionally, schools receive $1000 (NZD) annually for their participation in a Community of Learning.

### University of Melbourne Network of Schools (UMNOS), Australia

The University of Melbourne convened UMNOS in 2014 to enable schools to work in partnership with recognised researchers and to develop their understanding and implementation of evidence-based practice (Young & Nibali, 2019). The network includes more than 100 schools, predominantly from VIC, but also from Qld and SA, across primary, secondary and specialist schools, in communities, whose socio-economic status varies widely. In contrast to the four other networks analysed, UMNOS requires schools to pay an annual membership fee of $16,500 (AUD), commit to active involvement by the school's principal; and appoint a 'success coordinator' from within the school's staff, at 0.5 full-time equivalent employment for three years.

Table 4: Comparative analysis of six collaborative education improvement networks

| Network | Impact | Driver 1 – Characteristics | Driver 2 – The conditions |
|---|---|---|---|
| **The SVA Bright Spots Schools Connection, Australia**<br>(Est. 2014)<br>Vision:<br>To improve educators' collective capability, school improvement practices, and student learning outcomes in low socio-economic school communities in Australia | Insight 1: Participants acquired new knowledge and mindsets<br>Insight 2: The Connection uses an inquiry process to implement innovative practices in Australian classrooms, and at school and system leadership levels<br>Insight 3: Overall, there are perceived improvements in student engagement, student learning and development, and STEM-related learning | 1. A shared moral purpose across a diverse cohort<br>2. A culture of trust and a safe environment<br>3. Collective accountability for shared success and impact<br>4. A willingness to learn, share, and exchange expertise by voluntary inclusive participation | 1. An explicit and shared whole school improvement agenda<br>2. Access to resources including infrastructure, human, and financial<br>3. Close integration between education system priorities, The Connection priorities, and contextual needs of the schools<br>4. Strategic alignment between The Connection Project Action Plan and education department's school planning resources |
| **Networks of School Improvement, USA**<br>(Est. 2018)<br>Vision:<br>To provide an opportunity for all students in black, Latino, and low-income communities to earn a degree or a certificate that prepares them for a successful career and life | 1. The use of evidence-informed improvement practices<br>2. The Network health<br>3. K-12 student outcomes | 1. Stakeholder engagement<br>2. Leadership buy-in | 1. Engaging with middle-level managers, subject coaches, and other district partners<br>2. Inviting district staff to network events<br>3. Working to align the problem of practice with the district vision<br>4. Working to align messaging between the intermediary and the district about the purpose of the network<br>5. Identifying a liaison or point person within the district to meet with regularly<br>6. Engaging outside experts to research and frame opportunities for district improvements |
| **Research Schools Network, UK**<br>(Est. 2016)<br>Vision:<br>To improve teaching and learning and make a real difference in the classroom | 1. Teachers and leaders' ability to mobilise the research evidence into their classroom<br>2. Improvement in student outcomes | 1. Capability building and support<br>2. Moral purpose<br>3. Collaboration<br>4. Communication | 1. Eleven of the research schools focus their work around the education department's opportunity areas<br>2. There are funding streams available which enable Research Schools to widen their reach into geographically isolated regions and boost their capacity to expand their support to deliver training to a larger number of schools |

Table 4 (continued): Comparative analysis of six collaborative education improvement networks

| Network | Impact | Driver 1 – Characteristics | Driver 2 – The conditions |
|---|---|---|---|
| **Networks of Inquiry and Indigenous Education, Canada**<br>(Est. 2000)<br>Vision:<br>To improve learning results for aboriginal learners and their understanding of genuine aboriginal culture and history for all learners | 1. Shifts in teaching and leadership practices<br>2. Disruption in colonial mindset and actions<br>3. Improvement in student learning outcomes | 1. Clarity of purpose through shared focus<br>2. Collaborative inquiry<br>3. Leadership for learning including skilled facilitation of networking<br>4. Evidence seeking about intermediate, end processes and outcomes related to the theory of action/ telling a story through data<br>5. Safe and accepting environment for members<br>6. The network supports and enables<br>7. Catalyst for change<br>8. Parallel and/or competing structures | The structure of the Network inspired several school districts to embrace the framework of the NOIIE and apply it to related district efforts |
| **Communities of Learning / Kahui Ako, New Zealand**<br>(Est. 2014)<br>Vision:<br>To raise educational achievement by lifting the quality of leadership and teaching to make best practice universal | 1. Improvement in teaching and leadership practices<br>2. Raise student achievement outcomes and equity | 1. Shared purpose and commitment<br>2. Confidence about working with other members<br>3. Understanding of why working together is important<br>4. Capability to use data to identify achievement challenge<br>5. To monitor and evaluate how well the actions they are taking are working.<br>6. Active engagement of all stakeholders | Ministry of Education initiative, so it is intended to have a systemic impact to reach all students |
| **University of Melbourne Network of Schools, Australia**<br>(Est. 2014)<br>Vision:<br>To improve student learning outcomes | 1. Changes in school<br>• Changes in teaching practices<br>• Cultural changes<br>• Structural changes<br>2. Improvement in student outcomes | 1. Purpose and focus<br>2. Commitment and accountability<br>3. Trust and collaboration<br>4. Capacity building and support | Working in alignment with the Victorian DET priorities of improving reading, writing, and STEM |

### 5.3.1 Vision of the Collaborative Education Improvement Networks

The vision answers "what do we want to achieve?" (Kaplan & Norton, 2010). Table 4 above describes the vision statement for each of the six initiatives. Unsurprisingly, the vision of all five global networks is to improve student learning, and teaching and leadership practices.

#### Improvement in student learning outcomes

Broadly, the goal of all six networks is to improve outcomes for student learning. Even though one of the networks (RSN) did not exclusively mention the improvement in student learning outcomes in their vision statement, the intention of improvement in student learning outcomes can be seen in the impact of their work. The depth to which these networks discuss student learning in their vision statements varies. Some networks are more specific, while others are broad and generic. For example, the NSI is specific with regards to their hope for improvement in student learning i.e. '*students being able to earn a degree or a certificate that prepares them for a successful career and life'*, whereas the UMNOS have a generic statement, 'to improve student learning outcomes.'

The Connection's vision is to improve outcomes related to student learning for students from low socio-economic communities.

#### Improvement in teaching and leadership practices

The second goal of the comparative networks is to improve teaching and leadership practices at the classroom, school, and system level. For example, Communities of Learning in New Zealand state that their goal is "to raise educational achievement by lifting the quality of leadership and teaching to make best practice universal."

In addition to the improvements in student learning outcomes, The Connection also aims to build the outcomes related to developing collective knowledge and mindset of educators and school leaders. The Connection also supports school leaders to develop collective capability to implement improvement practices using an inquiry process.

### 5.3.2 The impact of the networks on the collective

For all six networks, the impact is typically a long-term goal. Outcomes achieved can therefore be used as a proxy to measure the impact (Weiss, 1998). In line with the comparative collaborative networks' aspirations to achieve vision, all the networks have observed improvements in at least one out of three outcomes related to student learning, teaching, and leadership practices (see Table 4). However, only one of the six networks had precise and consistent indicators and targets to gauge student success in learning. Five of the six networks reported improvement in teaching and leadership practices and none of these networks had precise evaluation indicators or targets of success to track progress towards improvements.

#### *a. Improvement in student learning outcomes*

How do schools know whether they are on track to help the students improve learning? This is possible by measuring how students are performing. How student learning outcomes are defined, assessed, and measured varies among the six networks.

Four out of five comparative collaborative networks use *academic outcomes* as a measure of success for student learning. Indicators related to academic outcomes are readily available in school records and/or standardised assessments. The Connection uses both academic outcomes (NAPLAN scores) and outcomes related to improvement in student engagement and STEM- related learning to measure the impact of The Connection on student learning outcomes. Furthermore, there is emerging evidence of The Connection's impact on improving whole-child related measures such as improvement in student voice and agency, metacognition, and general capabilities.

The best example of how cross-jurisdictional networks define, assess, and measure student learning outcomes in a consistent framework comes from Networks of School Improvement in the US (see Box 13).

#### *b. Improvement in teaching and leadership practices*

While all six networks reported improvements in teaching and leadership practices, no network has clearly defined specific outcomes, key performance indicators, and targets achieved or desired to achieve in teaching and

## Box 13: Example of a collaborative comparative network that measures improvement in student learning outcomes

The NSI uses P-16 framework developed by the Bill and Melinda Gates Foundation to measure student learning outcomes. According to the foundation, defining key outcomes early on is most important for the program, as it illustrates what success looks like for the investment. The Foundation crafts an outcome statement, describing the direction and type of change among a specific group of people or systems. It also identifies Key Performance Indicators (KPIs) that answers, "How will we know when we get there?". They are specific metrics related to an outcome. Furthermore, effective targets (or success measures) are specific measures of performance against the KPIs that allow the organisation to know how much progress it has made towards the outcomes.

The example in Figure 47 shows the precise breakdown of student learning (academic) outcomes from P-16 framework into specific outcomes for a particular cohort of students, mapped to indicators and related targets (Bill and Melinda Gates Foundation, 2019b). It is important to consider that all the schools in the network report on the same targets to effectively measure their performance on KPIs and outcomes (Gates Foundation, internal interview).

Figure 47: Bill and Melinda Gates Foundations' Outcomes Mapping Framework

This example here consists of:

1. ***A verb indicating change*** (Increased, decreased, improved, reduced, established)
2. ***What changes*** (behaviour, knowledge, models, data, system, policies, technologies)
3. ***Who changes*** (individuals, communities, populations, governments, institutions)
4. ***Additional specificity when feasible*** Where you expect to see this change (geography)?

By when you expect to see the change (date)?

How much change you expect to see? (target)

| Outcome | Key Performance Indicators (KPI) | Targets |
|---|---|---|
| College ready on track:<br><br>Non-Example:<br>*Student have credentials to be accepted to a college*<br><br>Example:<br>***By 2025, Increased / 80 per cent** of the students have **academic credentials** to be accepted to a **college with a high graduation rate.*** | • High school math proficiency<br>• High School ELA proficiency<br>• High School advanced course taking<br>• High school GPA<br>• On-time high school graduation | • % of 10th or 11th grade students demonstrating grade-level ability in math on benchmarked assessment aligned with high-quality standards and/or curricula and/or assessment levels needed to avoid remediation<br>• % of 10th or 11th grade students demonstrating grade-level ability in ELA on benchmarked assessment aligned with high-quality standards and/or curricula and/or assessment levels needed to avoid remediation<br>• % of 11th or 12th grade students completing at least one AP, IB, or dual credit class<br>• % of 11th or 12th grade students with a cumulative GPA of 3.0 or better<br>• % of students graduating from high school on time |

Source: Modified and prepared using (Bill and Melinda Gates Foundation, 2014, 2019a; Kaplan & Norton, 2010.)

leadership practices. The examples of sub-outcomes used by networks to measure improvement in teaching and leadership practices include:

- Culturally responsive teaching and leadership practices in schools
- Staff wellbeing and engagement
- Use of research and evidence

All networks report improvements in teaching and leadership practices qualitatively, using data sources such as interview/focus group data, case studies, and anecdotal evidence.

