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PROFESSIONAL DEVELOPMENT PROGRAM

Phase 2 Research Report: Investigating Impact

Final Report

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Introduction

The Practice Changing Practice (PCP) professional learning program began as a pilot professional learning program in 2018. The program was designed and delivered through the Education Knowledge Network within the School of Education at Western Sydney University.

The program was developed in response to an identified need for leadership training that resulted in increased teacher capacity and sustained change in school culture, leading to improved student outcomes and experiences. The PCP pilot program involved a group of school leaders from a range of schools in Western Sydney. The program introduced action research as a method of professional learning, requiring participants to identify, research, and address a problem of leadership practice. In 2019 the program (Phase 1) was expanded and underwent a research evaluation (Attard, 2020). Findings from this evaluation confirmed the program was successful in:

- promoting the development of an evidence-based approach to leadership and teaching.
- encouraging the development of critical reflection within individuals and collectively for those working in teams.
- creating a culture of professional discussion.
- building leadership capacity amongst experienced and early career teachers.
- providing participants with a sense of agency regarding their ability to cause change through their actions and the actions of others.
- providing professional development and support systems to ensure the practice of action research is ongoing and sustainable.
- providing the opportunity for participants to apply professional learning that was relevant, individualised and contextualised.

- building connections and networks within and amongst schools and academics at Western Sydney University.
- providing opportunities to develop coaching skills and deepening the action research skills of participants from the PCP pilot program; and
- exposing participants to current research and providing opportunities for the translation of research into practice.

The PCP program launched its third iteration (Phase 2) with a new cohort of participants in 2020. Due to the disruptions caused by the COVID-19 pandemic the program was postponed to 2021 and was delivered in a combination of face-to-face and online modes to align with pandemic restrictions. This research report presents data collected during Phase 2 of the PCP program. Few studies on teacher professional learning explore the impact of teacher learning beyond teachers' immediate interactions with the program. This research will explore if and how this unique professional learning program has influenced leadership and teaching practices and school cultures in the long term, within and beyond participation in the program.

Background

Darling-Hammond, Hyler, and Garner define effective teacher professional development as “structured professional learning that results in changes in teacher practices and improvements in student learning outcomes” (2017, p. v). While continued teacher professional learning is an integral element of school education, the type, duration, and content of professional learning is not always effective. Hence, the results do not always equate to changed practice or improved student learning outcomes. Research investigating challenges relating to the professional learning (PL) of teachers highlights issues and complexities resulting from teacher accreditation mandates and challenges relating to the content and models of PL (Lloyd & Davis, 2018; Darling-Hammond, Hyler, & Garner, 2017). Two common models of PL are traditional activities that include workshops, seminars and conferences, and reform style activities that incorporate study groups, networking, mentoring, and meetings that occur in-situ and integrated with classroom instruction or planning time (Lee, 2007). Each iteration of the PCP program combined the two models, using a combination of face-to-face and video conferencing for the traditional style activities, to ensure the professional learning was tailored and contextualised for each individual teacher and school.

Practice Changing Practice as Teacher Professional Learning

Typically, teacher professional learning opportunities are offered in a range of formats and durations from one-off events such as courses or conferences, through to longer, more sustained programs that have multiple sessions spread over time. The design of the PCP program was informed by existing literature pertaining to teacher PL, considering findings relating to duration as a significant characteristic in determining its effectiveness (Darling-Hammond, Hyler, & Garner, 2017, Lee, 2007). In addition to the provision of time, literature also cites the importance of providing space and support to develop teachers’ confidence, ability and skills (Darling-Hammond, et al., 2009; Desimone, 2009). Pertinent to this research is the suggestion that PL programs that offer substantial contact hours (between 14 to 100 hours) with a duration spread over six to 12 months show a positive and significant effect on student achievement (Darling-Hammond & Richardson, 2009). In alignment with recommendations from literature, the program of PL for PCP Phase 2 was planned to be conducted over a sustained period of approximately eight months. However, due to the COVID-19 pandemic and associated disruptions, the program extended to span a longer period. These disruptions had an impact on how the teachers engaged with the program and in some cases, influenced the focus of the action research.

As detailed in the previous report (Attard, 2020), the opportunity for collective and collaborative participation to build a professional community within and amongst the schools (Borko, 2004; King, 2014), thereby promoting the development of a broader community of practice was a continued goal of the PCP program. While achieving this goal was particularly challenging during a pandemic, efforts were made to provide opportunities to support the building of a professional community promoting sustained, embedded and collaborative teacher learning strategies (Darling-Hammond & Richardson, 2009). The participants of PCP were provided with opportunities to collaborate within their schools as well as opportunities to network across schools and with colleagues from both primary and secondary school settings.

Action research as professional learning

Action research is widely regarded as a successful method of professional learning within existing literature (see for example Mertler, 2018 and Wood, 2020). This view is supported by Hardy, Rönnerman, and Edwards-Groves, (2018), who claim the opportunity afforded by action research for teachers to take part in professional dialogue provides a “communicative space for colleagues to interrogate and interpret the enabling and constraining factors about their teaching practices” (p.422). Further, Hardy and Rönnerman (2011) believe action research is more effective than traditional approaches to PL because traditional PL programs:

...are designed to ‘act on’ rather than ‘work with’ teachers, they are also in danger of reinforcing a dependency relationship in relation to teachers’ learning, and leaving unchallenged conditions which make it difficult to effect a more proactive approach to such learning (2011, p. 464).

Action research assists teachers in understanding their own actions through systematic data collection, analysis and reflection, and sustained time to understand how their actions are influenced by the conditions within their individual contexts.

The choice to incorporate action research as the core activity of PCP was made in the initial design phase of the pilot program in 2018. The success of the pilot program and the Phase 1 program led to the retainment of action research as a focus for the Phase 2 program. This encouraged participants to turn their focus on improving elements of practice rather than a focus on one-off initiatives that do not ultimately increase teachers’ capacity to improve teaching and learning. This approach allowed for contextualised professional learning aimed at changing practice rather than ‘fixing’ students, aligning with sentiments from existing literature:

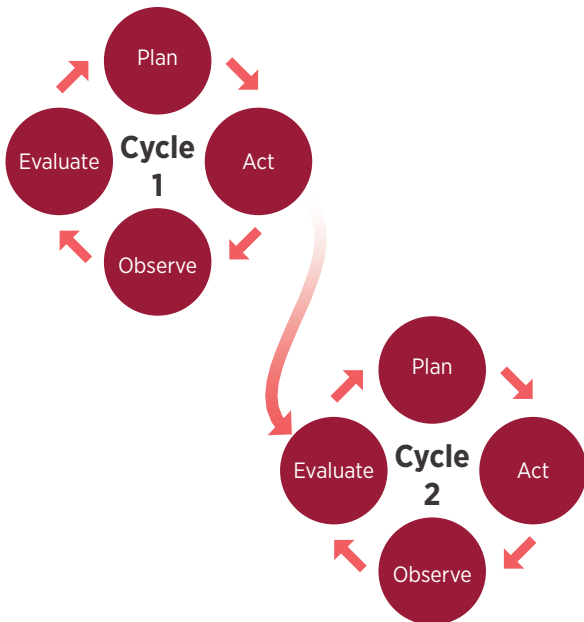
...it is argued that changed practice can only come about as a result of sustained and concerted inquiry on the part of the teachers into the nature of their work, in specific locations, and in the knowledge that this work is being undertaken under broader, influential conditions. (Hardy & Rönnerman, 2011, p. 462)

As articulated in the Phase 1 report (Attard, 2020), the action research approach is utilised by teachers to improve practice and is particularly useful for bringing about change within a local setting (Cohen, Manion, & Morrison, 2018). Action research can be useful for solving specific problems, to pose problems, or to pursue areas of interest for professional development (McNiff, 2010, as cited in Cohen, Manion, & Morrison, 2018) and can be conducted individually or collaboratively amongst groups of teachers within a school or network, and alongside other interested external parties such as university academics, as was the case in each iteration of the PCP program.

Action research consists of a four-step process that, when repeated, can become a sequence of research cycles (Figure 1). During the first step of the process the teacher or group of teachers identify a problem of practice or an area of interest to be addressed. Step two requires the formulation and implementation of a plan. The researchers collect and analyse evidence from a variety of sources throughout the research cycle. This analysis assists in evaluating the success of the action research and determines future action research cycles.