The Connection measures specific improvements in the participants' acquired knowledge relevant to their role, and improvements in educators' mindsets related to systems leadership, self-efficacy, and collective efficacy. Furthermore, The Connection also measures the ability of participating schools to implement new and innovative improvement practices consistently, using the NSIT tool.

### 5.3.3 Drivers of change: key characteristics of effective improvement networks in education

We have described the purpose and impacts of six comparative collaborative networks, above. To understand The Connection's design with greater depth and context, we now discuss features of collaborative comparative networks that may support their impact.

It is important to remember that it is not the existence or the creation of the network per se that matters, rather it is *how they function* and *what they do* (Gallardo & Fullan, 2015) that is most likely to make them effective. This leads to a discussion about *what are the key characteristics of effective networks?* In this evaluation, we draw primarily on four data sources:

- The literature from Gallardo & Fullan's research (2015), which consists of the analysis of six studies and 12 network initiatives that distil key features of effective networks, including inter-school networks, intra-district networks, and multilayered networks that have proven to have an impact on student learning outcomes.
- An in-depth analysis of three Australian school case studies engaged in collaborative professional learning, providing insights into the features of effective networks (Bentley & Cazaly, 2015).
- Findings from the comparative analysis, above, addressing the key features of the networks.
- A report by The Education Commission (2020) that investigates the potential for collaboration at all levels of education systems to accelerate learning achievement, particularly in developing countries. The report found that collaborative school networks form an important part of this work.

Table 5 takes stock of key characteristics of effective networks, drawn from these data sources. *Primary* characteristics refer to features of the networks seen across all data sources referred above. *Secondary* characteristics refer to features of the networks mentioned in, at most, two out of three data sources.

Table 5: The primary characteristics of effective networks

| Evidence / Characteristics | Gallardo & Fullan, 2015 | Bentley & Cazaly, 2015 | The Comparative Analysis |
|---|---|---|---|
| Focus on ambitious student learning outcomes linked to effective pedagogy | ✓ | ✓ | ✓ |
| Develop strong relationships of trust | ✓ | ✓ | ✓ |
| Connect outwards and learn from others | ✓ | ✓ | ✓ |
| Use of deliberate leadership and skilled facilitation within flat power structures | ✓ | ✓ | ✓ |

## Primary characteristics of effective networks

### 1. Focus on achieving ambitious student learning outcomes for diverse cohorts of learners

Effective collaborative comparative networks require a shared vision and a deep commitment to improving student learning and development. The comparative analysis found that all six networks share a common moral purpose of improving educational equity and excellence for all learners. In the case of NSI, the purpose is to ensure that all students — especially black, Latino, and low-income students — have an opportunity to earn a degree or certificate that prepares them for a successful career and life (Bill and Melinda Gates Foundation, 2019a). A key characteristic of The Connection model, as set out in Chapter 4, is a "shared moral purpose – to bridge education equity across a diverse cohort of schools." Participants in the UMNOS held a common belief that the purpose of the network was to improve student learning outcomes (Young & Nibali, 2019). However, having a vision to improve student learning is not enough: a vision statement needs to be accompanied by a shared commitment to measuring student learning outcomes (Gallardo & Fullan, 2015).

A first step in measuring student learning outcomes is to carefully select indicators and set success targets that offer credible measures of desired student learning outcomes. Schools collect information related to student learning at three different levels, and it is important to keep the *data inventory* (also called data dashboards or data walls), as a systematic way to organise and summarise the different types of data available, namely:

- External assessments: assessments required by outside agents, such as states, and federal education authorities. Examples include International standardised assessments, including data derived from PISA, TIMSS, and PIRLS assessment and systemic assessments such as NAPLAN and ATAR scores.
- Internal assessments: instruments developed within schools, such as all-school writing prompts, science fair project assessments and end-of-unit tests. These assessments are often designed, collected, and scored by individual teachers or groups of teachers. Examples of these assessments include school-based summative and formative assessments.
- Other student-level information: This includes student-level information related to demographic and background data. Examples include ethnicity, attendance, and disability.

Many schools also find it useful to include a category for types of data that they wish they had but do not currently collect. For example, schools might be interested to know how well their students demonstrate 21st-century skills, such as communication or critical thinking or student perception about student agency and voice in the classroom. Inviting teachers to contribute to the data wish list can encourage them to think creatively about what kind of data could help them get a better picture of their students (Boudett et al., 2015).

A data inventory can provide information about all the data in a systematic and organised manner. The next step is to identify the student outcomes, indicators, and measures of success most relevant to the network, and prioritise them. The NSI (Bill and Melinda Gates Foundation, 2019b) suggests setting up measurable student outcomes, indicators, and sample measures as outlined in Table 6, on the next page.

The consistency and accuracy with which schools collect, analyse and report on data for student outcomes, enable schools to measure their own progress and performance, and to ask the right questions for their ongoing and future improvement effort. The consistency with which data is reported can also support networks to measure the collective progress and use the data to inform their support to schools and systems.

The Connection model allows greater flexibility for schools to set their own indicators and success targets, while still requiring schools to monitor and evaluate their progress on broad indicators stipulated in The Connection accountability tool – Project Action Plans (PAPs). These PAPs are explicitly designed to support schools to develop fit-for-purpose measurement criteria and indicators of success. In this process, the PAPs encourage schools to plan the data sources, choose indicators to be used to measure the impact of their planned interventions, and then to continually monitor their progress throughout their participation in the program.

Table 6: Bill and Melinda Gates Foundation Outcomes Reporting Framework

| Outcome | Indicators | Sample Measures |
|---|---|---|
| 8th grade on track: the student is academically and behaviourally on track in middle school to graduate from high school and be academically prepared for college | 8th grade GPA<br>8th-grade attendance<br>8th-grade course failures | % 8th graders with a GPA of 3.0 or better<br>% 8th graders with a 96% or better attendance<br>% 8th graders with no Ds and Fs in ELA and math… |
| College ready on track: the student has academic credentials to be accepted to a college with a high institutional graduation rate | High school GPA<br>On-time high school graduation | % of 11th or 12th-grade students with a cumulative GPA of 3.0 or better<br>% of students graduating from high school on time… |

Source: (Bill and Melinda Gates Foundation, 2019b)

### 2. Develop strong relationships of trust

Trust is fundamental to groups of educators and leaders to be able to work together in a common space and acknowledge what they know and do not know. In a way, it becomes a primary condition for learning and growth. A high level of trust is crucial and central in developing relationships, for example when networks of school leaders and educators are assembled together for challenging conversations about their shared goals or to share learning about poor or inadequate progress. The research suggests that in a high-stakes context, comparing data related to student learning outcomes can create a challenging and defensive environment: in these scenarios high trust can turn transparency of data into a sense of moral urgency, to improve student learning outcomes and learn from each other (Gallardo & Fullan, 2015).

All six networks agree on the foundational role of trust in building strong relationships. The comparative analysis found that building a safe, trusting environment was foundational to the network's success. Examples of how different comparative networks describe their safe working environment include:

> Trust is important for any school team and network to operate successfully. The members of the network require high levels of emotional intelligence and acceptance of accountability. (Young & Nibali, 2019).

> Confidence and level of trust in Communities of Learning is reflected in the staff member's willingness to trust each other's data and evidence (Ministry of Education, 2019)

Our qualitative data shows The Connection also shares this culture of trust and of providing a safe environment, arising both from schools' trust in the expertise of The Connection to support their work, and also in the presence of other schools facing similar challenges of disadvantage. The evaluation of Communities of Learning in New Zealand reported that "actively working on building confidence and a level of trust resulted in the staff members willing to trust each other's data and share evidence (Ministry of Education, 2019)".

Knowing that building trust is essential to the effective functioning of the network is important, however, a critical next question is '*how do you build trust among network members*?' The evidence shows that building a strong relationship of trust requires a significant investment of time and energy (Bentley & Cazaly, 2015; Gallardo & Fullan, 2015). Therefore, it is important for system leaders hoping for positive gains to emerge from collaboration to realise that developing trust takes time and is key to the effectiveness of networks, which can in turn support improvement in student learning outcomes

### 3. Connect outwards and learn from others

Connecting outwards and learning from other experts in the sector is one of the key features of effective networks. The case studies from Bentley & Cazaly's (2015) research report on collaboration in three Australian case study schools found schools engaged in using expertise and specialist knowledge from outside, when:

- The problem of practice at hand falls beyond the capacity and capability of the group
- There is a need for innovation, in order to continuously renew education systems.

Constant interactions with people beyond the network also help to break down what Gallardo & Fullan (2015) call the 'echo chamber' phenomenon, where a group with strong internal ties keeps circulating the same old idea. The Education Commission also notes the potential for effective networks to connect outwards with education and industry players to rapidly spread and test innovative practice.

This is in line with the comparative analysis of the five global networks, where all the networks encouraged collaboration through cohort-based events and activities to tap into the external resources and expertise, in addition to the internal capabilities of the network members. For example, in the Communities of Learning in New Zealand, "expert partners" – academics and teaching practitioners – act as critical friends to schools in the networks. Expert partners analyse data from the network to help participants to identify the underlying causes of their problem of practice, and to develop evidence-based interventions. In The Connection model, the participants connect outwards and learn from others by collaborating with other schools, the community, and industry through TLGs, Hub Days, and other Connection-led events. After these formal relationships are established, the participants continue to informally engage in ongoing collaborations with other like-minded schools and continue to learn, share, and exchange expertise outside The Connection.

### 4. Use distinctive forms of leadership

Exercising leadership practices is central to the effectiveness of the comparative and collaborative networks. The importance of leadership in establishing collaborative cultures within a school environment is essential to overall school improvement (Hargreaves, 2004). The UMNOS evaluation states that "school leadership is an important underpinning for all other characteristics of the effective network." Young and Nibali (2019): The literature discusses two levels of leadership practices

#### *a. Leadership practices of the facilitators*

Gallardo & Fullan (2015) consider skilled facilitation as a fundamental aspect of effective networks. Especially in the case of system networks (networks of schools or networks of districts), it is not enough to have the network events and activities facilitated by the network facilitators. A varied mix of facilitators external to the network, such as personnel from the departments of education, national and international academics and practitioners can enhance the effectiveness of the network and spread its impact more widely. The culture of these collaborative networks, committed to improving the quality of teaching, learning, and leadership, can be embedded in the education system by the presence of senior leaders and system actors.

The comparative analysis found that one key feature of the six networks is their ability to lead formal and informal events, to build participants' capabilities. Most of these networks organise whole cohort-based events and customise events to support the development of data literacy skills (including the use of data to support teachers to see progress, consistency in data collection for assessments, use of sophisticated data analysis tools such as an "effect size calculator") and teaching and leadership development through collaborative inquiry-based practices.

More recently, there is rapid emergence in the use of digital learning platforms to build participants' capabilities. However, there is so far little evidence about the effectiveness of these platforms to build collective capabilities and improvements in student learning outcomes (Young & Nibali, 2019).The networks also reported two other ways of building capability – monthly newsletters detailing evidence-based interventions, and setting up a dedicated director or engagement manager.

Similar to the other networks, The Connection also uses various platforms to build participants' capabilities, which is also referred to as '*a willingness to learn, share, and exchange expertise by voluntary inclusive participation'*

(see Chapter 4). It does this via its unique offerings, such as TLGs, school visits, Hub days, CIEs, and activities and updates available on social media via The Connection Facebook page.