Background

Figure 1: The Action Research Cycle



During the PCP program participants were guided as they worked through a process of identifying a problem of practice either collaboratively or individually. They were then supported to articulate a research question prior to devising a plan of action. An important element of devising a plan was to ensure their work would be evidence-based, informed by current research. To assist in the process, each research team or individual researcher was allocated a coach. Each coach had completed the program in a previous iteration and had experience conducting action research. Where possible, coaches were appointed to assist participants at a different school.

The next section of this report will provide a description of the Practice Changing Practice professional learning program along with statistics relating to the participants across all three cohorts of the program.

The Professional Learning Program

Since its inception, the aims of the Practice Changing Practice program have been to:

- Develop a depth of high-quality leadership practices that are contextualised to schools, supporting succession planning.
- Develop a community of practice and strengthen collegial support for school leaders.
- Create a culture of action research within schools.
- Cultivate an ongoing partnership with Western Sydney University.

To achieve these aims, the program evolved with each iteration guided by participant feedback and facilitator reflection. The evolution of the program is demonstrated in Tables 1, 2 and 3, which outline the program sessions and activities.

The pilot program was designed and delivered in 2018 as a professional learning program for school leaders to develop, implement and evaluate action research within their individual school contexts. The intention of the pilot was to maximise the long-term sustainability of the program, underpinned by the

assumption that for teacher professional learning to be effective, leaders need to ‘walk the walk’. If future participants were to be effectively supported in future iterations of the program, the leaders needed to have some experience conducting action research for themselves.

Pilot participants were required to identify an issue of leadership practice to be addressed, form a research question, and formulate a plan of action based on evidence gathered within the school context and from the evidence-based research from the broader field of education. Participants attended three face-to-face sessions to allow peer feedback and critique during the process of the action research. Three support sessions were conducted during the period of research to allow the participants to share ideas and provide ongoing feedback and support, developing a community of practice in action research. The pilot program culminated in a research showcase and formal research reports that were circulated to each participant.

Table 1: The Practice Changing Practice Professional Learning Pilot Program, 2018

Date (2018)	Program Session	Activity
May	Face-to-face 2-hour session, WSU Kingswood Campus	Introduction to action research <ul style="list-style-type: none"> • What is action research? • Identifying a problem of practice • The 5 Whys Process
June	Face-to-face 2-hour session, WSU Kingswood Campus	Developing an action research plan and refining a research question
August	Zoom check-in meeting	<ul style="list-style-type: none"> • Reporting on progress • Feedback
October	Zoom check-in meeting	<ul style="list-style-type: none"> • Reporting on progress • Feedback • Preparing to present your research
November	Face-to-face 3-hour session, WSU Kingswood Campus	Evaluating and disseminating your action research

The Professional Learning Program

Table 2: The Practice Changing Practice Professional Learning Program, Phase 1, 2019.

Date (2019)	Program Sessions	Content
May	Full day, face-to-face at WSU	<ul style="list-style-type: none"> • Introduction to PCP • Keynote Address: Professor Peter Grootenboer, Griffith University • Introduction to Action Research • Identifying a problem of practice and articulating a research question
May	Afternoon Zoom session	<ul style="list-style-type: none"> • Review of the Action Research process • Reporting on progress • Feedback
August	Full day, face-to-face at WSU	<ul style="list-style-type: none"> • Keynote Address: Emeritus Professor Wayne Sawyer, Western Sydney University
October	Afternoon Zoom session	<ul style="list-style-type: none"> • Reflecting on Research • Reflecting on Personal Growth • Reporting on progress • Feedback
November	Full day, face-to-face at WSU	<ul style="list-style-type: none"> • Keynote Address: Sharon Ford, Acting Executive Director, Leadership and High Performance, NSW Dept. of Education • Panel Session • Poster Sessions • Reflection Activity • Future Directions • Closing Keynote: Professor Peter Grootenboer and Associate Professor Catherine Attard

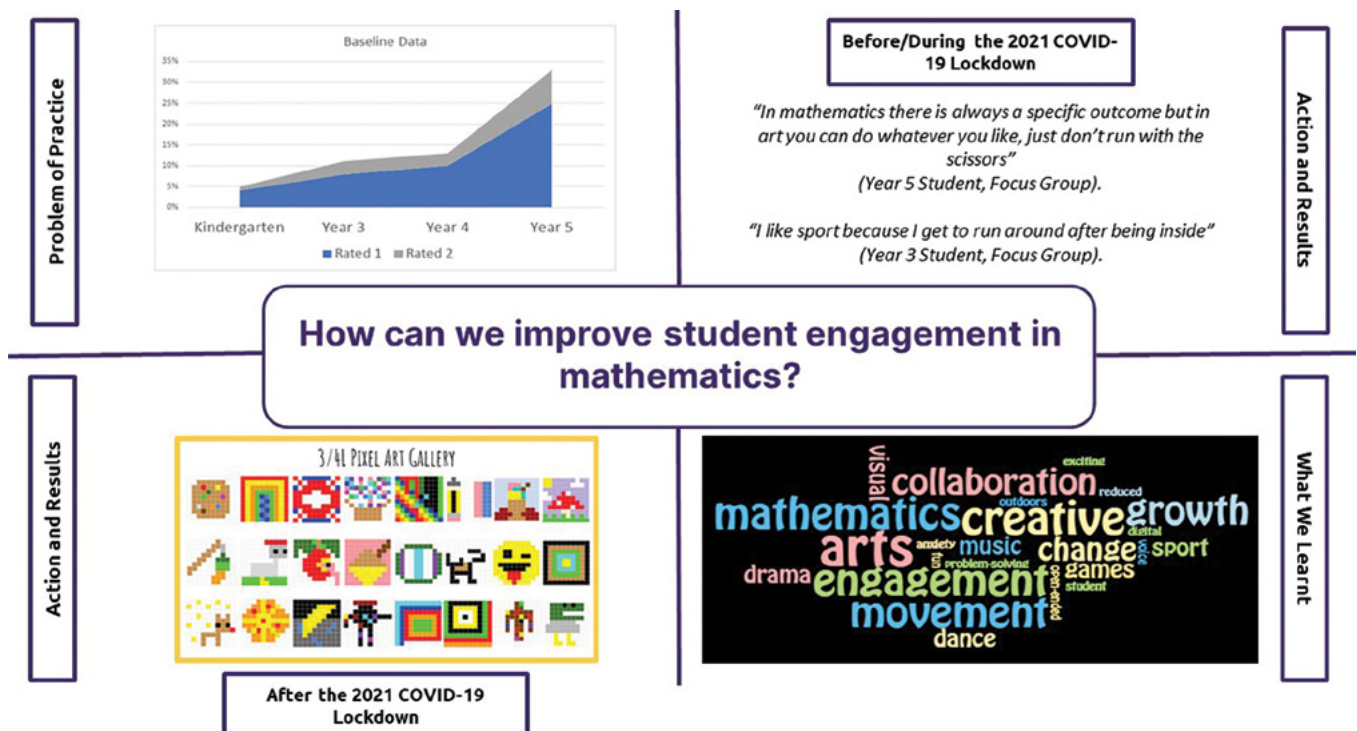
As detailed in the previous report (Attard, 2020), the Phase 1 program incorporated sessions that included a range of presentations from high calibre keynote speakers. Each session also provided opportunities for collaboration across and within schools. These opportunities promoted the development of a community of practice in action research and were intended to increase participants' motivation to persist and engage with the professional learning program.

A unique feature of Phase 1 was the inclusion of external critical friends (academics member from WSU) and a coach (a participant from the 2018 pilot program) to assist teachers with their action research. The role of the external critical friends was to provide bespoke support to individual researchers and research teams, the nature of which was negotiated between the teachers and their allocated academic (up to a maximum of 10 hours). The use of external experts is supported in literature on professional development (Cordingley, 2015)

with claims the use of specialist expertise serves a range of functions including exposing teachers to new approaches and providing scaffolding to assist teachers in taking control of their learning about new approaches. In addition, specialist experts can provide objective information relating to current realities and promoting a sense of planned purpose for experimentation and risk taking. The participants also had the added internal support of coaches (n=15) who were either from the same school or a different school and had each participated in the program during 2018. The coaches attended each of the professional learning sessions and provided ongoing, in-school support for the program participants.