### *b. Leadership practices of school leaders and/or teacher leaders*

One of the important roles of school leaders is to encourage, engage, and empower teachers in the quest for collaboration. The case study schools in Bentley & Cazaly's (2015) research show distinctive and sustained forms of leadership that direct collaboration between the schools and their communities. Collaborative leadership appears to be the most dominant style of leadership in all three sources of literature review. In this style of leadership, the leadership team encourages and reward teams of staff members to experiment with new ideas and opportunities, to contribute to the collective improvement in teaching and learning. In The Connection model, school leaders and teachers are encouraged to participate in several types of leadership practices at the individual school level and across the wider system level. This includes distributed leadership within schools, teacher teams, and systems leadership for school leaders and educators (see Chapter 3). This is possible because The Connection and schools actively work together to integrate and embed these leadership practices in their organisation structure.

## Secondary characteristics of the networks

Beyond the primary characteristics outlined above, the synthesis of the literature reveals five secondary characteristics (see Table 7) of the effective networks. These include:

### 1. Frequent inwards interaction

Gallardo and Fullan found that successful collaboration features "dense, frequent knowledge sharing" between participants (Gallardo & Fullan, 2015). They describe this inwards interaction as "engagement", complementing the network's exploratory efforts to connect outwards and learn from others, as mentioned in the primary characteristics above (Gallardo & Fullan, 2015). Effective engagement consists of targeted interactions between the network members, aiming to strengthen and enhance the group's learning. Simultaneously, these interactions help to establish group norms, trust, and a sense of accountability to the group.

Table 7: The secondary characteristics of the networks

| Evidence / Characteristics | Gallardo & Fullan, 2015 | Bentley & Cazaly, 2015 | The Comparative Analysis |
|---|---|---|---|
| Frequent interactions and learning inwards | ✓ | X | ✓ |
| Collaborative inquiry or improvement method | ✓ | X | ✓ |
| Internal accountability | ✓ | X | ✓ |
| Form new partnerships among students, teachers, families and communities | ✓ | ✓ | X |
| Secure adequate resources to sustain the work. | ✓ | ✓ | X |

An example of this characteristic at play is England's Research Schools Network, which encourages selected Research Schools to lead training and development of other schools in their regional networks, effectively using evidence to inform teaching and learning in the classroom. Inwards interaction between schools drives the learning; schools themselves becomes the knowledge creators, and the network enables them to share this information amongst each other (Research Schools Network, 2020).

Likewise, The Connection regularly encourages schools to share their learning with each other at Thought Leadership Gatherings. In addition to the inwards interactions through TLGs, Hub Days and School Visits, The Connection team also brokers targeted relationships between schools beyond these formal events. The Connection team will enable these relationships if they know that one school has information or experience that will be of value to another school's PAP. This can often lead to four different types of collaboration efforts as mentioned in Chapter 3, section 3.1, including 'smart borrowing', 'ongoing collaborations', 'limited engagement, and 'loose relationships' between particular schools, sometimes focused on a particular problem of practice.

### 2. Continuous improvement practice through collaborative inquiry

Effective networks encourage participants to approach their work through some kind of collaborative inquiry process (Gallardo & Fullan, 2015), also referred to as continuous improvement processes or cycles. This method can perhaps be most simply understood as a deliberate "learning by doing" approach to school improvement. Although there are many models of inquiry processes, each with slight differences, Gallardo and Fullan (2015) describe the essential steps of this improvement approach as:

1. Using credible evidence, such as student learning data and work samples of classroom observations, to identify a problem of practice that is both challenging, and able to be practically addressed with the school's existing capacity.
2. Planning and trialling new practices that aim to resolve the identified problem
3. Measuring the effectiveness of this new practice, and embedding those changes that were in fact effective, or modifying or discarding those that did not make the desired impact.
4. Identifying a new problem of practice

All five collaborative networks use some form of inquiry process or continuous improvement cycle to implement improvement practices or practices related to teaching and learning. For example, British Columbia's NOIIE, undertakes a six-stage Spiral of Inquiry – an inquiry process designed by Halbert, Kaser and Timperley (2014). The network recognises that in practice, schools will naturally move between different stages of the Spiral as needed. At the end of a year in the network, schools present a case study that outlines their work at each stage of the Spiral of Inquiry.

In line with the work of the literature and other networks, The Connection also uses an inquiry process through the use of Project Action Plans (PAPs). The Connection's PAPs explicitly encourage schools to identify a problem of practice, plan and trial new practices, measure their effectiveness and reflect on and respond to their findings, see Finding 22, Chapter 3.

While many education systems use continuous improvement models or cycles to guide their efforts, it is an important feature of these collaborative approaches that they seek to engage educators as direct participants in inquiry, to use the shared processes *both* for knowledge creation and problem solving, *and* for the diffusion of knowledge and capability aligned with evidence and improvement goals.

### 3. New partnerships among students, teachers, families, and communities

Bentley and Cazaly's (2015) report on collaboration in three Australian case study schools found that successful collaboration was built upon foundations of trust between the school's teaching staff and its wider community. The report found that the schools had devoted "significant time and energy" to collaborating with the community to establish trust and confidence. Schools responded to their particular community's concerns, such as diffusing racial tensions, and ensuring the physical safety of students outside the school grounds, and found that the resulting improvement in parental attitudes towards the schools was a part of the overall change that had led to improved student achievement (Bentley & Cazaly, 2015).

Gallardo and Fullan (2015) found that some collaborative school networks had entered into "deep partnership" with students, teachers, families, and communities, and found that forming such partnerships is especially crucial for schools with diverse populations, where "many students start in a position of relative disadvantage" (Gallardo & Fullan, 2015). Examples included the creation of health and nutrition initiatives to engage families, as well as collaborating with the wider community, such as local universities, media, business, and sports clubs. The report notes the importance of maintaining strategic alignment and a "common purpose" between the school and its community partners, to ensure that these partnerships are "impactful vehicles of school and community transformation" (Gallardo & Fullan, 2015). In line with the literature, but unlike other comparative collaborative networks, there is emerging evidence (see Finding 12 in Chapter 3) that The Connection has enabled schools to develop new forms of partnerships with school communities and families.

**4. A high level of accountability**

Accountability within a network occurs when participants "hold themselves responsible for their results and how they go about making improvements" (Gallardo & Fullan, 2015). Gallardo and Fullan emphasise that high levels of accountability work in tandem with a foundation of trust across the network: without trust, participants may feel defensive about sharing their challenges and progress, which discourages responsibility and accountability. Conversely, trust without accountability may foster an environment in which participants do not push each other from their comfort zone to achieve change. Developing this balance can take time, and Gallardo and Fullan advise systems leaders to invest time in relationships when a network is first established, which may lead to greater improvements for students in the long run.

All six networks discuss accountability in terms of ability to monitor and evaluate the process, progress, and performance of their participants' work. In that sense, consistently reporting on the outcomes, KPIs, and targets is essential to measure how the network is performing as a whole to achieve its actual theory of change. The USA's Networks of School Improvement (NSI), provides an explicit accountability framework for participating schools. The "P-16 Framework" (discussed above) includes a defined set of student outcomes with indicators and sample measures, from which schools may select to create contextualised goals for their participation in the network. The Foundation requires all schools in a network to use and report on the same measures.

The Connection model has a specific accountability tool. Project Action Plans enable schools to identify their specific goals, and then to monitor and evaluate their progress and performance on implementation of new and innovative improvement practices at classroom, school and system leadership level.

**5. Secure adequate resources to sustain work.**

Bentley and Cazaly (2015) highlight the system-wide requirement of needs-based school funding to enable *all* schools to invest in and support collaboration. Gallardo and Fullan (2015) also recognise the importance of securing time and funding to enable and sustain collaborative work between schools. They note that on top of access to resources, networks must plan how they will manage the sustainability of their resources over time from the outset. Network leaders should capitalise the use of resources under their direct control, such as individual time, schedules, school facilities for meetings, available data, and leverage improvement built on these foundations to seek further investment (Gallardo & Fullan, 2015). Interestingly, in The Connection model, *securing access to resources including infrastructure, human and financial* comes across as an enabling condition that is important for the sustainability and effective engagement of The Connection with the participating schools (see Chapter 4).

This chapter has shown that working examples of collaborative improvement networks in several countries, share some key principles and characteristics, which are supported by the literature. The Connection is among a growing international family of collaborative vehicles designed to enable sustained learning and improvement by groups of educators and schools, through the effective combination of evidence-based knowledge, structured professional inquiry and dialogue, network based sharing of information and experience, and careful, rigorous use of data about student learning and growth. Often, these collaborative initiatives also involve the initiation and growth of new partnerships between schools and other community partners. These network initiatives rely on an intermediary role being played by some organisation or partner, in each case, to act as broker, convenor, enabler of shared resources, structures and protocols for participation and data gathering, and for mediating between diverse participants and helping to frame their interactions and influence with the wider education system of which they are a part. The Connection has developed and played this role in relation to its participating schools and systems.

### 5.3.4 Driving change from meso to macro: enabling conditions in school systems

Schools are complex sites, subject to many conditions beyond the networks' locus of control that affects their work in the schools. The Education Commission notes that system actors have a role in supporting networks by implementing policies that "foster the conditions for working across networks, allowing schools to work as networks and roles such as system leaders to work across schools."

These conditions could be school-level supports related to funding, resources (school staff, capability, and technology), and strategic relationships with the system actors that drive changes across the network for the participants and students (ACER, 2018). While these conditions may be partly beyond the control of the networks, or their direct sphere of influence, they can still leverage the conditions in order to improve their program of activity and its influence across the wider education system. Across all the comparative networks we studied, two key conditions include alignment with the priorities of the wider system, and engagement with the system actors.

### 1. Alignment with the system priorities

This includes activities such as working to align the networks' problem of practice with the district/department/ministry's vision and priority focus areas (ACER, 2018; Bill and Melinda Gates Foundation, 2019; Ministry of Education, 2019).

The Connection actively aligns its professional development content, and schools' PAPs, to the priorities of national and state education departments. Schools are also encouraged to create a PAP that responds to their departmental school planning needs, which itself is aligned to the wider education system priorities. The focus on STEM in – and beyond – the STEM Learning Hub cohort reflects the national trend towards prioritising education in this area (Department of Education, 2020), to ensure that students have the skills that will set them up for success in the world they enter when they leave school.

### 2. Engagement with the system actors

The Education Commission recognises that for networks to thrive, system-level actors must actively share and generate knowledge about effective practice with school networks (The Education Commission, 2020). This can take many different forms, including, identification of the key people in the district to regularly meet, inviting district staff members to the network events, including middle-level managers, directors, subject coaches, and district partners to share their knowledge and expertise related to the network events, and sharing the data collected in the network to highlight insights and lessons learned in relation to system priorities. Other ways of building relationships with the wider system include designing the operating structure (including timetabling, resourcing requirements and funding) of the network in a way that encourages other school districts to join the network and aligns with broader system efforts to improve and develop professional and leadership practice.

The Connection cultivates relationships with members of the state education departments. These education department personnel regularly attend The Connection events, and in some instances have had input into The Connection's design and delivery. For example, The Connection team designed aspects of one of the 2018 TLGs in collaboration with members from a state's education department, in response to participants' requests to learn more about student voice and agency practices in a particular state.

# 6 RECOMMENDATIONS FOR THE FUTURE

> To maximise its positive impact, there is a need to build further key aspects of The Connection's approach, including by sharpening a systemic approach to leadership development, strategic collaboration and the use of technology and real-time methods for tracking student learning.

In an age of rising inequality, it has become far clearer that "leapfrogging" education outcomes through proactive strategies for education innovation is necessary to bridge equity-driven learning gaps for students in disadvantaged schools and communities ( Winthrop, 2016). Relying on incremental gains, through established structures of education management and school improvement, would mean waiting decades, even centuries, to address the gaps that inequality creates. While, in the meantime, the impacts of inequality compound each other. The 2020 pandemic crisis has also demonstrated that continuous, year by year growth, is no longer something we can take for granted.

This evaluation has shown us that The Connection offers a promise and potential to leapfrog education outcomes and experiences in Australia, through education innovations that can help to mobilise whole school improvement, student and community engagement, and empowering educators to become system leaders who can play a critical role in influencing the priorities of the wider system.

Overall, our evaluation found that The Connection offers an emergent, distinctive and innovative approach to Australian schooling. This approach is creating and spreading evidence-informed improvement practices and capabilities among schools that serve disadvantaged students and communities, in ways that could be leveraged and scaled into system leadership capability that is aligned with the educational needs and demands of our time.

The Connection has done this while building its own distinct, intermediary function, creating a team-based 'backbone' organisation for a widely distributed effort. While the specific approaches to implementation, and their effects, have varied, The Connection has developed and sustained a highly integrated approach, and supported it from a non-profit organisation and a program team who have engaged in highly entrepreneurial and collaborative ways with schools, systems, industry partners and a network of international stakeholders.

The evaluation also shows that there is a need to build further key aspects of The Connection's approach, in order to maximise its positive impact, including by sharpening a systemic approach to leadership development, knowledge sharing, strategic collaboration, adaptive learning, use of technology and tools, and real-time methods for tracking and recognising student learning.

Figure 48: Evaluation question 3, "What could be done differently?"

## 3. What could be done differently?

1. What are suggested improvements for the design and delivery of The Connection?
2. How do we grow system-wide capability for collaborative, network-based systems leadership?

In this chapter, we address the final evaluation question: *"What could be done differently?"* (see Figure 48) and propose eight recommendations, based on our findings. This chapter is particularly important to understand ways to further increase the effectiveness of The Connection for future cohorts.

Recommendations 1-5 focus on strategies to evolve and grow The Connection design and delivery, to serve future cohorts of students and schools

Recommendations 6-8 focus on how to scale systems leadership for system-wide improvement in learning outcomes.

These recommendations draw on the findings, data analysis, and literature review in Chapters 3, 4, and 5, and reflect a view of specific opportunities for growth and impact in the years ahead. The recommendations also reflect the models and examples from around the world, and the opportunities they suggest to further strengthen and evolve The Connection's program design, delivery, and evaluation. While our recommendations are aimed at systemic, long-term growth, they also seek to include practical and pragmatic steps to implementation.

## 6.1 What are suggested improvements for the design and delivery of The Connection?

**Recommendation 1:** Focus on increasing educators' engagement in fit-for-purpose, collaborative leadership development networks

One of the most effective ways to improve the knowledge and practice of school leaders and teachers is through professional learning experiences that are collaborative, student-focused, and use inquiry processes (Elmore, 2002; Timerpley et al., 2007). Time and again, research and policy priorities point to the need for Australian educators and school leaders to collaborate in solving deep challenges related to the quality of teaching and learning (Gonski AC, 2018; OECD, 2019c).

The Connection is already leading facilitation of these kinds of transformative collaborations with schools. It does this directly, through its sophisticated and novel model of CLDN, convening schools and education experts in the education system to work together on common challenges of educational equity. The Connection also fosters collaboration indirectly, by transcending traditional school network parameters (geographical, jurisdictional, and school type) to provide a common forum for leaders to meet and pursue collaborative innovations and to share what they have learned. The program has now learned enough to be able to refine and diversify its cohort-based model, to continue growing the reach, sustainability and impact of the leadership learning that it enables. To successfully scale this work across the system, perhaps the most important thing The Connection can do is to increase the participation in these professional learning experiences, by finding appropriate ways to extend and apply the model to future cohorts of schools and leaders.

The more that educators and school leaders are exposed to the experience of high-quality leadership development, delivered in ways that also develop the capabilities for distributed leadership, structured inquiry, and widespread school to school collaboration, the stronger the chances of sustained improvements in educational practices and student learning outcomes.

School leader at a SVA Bright Spots Schools Connection Thought Leadership Gathering, Victoria 2019, (James Henry Photography)

The evaluation survey data shows that over time, and for several reasons, there is a slight decrease in the participants' attendance and engagement in The Connection events. We suggest three, interconnected ways in which The Connection can further extend the reach and influence of these experiences:

*a. Continue to deepen understanding of The Connection-wide needs of school leaders and educators*

The Connection is already using several methods to routinely understand the evolving needs of diverse participants. The Connection offerings are purposefully designed to meet schools' specified needs, by responding to Project Action Plans, and via feedback from surveys and Engagement Visits. In future, it will be important for The Connection to continue sharpening and refining methods, techniques and approaches to understand the diverse needs of the school leaders and educators.

*b. Strengthen the messaging and communication related to the value of The Connection's offerings in schools and at system level*

Some of the school leaders in the interviews reported a few barriers to being fully engaged, such as time commitment, lack of funding and staff turnover. These are critical short-term barriers that schools face from day-

to-day. To support continued engagement by schools with The Connection events and activities, it is important for The Connection to be consistent and creative with communication that conveys the value of high-quality CLDN experiences to educators, school leaders, and system leaders across Australia.

### *c. Spread access to high-quality leadership development and learning through a fit for purpose online Connection platform*

At present, The Connection uses two different online platforms to engage with its members. This includes The Connection website to share details of its events, and a Facebook group to share resources related to best-practice research. A third platform — the soon to be launched Alumni website — will share impact stories of schools who have participated in The Connection. To continue increasing the engagement in collaborative leadership development, The Connection should *develop an integrated online learning portal* to pool access to resources and networks for all educators and school leaders, beyond the formal events.

Developing digital resources can be expensive and time-consuming. Following the 'digital leap' to remote learning and work during the pandemic, educators everywhere are adapting to using digital channels and repositories far more widely and seeking the most effective methods and networks to increase their reach and impact. For The Connection, the best solution is not necessarily a bespoke and separate online system, but a set of tools and resources that support widespread connection and sharing by a growing community of practitioners.

**Recommendation 2:** Build a dedicated evaluation function, aligned with program strategy and implementation, to support student impact and spread program learning

Outcomes are the ultimate measure of how a program is performing and whether objectives have been achieved. As noted in the *Developmental Evaluation,* high-performing leadership and professional development programs "begin with the end in mind", by clarifying the impact on student outcomes that they seek to achieve, and the evidence that will reflect whether they have succeeded.

Since 2014, The Connection has developed an ever-evolving program logic model, informed by evaluation surveys. To maximise the benefit from the evaluations, it is crucial to collect consistent baseline data for all the outcomes defined in the evaluation framework. As there is a growing need to further the validity and reliability of The Connection's impact, and no control group, collecting baseline data is especially important.

Evaluation of education innovations is not always a linear process: Gamble (2008) states that "initiatives that are innovative are often in a state of continuous development and adaptation, and they frequently unfold in a changing and unpredictable environment." Building ongoing evaluation into a program provides real-time evidence, which can inform decisions as the program is implemented. The innovative nature of The Connection makes it a prime candidate for ongoing and developmental evaluation.

The comparative analysis revealed different evaluation approaches across different networks. The Research Schools Network in the UK encourages schools to conduct their own rigorous evaluations of interventions undertaken, along with qualitative reflections on the schools' experiences in the network (Research Schools Network, 2020b). The Institute for Effective Education collates these evaluations and publishes their findings. Furthermore, other comparative networks undertake progress reviews, full-scale evaluation at the end of the program, and formative and developmental evaluation throughout the implementation.

Subject to the availability of resources and system partnerships, building a dedicated evaluation function capability would involve the following:

### *a. Identifying and appointing a skilled and dedicated team of evaluators*

The first step to building a dedicated evaluation function would be to appoint a team, comprising of Connection staff, with existing evaluation skills, working in collaboration with external evaluators, to provide advice on developing an evaluation strategy that is consistent with the five-year Connection strategy and to measure the overall impact in a rigorous manner.

Establishing a new evaluation function involves:

- Appointing an evaluator with significant experience in program and impact evaluation
- Developing the evaluation team
- Training the team to develop and use *The Connection Evaluation Framework*
- Designing valid and reliable data collection tools such as survey questionnaires, interviews and focus group discussions.
- Delivering recurring reports to discuss the overall progress and opportunities for growth

### *b. Develop The Connection Evaluation Framework alongside The Connection's overall strategy*

A key responsibility of the evaluators is to co-design an Evaluation Framework alongside The Connection's program design and delivery team. In preparing this report, RMIT evaluators reviewed The Connection design and delivery model, attended Connection events and consulted with The Connection team to develop a proposed evaluation framework - *The Connection Evaluation Framework*.

The Framework consists of evaluation types, evaluation questions, indicators, assessment tools (surveys and questionnaires for interviews and focus groups) and guidelines on data collection tools, including government datasets and surveys, analysis and interpretations (baseline, midline, endline) and reporting.

For future cohorts, it is important to establish the evaluation framework alongside The Connection's overall strategy, supporting the program team to measure impact and outcomes systematically over time. The Evaluation Framework also suggests trade-offs between using different categories of evaluations as The Connection continues to grow.

These evaluation categories are:

a. Outcome-based evaluation: to measure the effectiveness of how well The Connection is doing in achieving the intended outcomes

b. Process evaluation: to understand the drivers of, and barriers to, impact

c. Cost-benefit analysis: to develop an appropriate and robust understanding of the costs and associated benefits.

d. White papers on policy implications: to discuss the overall need for The Connection's work at the system level and how policy directions and system relationships can support progress.

**Recommendation 3:** Support shared accountability with co-design and tools for integrated data collection

> "If you engage colleagues and school communities in describing the current environment, you can help them to show that wise data practices are not one more thing but the thing that unifies the collective effort" (Boudett et al., 2015).

Systematic data collection and reporting are planks of effective shared accountability. As part of The Connection's Project Action Plan development, schools undertake critical decisions at the beginning of their project about which problems and school-wide issues to tackle. While all schools in The Connection are doing some form of assessment, developing improvement plans and implementing school-based improvement practices, we found that only 26 per cent of the schools focused on using actual student data analysis to plan and implement new school-based and system-wide improvement practices. The analysis of PAPs also showed large variability in how schools reported on outcomes related to student learning, and teachers and school leaders' capabilities.

Evidence repeatedly shows the importance of using systematic student assessment data to inform improvement goals at classroom, school, and system level (Bill and Melinda Gates Foundation, 2019a; Boudett et al., 2015; Harvard University, 2020; The Networks of Inquiry and Indigeneous Education, 2019; Timperley et al., 2014).

For schools to identify the problem of practice rigorously and report on outcomes consistently, it is important for The Connection to focus on clarifying expectations related to:

### *a. Data collection*

Systematic data collection across all schools in the cohort sends a clear message to the schools that their project focus/improvement goals are strictly embedded in reliable data. Cumulative, fit-for-purpose outcome data from Project Action Plans can also be used to inform a school's future improvement goals and strategic planning, indicate progress towards learning goals, and support The Connection to improve their impact.

In the current state, each PAP is bespoke and tailored to meet the individual needs of the school, bringing a challenge of maintaining consistency in the way schools collect and share data.

Establishing a shared baseline set of indicators, co-designed with schools would enable all schools to use similar student assessment data. While there are challenges in working across different data systems and measurement frameworks for schools in different systems, this might be achieved by The Connection program team providing supportive strategies, best practices and assessment tools on *which data to collect, how to organise data into data inventories*, *how to use the data*, and *how to synthesise the results* (for an example, see Box 14).

This is not to say that schools should only collect standardised data. Schools might also decide to use other sources of data to triangulate the results from student assessment data, such as qualitative information from teachers, parents, students and the wider community, the views of the students themselves, prior knowledge and research to inform their overall project focus/improvement goals (Ministry of Education, 2019; The Networks of Inquiry and Indigeneous Education, 2019; Timperley et al., 2014).

### *b. Reporting*

All schools in The Connection report on four key outcomes, including teacher skills and capacity, school leadership, student engagement, and student learning and development. However, they use a variety of indicators to analyse each of these four outcomes. As the indicators do not line up consistently in the existing data, even though outcomes align, it is difficult to use the indicator-level data for decision making.

A major opportunity for The Connection to strengthen its accountability strategy and enable systemic learning. is to commission or co-develop a *student learning outcomes framework* to define and outline expected definitions, outcomes and associated indicators. Just as The Connection has used the National School Improvement Tool (NSIT) to measure implementation of the new practices across jurisdictions, this proposed student learning outcomes framework would support them to consistently and rigorously define, assess, and report on student learning outcomes across different states. The success of this framework resides in engaging with the participating schools, system leaders, and assessment and evaluation experts in its design and implementation.

## Box 14: Diagnostic tool for collecting fit-for-purpose data on shared measures

Before The Connection can support schools to use data for identifying a problem of practice, it is important to assess school-wide capability to use data for decision making.

This box provides an example of a rubric used by Communities of Learning in New Zealand to diagnose the data literacy capabilities of the schools in New Zealand. In order to receive consistent responses from schools, it is important to communicate that the purpose of this tool is not to assess their data skills but to support The Connection to provide fit-for-purpose data literacy training to the schools, ahead of time.

Example 1: The Diagnostic tool used by the Communities of Learning to understand the data capability of individual schools

**DEVELOPMENT MAP**
DOMAIN 3
**Evidence** guiding our practice and actions.

As you work through the map, ask yourselves ' What stage of development are we at?' and 'Is what we are doing within our Kāhui Ako making a difference to the progress and achievement of every child and young person?'

**STUDENT PROGRESS AND ACHIEVEMENT**

| Establishing<br>Pre-approval, achievement challenges, recruitment and planning | Developing<br>Shifting from co-operation to collaboration | Embedding<br>Collaboration leads to collective impact | Fully functioning<br>Collaboration is systemic, sustainable, self improving, connected beyond |
|---|---|---|---|
| We are **identifying what evidence and data we currently collect on student progress and achievement and using it to set our achievement challenges.** | We are **making use of aggregate data and evidence to measure and improve the progress and achievement** of every child and young person in our Kāhui Ako. | Across our Kāhui Ako **data and evidence are being used to comprehensively drive our actions to measure and improve our students' progress and achievement.**<br><br>We can use **data to identify progress and needs across our learner pathway,** including early learning, primary, secondary and other settings. | **Data and evidence is the major driver of our Kāhui Ako's practice.**<br><br>We are **continually improving our progress and achievement data and evidence and use this to know how every one of our students is progressing.** |

Source: A guide to understanding the progress of Communities of Learning, retrieved from https://www.nzsta.org.nz/communities-of-learning/

Note: Diagram has been reformatted for use in this report

**Recommendation 4:** Focus on strengthening distributed school leadership

Disadvantaged schools are more likely to experience staff turnover than other schools (Muijs et al., 2004). Qualitative research from this evaluation confirmed schools participating in The Connection experience similar challenges of school leadership turnover. The Connection deliberately engages with teams of staff from each school – both principals and non-principals – to mitigate the effects of leadership change on schools' work. However, some schools continue to report that change in leadership and staffing slowed the momentum of their work.

Building distributed leadership in schools fits hand in glove with an inquiry-based, collaborative approach to professional learning. It reflects the complex, systemic leadership challenges that school communities now face. And it reinforces The Connection's objectives of spreading and sharing evidence-informed practices, and enabling wider system leadership

Examples from the comparative collaborative networks present different models of distributed leadership. Implementation of fit-for-purpose distributed leadership models has shown to have positive impacts on overall school improvement and student outcomes (Broin, 2020).

Our evaluation found that between 75 and 100 per cent of participating principals reported improvements in distributed leadership within their school in the survey, while only six schools explicitly mentioned these changes in their PAPs and Project Artefacts. This suggests that there is momentum amongst schools to implement distributed leadership models, which The Connection could deliberately harness to deepen and sustain its impact.

The principles of effective distributed leadership encourage all teachers in schools to take formal and informal leadership roles, based on their aspirations, interests and skills. The model involves mobilising leadership expertise at all levels of the school and its community partnerships, in order to generate opportunities for change and to build capability for improvement. Schools distribute leadership responsibilities by assigning roles such as teacher leader roles, instructional coaches and of assistant or deputy principals. These roles also need an integrated vision of how they will work together to support the school's overall vision (Bain & Company, 2016). Such a strategy must be delivered with a strong foundation of trust among educators and leaders (Broin, 2020).

Although there are identifiable principles common amongst effective distributed leadership models, there is no 'one-size-fits-all' approach to implementation. The Connection, with its emphasis on innovation and evidence-informed practices and proven ability to support schools in designing interventions specific to their needs, is well-placed to guide schools' development of distributed leadership structures to support their learning and improvement goals.

The Connection could potentially play two roles:

a. **Facilitator:** The Connection could play a growing role supporting schools to design, implement, evaluate and share robust distributed leadership models to both sustain school improvement efforts and help to extend the impact of The Connection beyond the life of The Connection events and activities.

b. **Broker:** As a broker of knowledge across the Australian education system, The Connection could also draw upon its extensive links with experts, policy makers and schools, to support new cohorts of schools in developing distributed leadership strategies fit for their context and purpose. The Connection already plays this role by connecting participants with other schools, experts and external opportunities relevant to their projects. Applying this knowledge-brokering role to help schools develop models that are right for their context, is an important opportunity.

**Recommendation 5:** Continue to align The Connection's work with international best practice

Benchmarking and learning from best practice around the world can be used to keep abreast of new methods, innovations in the collaborative network design, and what is effective in other comparable organisations and systems. (Schleicher, 2018). Benchmarking of comparable approaches in international systems and innovative clusters can help to reveal how other programs have

responded to issues and reveal common principles in different systems (Center on International Education Benchmarking, 2020).

The Connection has also proactively used international expertise and connections to inform and influence its own development. It also uses 12 school-based improvement practices, which are highly embedded in the evidence from NSIT, and are likely to have a positive impact on the student learning outcomes. In any rapidly developing field of practice, it is important to exchange knowledge both inwards and outwards to prevent an 'echo chamber' phenomenon of circling around the same ideas and conversations and to learn from relevant other experiences (Gallardo & Fullan, 2015).

Internationally, a movement towards network-based and ecosystem approaches to educational transformation are now growing strongly, fuelled by the intensification of digital connections and by the challenges of inequality and system change.

To continue learning and contributing to international best-practices, The Connection could:

a. Collect and share examples and benchmarks from examples around the world, participate in international knowledge exchange online, and routinely **publish guidance and reports** such as:

   - *A Requirements guide on how The Connection is designed and delivered at SVA,* drawing on international best practice in designing and delivering collaborative leadership development.
   - *The Connection evaluation guide*, detailing how The Connection evaluates the program from end to end, including templates and guidance to assist evaluators in this task.

b. **Establish an international advisory board** with experts on collaborative leadership networks, drawn from higher education institutions, industry, businesses, and practitioners.

## 6.2 How do we grow system-wide capability for collaborative, network-based systems leadership?

These next three recommendations address how to amplify system leadership in order to fast-track an 'ecosystem' approach to improving the learning experiences and outcomes for *all* Australian learners.

**Recommendation 6:** Pursue strategic alignment with education system priorities

Alignment between the priorities of collaborative initiatives and goals of the wider education system is essential for success in achieving systemic impact (Bill and Melinda Gates Foundation, 2019a; The Education Commission, 2020; Young & Nibali, 2019). Qualitative data from our evaluation shows that the schools benefit the most where there is alignment and consistency achieved between the work of The Connection and the priorities of the wider education system.

How to achieve this alignment under today's conditions is the challenge. Our evaluation found that all schools in The Connection have prioritised implementation of school-based improvement practices, aligning with state and national government priorities (ACER, 2016; Center on International Education Benchmarking, 2020; NSW Department of Education, 2017; South Australian Department for Education, 2016; Victorian Department of Education and Training, 2019a). The evidence from synthesis of the PAPs show that the individual school projects are in line with the priorities of individual state jurisdictions.

To continue strengthening this alignment, it is important to:

*a. Build strong links between whole school planning documents and The Connection's Project Action Plans*

During the last five years, The Connection has worked hard to align schools' PAPs to their whole-school improvement plan (Strategic Planning

Online Tool (SPOT) in VIC, Site Improvement Plans (SIP) in SA, and School Planning and Reporting Online (SPaRO) in NSW. This alignment process occurs both informally and formally, through regular discussion between The Connection staff and school leadership teams. For example, at a Hub Day in 2018, The Connection guided schools to map their Project Action Plan outcomes to their relevant state education department framework for school planning. Case Study 1 in Appendix 1 provides a detailed example of the power of deeply embedding a school's Project Action Plan within the wider school planning work.

We also found in case studies and interviews that schools had made strong connections between their Project Action Plans and their whole-school processes for planning, improvement and transformation. Project-based initiatives may have positive impact, but unless they are translated into sustained, recurrent practice, the impact will falter. The whole school organisational framework, over time, determines what gets prioritised, measured and resourced.

One way to integrate explicitly any or all of schools' strategic directions from the school planning document into the PAP and show the direct and indirect links between the objectives and priorities of two documents is discussed in Box 15. Such integration supports coherence at micro, meso, and macro levels of the education system.

### *b. Develop schools' competencies in critical areas of need*

We found that part of The Connection's strength is that it is helping to develop resources and professional capabilities in important areas of emerging need for schools and students. For example, nine schools identified implementation of General Capabilities, 15 focussed on STEM, 13 addressed Metacognition, and 18 paid attention to implementation of Student Voice and Agency.

Education departments across all three states have shown interest in pursuing these areas. The Connection should continue to engage schools in developing deep expertise in *how to teach*, *how to assess*, and *how to diffuse leadership capability* in these areas to wider networks of schools beyond the existing cohort.

Building greater specialist expertise in the areas of General Capability, Student Agency, STEM and uses of technology and helping schools to share them through the development of specific tools and inquiry processes, will add to the cumulative impact and reputation of The Connection.

**Recommendation 7:** Support system leadership by strengthening The Connection's role as a facilitator of innovative, meaningful partnerships for schools in the emerging education ecosystem

We know that schools are not self-sufficient islands, operating in isolation, but rather part of a large and complex system of interdependent relationships that are important to support teaching and learning, influence culture, and enable school improvement (Spillane et al., 2019).

There is growing, though contested, evidence about the positive relationship between the collaboration between schools, communities and its impact on learning outcomes (OECD, 2019c). In Australia, approximately 80 per cent of the participating principals responded that they often or very often provide parents or guardians with information on school and student performance, whereas only 46 per cent of principals responded that they collaborate with principals from other schools on challenging work tasks. While these results are higher than the OECD average, it is vital to continue investigating and strengthening various practices that contribute to systems leadership (retrieved from Tables in OECD, 2019).

The use of the word *system* in education can be interpreted very differently by different players. Around the world, theory, practice and policy are now moving rapidly towards embracing a view of education 'ecosystems' in which diverse, interconnected players and participants co-produce outcomes and share learning across multiple, dispersed sites.

## Box 15: Integrate priorities between the school planning documents and The Connection Project Action Plans

The two examples below show how to integrate priorities in the school planning document and The Connection Project Action Plan.

### Example 1: Integration of Project Action Plan priorities in the school planning document

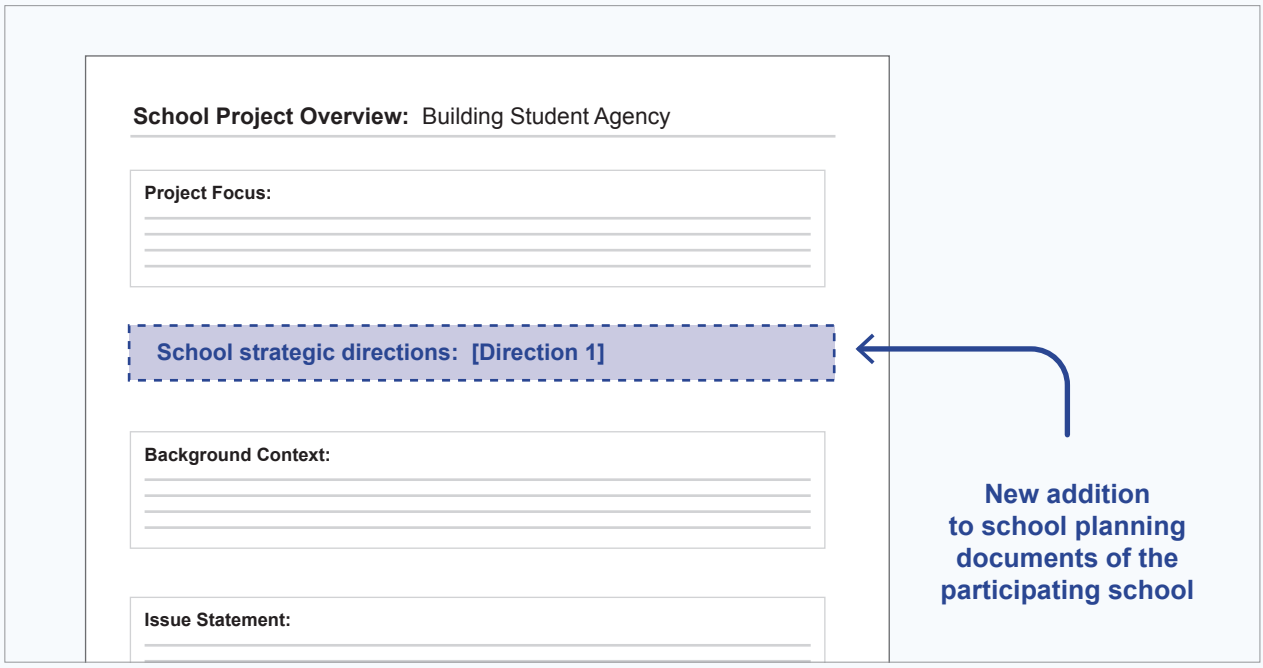
Figure 49 shows an anonymous school planning document that comprises the school's strategic directions for 2018, 2019 and 2020 and the purpose of the direction. We suggest that to achieve advantages of alignment between the state, school, and The Connection priorities, it is important to identify in which of these strategic directions The Connection's Project Action Plan fits.

### Example 2: Integration of school-wide priorities from school planning document into the Project Action Plan

Figure 50 shows a way to integrate school-wide priorities from school planning documents into PAPs. This enables schools to see the *why* – the *purpose* of engaging with The Connection offerings - and how The Connection helps to advance the school-wide strategic priorities.

Figure 49: Sample school planning document

Figure 50: Sample school planning document




In this context, system leadership can be supported by developing the collective capability of educators to act as system leaders, who are able to address the learning needs of their organisations and communities through this interconnected ecosystem of relationships, knowledge exchange and shared action.

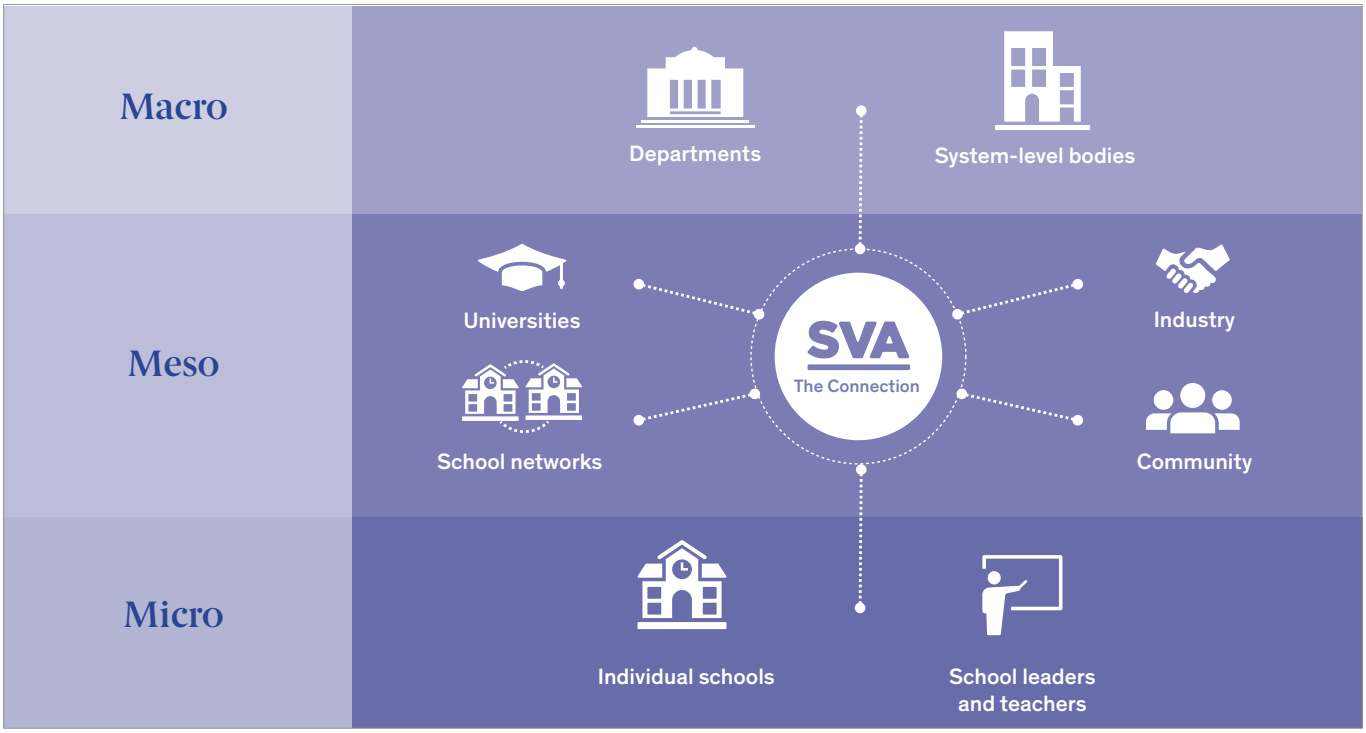
As we saw, The Connection acts as an *intermediary* (at the meso level) to facilitate partnerships between the education system (at the macro level), schools (at the micro level), industry and community. Figure 51, on the next page, illustrates how The Connection facilitates partnerships by actively curating and convening stakeholders from the micro, meso and macro levels of the education system. Participating schools not only receive knowledge and resources from macro and meso level players – they also build their collective capability to exert influence and leadership throughout these levels of the system (see system leadership school improvement practices in Chapter 3).

These partnerships do not have a 'one-size-fits' all approach, but a distinct and collective partnership effort that has the power to positively influence the whole school improvement, both at school and system-level (Ainley & Carstens, 2018; Fullan, 2015; D. H. Hargreaves, 2010; OECD, 2019c).

Our analysis found that The Connection acts as a broker (at the meso level) in facilitating the interactions between the micro and macro levels for systemic change, by adopting the CLDN approach. An existing strength of The Connection is to diffuse expertise across the diverse cohort of the participating schools. By including primary and secondary schools from metropolitan, regional and remote areas across three states, The Connection can transcend the pockets of knowledge that are reinforced by traditional structures in the education system (Cridge, 2019). The distinct perspectives and experiences that schools share with other schools appears to be a valuable aspect of The Connection model (see Case Study 1 in Appendix 1 for a detailed illustration).

To continue building systems leadership capability and cross-system connections and knowledge sharing, The Connection can:

Figure 51: The Connection's work across the micro, meso and macro levels of the education system




### *a. Support school principals to develop and strengthen the links with other like-minded schools, within and across states*

The Connection team currently facilitates relationships between schools that it knows share similar interests or may have something to teach or learn from each other. In interviews and focus groups, schools that participated in close collaboration with one or more other Connection schools spoke very highly of those relationships and expected them to endure beyond their formal participation in the network. Continuing to support these relationships may be a powerful strategy to extend and sustain The Connection's system-wide impact.

### *b. Motivate and support schools to build system leadership practices among their wider teams, and support diffusion of learning among professional networks*

The Connection encourages schools to invite a range of staff members to attend The Connection events, as a strategy to mitigate the effect of staff and leadership turnover on program engagement. An additional benefit to this approach is the exposure of teachers to a forum of leadership that is deeply invested in innovation and system-wide improvement, allowing them to develop their own ability to lead change, and share their knowledge and practice with colleagues from around the country.

### *c. Broker and build fit-for-purpose relationships with education systems*

The Connection should develop its strong position as a middle leader to broker relationships between schools, education departments and other policy players, by:

- *Building new cohorts of schools based on thematic priorities recognised by state and federal education systems:* as The Connection matures into new cohorts of schools, it has an opportunity to create shared priorities focused on particular areas of need or interest that may provide a rationale for co-investment by specific partners. These priorities could be particular to specific years of education, cross-community service collaboration, rural and regional schools, or particular cities and regions.

- *Continuing to invite people from education departments and institutions:* The Connection regularly invites education department personnel to its events. The example of the VIC and SA student voice and agency teams sharing practice, illustrates the potential for new collaborations to arise from The Connection, by providing a productive forum for these players to meet and engage.
- *Continuing to share annual progress on the outcomes and lessons learned:* The Connection collects a wide range of evidence from schools about their participation in the network. Sharing evidence of The Connection's impact with education departments and other institutional stakeholders will raise awareness and understanding of the potential benefits of engagement.

**Recommendation 8:** System leaders and policymakers provide active support to amplify The Connection's efforts to bridge education inequity in Australian classrooms

The Connection has established itself as a valued, distinctive presence in Australia's education ecosystem – operating as an intermediary and creating an array of positive impacts. But the work of The Connection and schools is not enough on its own to achieve systemic change. Sustained effort and impact require effective collaboration from state and federal education systems, to sustain and deepen this relevant and timely effort (see Figure 51). Policies at the macro level need to foster the enabling conditions that allow for greater collaboration between schools, school communities, industry and policy makers (The Education Commission, 2020).

The Connection model includes active engagement with education systems, and our comparative analysis of other networks, also shows a range of potential contributions from the education departments:  These include:

### *a. Enable a conducive policy environment*

Feedback from the participating schools is that they found value in learning from other relevant schools within and across state borders. The knowledge and information exchanged in these geographically diverse cohorts is highly sought after.

The Connection model offers an approach that can both complement and supplement the localised improvement and learning opportunities that every school can access from its own system.

To continue engaging and retrieving the benefits of cross-geographical school networks, it is important to have a conducive policy environment that allows schools to pursue interstate travel to attend relevant events. This move will also open doors for more and more schools to engage with CLDN and positively influence learning outcomes for learners around Australia.

### *b. Encourage and leverage cross-sectoral partnerships to support education goals*

Findings in Chapter 4 shows that the participating schools have greatly benefited from the school community, business, industry and tertiary sector partnerships that they have accessed. These partnerships have allowed students to apply their learning in real world settings and supported schools to prepare capable, future-ready learners.

Policies, funding and governance structures should enable greater cross-sectoral working when it facilitates better education outcomes. These partnerships enable, for example, the involvement of a wider range of professionals and community members in schools to support applied learning, bridge the gap between school and work and enhance school resources. They also lead to closer coordination between industry and community sectors to meet learner needs and address systemic barriers to learning and collaboration with technology providers to develop, test, and scale cost effective technology-based solutions to advance learning goals.

Education departments should also work with industry and community services departments to develop partnerships and strategic support for these cross-sectoral partnerships, and encourage the participation of employers, community organisations and tertiary education.

### *c. Endorse the innovative and cutting-edge work of participating schools*

The Connection has enabled participating schools to develop their expertise and, in some cases, to become leaders in new practices and approaches to learning

and leadership (for example, the assessment of General Capabilities, student voice and agency and technology use in STEM learning).

These successes and impacts can be more widely shared with the wider education system, so that more schools can benefit from the work. Education systems and departments should work with The Connection, and other relevant networks, to validate, endorse and encourage the positive impacts achieved through collaborative innovation. These effects can be widened through education department websites, forums, school exchange visits and observations.

### *d. Contribute expertise and resources to accelerate The Connection's sustained effort*

Evidence from this evaluation suggests that participants in The Connection greatly valued education departments' contributions of expertise and resources. In different cases, where direct partnership was established with states and regions via The Connection, it achieved valuable leverage and alignment between school-based practices and systemic improvement goals.

Education departments and agencies should partner directly with The Connection, co-investing in the delivery of cohort-based network programs and providing direct financial support for the infrastructure needed to support effective brokerage, evaluation, knowledge-sharing and synthesis of findings.

When system leaders share their expertise through The Connection's cross-jurisdictional platform, they support the network's mission to overcome barriers to high quality education experiences for disadvantaged learners. System leaders should continue to extend expertise to The Connection, to ensure that the participants have access to a wide range of high-quality support.

In addition to the contribution of knowledge and expertise, the system's ability to provide targeted resources to participating schools affected some participants' experience of The Connection. Systems have a role in ensuring that there is consistent, guaranteed funding to support schools in The Connection that are otherwise unable to participate, to maintain and grow The Connection's impact in disadvantaged communities across the country.

# 7 CONCLUSION

> Five years of The Connection's work in the Australian education system has shown that a CLDN approach is highly effective in generating meaningful short-term and long-term education outcomes for disadvantaged learners and communities.

School leaders at a SVA Bright Spots Schools Connection Thought Leadership Gathering, New South Wales 2018 (Noni Carroll Photography)

## 7.1 Overall insights

More and more education systems around the world, including high-performing systems, are turning to collaborative network-based approaches for improvement, leadership and innovation. The SVA Bright Spots Schools Connection, a Collaborative Leadership Development Network (CLDN) initiated by Social Ventures Australia, occupies a distinctive, intermediary (or meso-level) position between schools (at the micro-level) and education departments (at the macro-level) in Australia's education system.

Five years of The Connection's work in the Australian education system has shown that a CLDN approach is highly effective in generating meaningful short-term and long-term education outcomes for disadvantaged learners and communities.

The three key insights distilled from this evaluation are shown on the right.

**Insight 1:**
Participants in The Connection have acquired a range of new knowledge and mindsets relevant to their roles in schools and also for their emerging role as system leaders

**Insight 2:**
The Connection uses an inquiry process, emphasising structured processes of shared inquiry, to implement innovative and evidence-informed school-based and system-wide improvement practices in Australian classrooms, and at school and system leadership levels

**Insight 3:**
Overall, there are perceived improvements in student engagement, student learning and development, and STEM-related learning over the life of The Connection. In addition, there is growing evidence of the impacts of The Connection on innovative measures of student learning, such as Student Voice and Agency, Metacognition, and General Capabilities

These insights are drawn from Findings and Recommendations (see Table 8 and Table 9) and reflect The Connection's emergent expertise as a knowledge broker and key meso-level player, fostering systems leadership across Australian education to improve learning outcomes.

While we acknowledge that many leadership and improvement initiatives exist in education and that there is a growing consensus that Australia's school leaders need different kinds of preparation and support to meet the adaptive challenges of a disrupted, volatile, complex, and uncertain world — and the mounting pressures on education within it — in Australia, a high proportion of principals are aged above 50, and fewer educators aspire to lead schools. A collective systematic approach is therefore needed to support and lead the professional development of educators and school leaders, especially those who are ready to work in situations of community disadvantage

The Connection has shown that with the use of consistent expertise, relevant improvement strategies, project-based planning, and appropriate accountability and management approaches, school networks can act as 'engines' of professional development: skilled school-based practitioners can share their expertise and knowledge across school networks and beyond. In addition, the work of The Connection, through a CLDN approach, has shown that it is possible to prepare a new generation of Australian school leaders and leadership teams, who act as role models, exemplifying extraordinary practices in systems leadership, distributed leadership, and instructional leadership.

The evaluation also shows that the CLDN approach has the potential to help transform all schools into sites of continuous innovation and knowledge-creation. The examples from this evaluation have already shown that The Connection is acting as an intermediary, well-placed to experiment with solutions to emerging issues in education, such as preparing future-ready learners through STEM approaches to learning and teaching, curriculum and assessment curation for General Capabilities, building metacognitive thinking amongst learners, and developing Student Voice and Agency. All this was possible because of the alignment of core features of The Connection with enabling conditions in the system, brought together through a determined, entrepreneurial, team-based effort. Lastly, this approach, led by SVA, has revealed that the solutions to challenges of educational inequity and relevance, in a fairly disrupted world, need ambitious, non-linear methods to leapfrog learning outcomes and experiences for *all* learners in Australia and beyond.

Table 8: List of findings

| Outcomes | Findings |
|---|---|
| Collective Capability | **Finding 1:** A very high proportion (75 to 100 per cent) of The Connection participants have acquired new knowledge relevant to their role |
| | **Finding 2:** A moderate to very high proportion (45 to 91 per cent) of principals' report improvements in instructional knowledge and knowledge of professional practice |
| | **Finding 3:** A small to very high proportion (23 to 100 per cent) of non-principal educators' report improvements in pedagogical knowledge and pedagogical content knowledge |
| | **Finding 4:** A moderate to high proportion (52 to 69 per cent) of participants reported increases in self-efficacy over three years |
| | **Finding 5:** A high proportion (63 to 100 per cent) of participants reported developing a system leadership mindset |

Table 8: List of findings (continued)

| Outcomes | Findings |
|---|---|
| School-based and system-wide improvement practices | **Finding 6:** Very high proportions (75 to 100 per cent) of participating schools reported implementing *effective pedagogical practices*<br><br>**Finding 7:** A moderate to very high proportion (43 to 100 per cent) of participating schools reported implementing *systematic curriculum delivery*<br><br>**Finding 8**: A moderate to very high proportion (43 to 100 per cent) of the participating schools report implementing *differentiated teaching and learning*<br><br>**Finding 9:** A moderate to very high proportion (57 to 100 per cent) of schools reported implementing practices that *promote a positive learning culture*<br><br>**Finding 10:** A moderate to very high proportion (50 to 100 per cent) of schools reported implementing practices focussed on *development and collaboration between teacher teams*<br><br>**Finding 11:** A moderate (38 to 68 per cent) proportion of participants reported implementing *system leadership practices*<br><br>**Finding 12:** There is a high variability in the proportion (25 to 100 per cent) of schools reporting development of *mutually beneficial working relationships*<br><br>**Finding 13:** There is huge variation (25 to 86 per cent) in schools reporting the implementation of practices focused on *school-community partnerships*<br><br>**Finding 14:** There is huge variation (25 to 78 per cent) in schools implementing practices focussed on *new partnerships with industry experts*<br><br>**Finding 15:** A moderate to high proportion (43 to 78 per cent) of the schools focused on implementing *better use of data for decision making and performance analysis*<br><br>**Finding 16:** A low to moderate proportion (25 to 56 per cent) of schools reported implementing practices focussed on improved use of school resources<br><br>**Finding 17:** All participating schools use an inquiry approach for the implementation of improvement practices |
| Student learning outcomes | **Finding 18:** A moderate to very high proportion (52 to 95 per cent) of the participants report perceived improvements in outcomes related to student learning outcomes, student engagement and development, and STEM-related learning<br><br>**Finding 19:** A moderate to high proportion (36 to 73 per cent) of schools report improvements in academic outcomes, student voice and/or agency, and metacognition<br><br>**Finding 20:** A moderate to high proportion (40 to 67 per cent) of participants reported that students were well equipped to use technology at school<br><br>**Finding 21:** A low to moderate proportion (25 to 44 per cent) of schools reported that using new SVA brokered Samsung technology has increased the aspiration of students to pursue STEM-related education and careers<br><br>**Finding 22:** Overall, a moderate to very high proportion (38 to 100 per cent) of principals reported that the new SVA brokered Samsung technology has increased student engagement in learning |

Table 9: List of Recommendations

| Recommendations for the future | |
|---|---|
| Improvements in the design and delivery of The Connection | **Recommendation 1:** Focus on increasing educators' engagement in fit-for-purpose, collaborative leadership development networks<br><br>**Recommendation 2:** Build a dedicated evaluation function, aligned with program strategy and implementation, to support student impact and spread program learning<br><br>**Recommendation 3:** Support shared accountability with co-design and tools for integrated data collection<br><br>**Recommendation 4:** Focus on strengthening distributed school leadership<br><br>**Recommendation 5:** Continue to align The Connection's work with international best practice |
| Strategies to build system-wide capability for collaboration, network-based systems leadership | **Recommendation 6:** Pursue strategic alignment with system priorities<br><br>**Recommendation 7:** Support system leadership by strengthening The Connection's role as a facilitator of innovative, meaningful partnerships for schools in the emerging education ecosystem<br><br>**Recommendation 8:** System leaders and policymakers provide active support to amplify The Connection's efforts to bridge education inequity in Australian classrooms |

## 7.2 Future agenda for collaborative networks to serve Australia's educational needs

> *"When schools collaborate, they tend to improve more rapidly. Networks of schools and educators have demonstrated they can organise the diverse expertise needed to solve complex educational issues"* – The Education Commission (2020).

Our research shows that The Connection is on the right track and that, with the right enabling support, systems leadership in Australia's education system will develop from the actions of the highly effective educational leaders in disadvantaged school communities. To sustain and spread The Connection's work in the next stage, it is important for all players within the education ecosystem to collaborate.

This next phase will focus on how to foster and maintain productive relationships and strategic partnerships among The Connection participants, while adding new cohorts of schools into the mix. This will require a shift, from perceiving systems leadership as a practice in The Connection schools, to a *movement* towards systems leadership in Australian education more widely. It will require a cultural consensus across the education system, so that school leaders have structured support, encouragement, and legitimacy to engage in collaborative practices for system-wide improvement.

While The Connection has been engaged in this model since 2014, the current global pandemic has highlighted the need to combine virtual and face-to-face exchange in new ways, to both collaborate effectively, and create opportunities for even greater collaboration in the future. Our evaluation found that there is a need to build a systemic approach to facilitating relationships between a school and/or network of schools and federal and state education systems. A networked education system can also engage and connect to other actors – such as employers, new innovators, and other community institutions – who can work in partnership with schools to improve student outcomes and close achievement gaps for marginalised students more rapidly. There is a need for multi-layered systems leadership to solve system-wide issues in the Australian education system.

School leader at a SVA Bright Spots Schools Connection Thought Leadership Gathering, Victoria 2019, (James Henry Photography)

This evaluation has found that SVA, through The Connection (the meso level actor), plays a role of the mediating organisation in facilitating these interactions between the micro and macro level to promote systems leadership and collaborative activity. The network-based approach to professional development, if expanded efficiently and effectively, has the potential to successfully organise the diverse expertise needed to solve complex educational issues, quickly spread lessons learned in one part of the network to another, and to add to the strength of Australia's school leadership workforce into the future.

This is a call to action to open up funding channels for innovation-driven collaborative models of system partnership, bringing together the micro-meso-macro levels of action, to encourage greater and deeper sharing across the education ecosystem. The Connection is living evidence: a working model for system-wide school improvement and collaborative leadership development at the school, community and system levels. The Connection sets a distinctive example from which other education systems in Australia and beyond can learn, adopt and adapt practices for system-wide school improvement.

# GLOSSARY

| Term | Description |
|---|---|
| **Academic outcomes** | Improvements in students' disciplinary knowledge and their literacy and numeracy capability. |
| **Action learning** | An approach to learning that foregrounds the application of knowledge in practice (Revans, 2011). Participants in action learning apply the scientific method (observation, hypothesis, experiment, evaluation, review) to their work, to gain insights into how to improve. The approach is informed by improvement science and is related to the use of an inquiry process (see Glossary entries below). |
| **Collective Capability** | The knowledge and mindsets that both educators and school leaders have developed through working collaboratively in The Connection, including their capability to diffuse effective practice across the system and influence the policy landscape. |
| **Collective Efficacy** | The shared belief of teachers within a school that all students can learn. Schools with strong collective efficacy work together to develop interventions and provide evidence of impact (Hattie, 2018; Young & Nibali, 2019). |
| **Critical and Creative Thinking** | Students' capability to "generate and evaluate knowledge, clarify concepts and ideas, seek possibilities, consider alternatives and solve problems… in all learning areas at school and in their lives beyond school" (ACARA, 2019a).<br><br>In this evaluation, the term covers explicit references that schools make to critical and/or creative thinking, as well as to students' skills in problem solving, reasoning and design thinking (ACARA, 2019a; Victorian Curriculum and Assessment Authority, 2019a). |

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|---|---|
| **Distributed leadership** | Flexible approaches to decision making in school organisation, management and operations by collaboratively including both formal and informal leadership roles. While the practice of distributed leadership may vary from school to school, all models include effective governance structure that empowers and builds leadership capacity of all staff, students, parents and the school community, as a whole, so that every stakeholder shares accountability for learning (Broin, 2020; P. Hallinger & Heck, 2010). |
| **Effect size** | An effect size provides a common expression of the magnitude of outcomes in different studies, for various outcome variables. An effect size of 1.0 signifies an increase of one standard deviation on the outcome. For the outcome of student learning, an increase of one standard deviation is associated with advancing achievement by two to three years, improving the rate of learning by 50 per cent, or a correlation between some variable and achievement of approximately r = 0.50 (Hattie, 2008). |
| **General pedagogical knowledge** | General pedagogical knowledge can broadly be understood as "the specialised knowledge of teachers for creating effective teaching and learning environments for all students independent of subject matter" (Guerriero, 2017).<br><br>In this evaluation, improvements in general pedagogical knowledge refers to reports of non-principals in The Connection learning about new pedagogical and classroom management strategies that can be applied across different learning areas. |
| **ICSEA** | The Index of Community Socio-Educational Advantage is an indicator of the socio-educational background of a school's students, developed by the Australian Curriculum and Assessment Authority (ACARA). The index considers students' parents' occupation and education, as well as the school's geographical location and proportion of Indigenous students. School ICSEA values are set at a median of 1000, with a standard deviation of 100. The lower a school's ICSEA value, the lower the level of socio-educational advantage of the school's students (ACARA, 2020). |
| **Improvement science** | The study of how high-performing organisations continue to improve (Anderson, Rungtusanatham, & Schroeder, 1994; Argyris, 1991; Forman, Stosich, & Bocala, 2017; Park, Hironaka, Carver, & Nordstrum, 2013; The Health Foundation, 2011; Totten et al., 2012).<br><br>In education, improvement science is often synonymous with the use of an inquiry process (see definition below). Despite different cultures and contexts, high-performing school systems such as Singapore, Hong Kong, Ontario, and British Columbia all use some form of inquiry process to drive improvement in teaching, learning and system leadership (Jensen, Sonnemann, et al., 2016). |
| **Instructional knowledge** | Principals' instructional knowledge encompasses their substantive knowledge about teaching and learning, including their knowledge of effective pedagogical strategies, curriculum, subject content knowledge and pedagogical content knowledge (Philip Hallinger, 2005). |

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| **Inquiry or project-based learning** | This approach enables students to learn about a topic through self-directed investigations (Lazonder & Harmsen, 2016). Students drive their learning by posing and seeking to answer their own questions. |
| **Inquiry process** | A step-by-step guide to implementing change practices, based on evidence of how organisations achieve continuous improvement. See Appendix 3 for further details. |
| **Knowledge of professional practice** | In this evaluation, principals' knowledge of professional practice refers to their knowledge of theory and practices relating to their role as school leader. |
| **Knowledge** | The "facts, information, and skills" (Lexico, 2020) that Connection participants acquire through their engagement with the program. |
| **Metacognition** | The process of "thinking about thinking", in which students reflect on, adjust and explain their thinking and learning (ACARA, 2019a; OECD, 2019d). In the Australian curriculum, metacognition is a sub-category of the Critical and Creative Thinking General Capability. |
| **NAPLAN** | The National Assessment Program – Literacy and Numeracy, an annual assessment for all Australian students in Years 3, 5, 7 and 9. NAPLAN measures students' reading, writing, language conventions and numeracy (ACARA, 2020). |
| **Non-principal knowledge** | Teacher knowledge is often broken into three categories - general pedagogical knowledge, content knowledge and pedagogical content knowledge (Shulman, 1987; Ulferts, 2019). The Connection schools report improvements in general pedagogical knowledge (knowledge about teaching, independent of any particular subject), and in pedagogical content knowledge (knowledge related to teaching a particular content area, e.g. English). |
| **NSIT** | The National School Improvement Tool (NSIT), an evidence-based framework developed by the Australian Council for Educational Research (ACER) to assist schools to review and reflect on their efforts to improve teaching and learning ( ACER, 2016). |
| **Pedagogical content knowledge** | Knowledge that is a "special amalgam of content and pedagogy" that is needed to teach a particular subject or learning area (Shulman, 1987). |
| **Personal and Social Capability** | A student's personal and social "dispositions, intelligences, sensibilities and learning" that allow them to effectively understand and manage themselves and their relationships (ACARA, 2019b; Victorian Curriculum and Assessment Authority, 2019b).<br><br>Schools were recorded as having improved capability in this evaluation when they report students' improvements in these areas, either with direct reference to this general capability, or using the term "social and emotional learning", which ACARA recognises to be interchangeable with Personal and Social Capability (ACARA, 2019b). |

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| **Project Artefacts** | The reflective PowerPoint template that schools were asked to respond to in 2019, with questions that sought to draw out the key aspects of the participants' work, their insights into school improvement and their views on the partnership with The Connection. Schools had opportunities to fill in this template at The Connection events throughout 2019. |
| **Project Action Plans** | A school's roadmap - or strategic guide - for approaching its school improvement planning. It also acts as an accountability tool, where schools can record their plan, their progress and reflect upon challenges and changes in their work at school level. |
| **Self-efficacy** | The belief that educators have of their ability to influence students' educational outcomes (Ainley & Carstens, 2018). |
| **Student Voice and Student Agency** | The concepts of student voice and student agency are interlinked and vary across cultures (OECD, 2019b; Victorian Department of Education and Training, 2019b).<br><br>In this evaluation, student voice is defined as students' ability to co-design their learning with their educators.<br><br>Student agency is defined as students' capability to set their learning goals, reflect and act on their learning. |
| **Student learning outcomes** | Outcomes related to students' learning and development, engagement and STEM-related learning. |
| **System leadership practice** | Leadership of teachers and principals "beyond the school", including "innovative collaboration with other schools and with the local community, as well as policymakers and other agencies" (Ainley & Carstens, 2018; OECD, 2019c). |
| **System leadership mindset** | The attitudes, motivation and beliefs of educators towards their engagement in sharing practices with other schools outside The Connection (see definition from Ainley and Carstens (2018) at "System leadership practice", above). |
| **Visible learning** | A pedagogical approach promoted by John Hattie that seeks to "make student learning visible to students and make teaching visible to the students". This approach often involves the use of learning intentions and success criteria (Hattie, 2012). |

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