A requirement of participation in the Phase 2 program was the completion of a four-page research report and a poster presentation during the final face-to-face showcase session. All participants received a copy of the reports.

Action research presentation



The Professional Learning Program

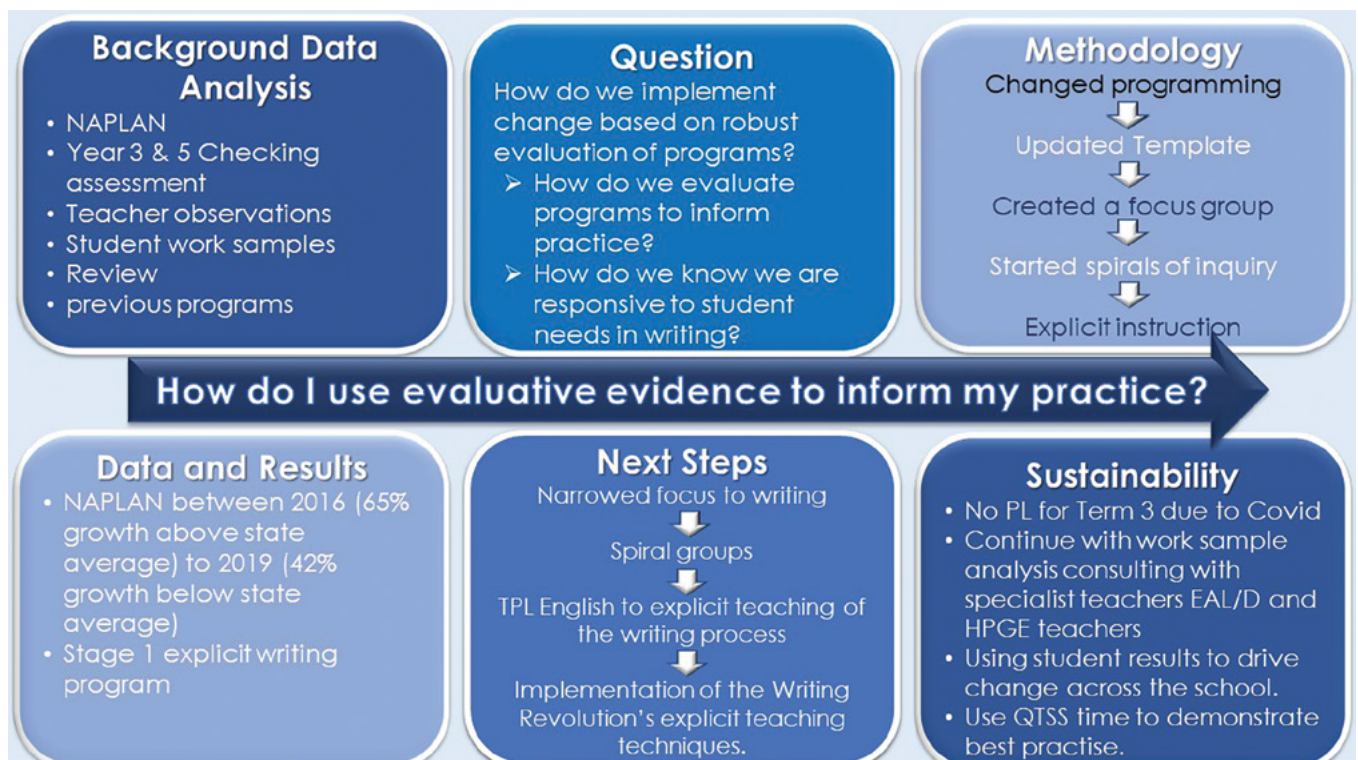
Table 3: The Practice Changing Practice Professional Learning Program, Phase 2, 2020/2021

Date (2020)	Program Sessions	Content
October	Zoom, 2-hour session	Introduction and orientation to Practice Changing Practice PL Program <ul style="list-style-type: none"> • Program history • Keynote presentation: Prof. Peter Grootenboer, Griffith University • Program expectations • Q & A
(2021) February	Face-to-face full day, WSU Kingswood Campus	Phase 2 launch <ul style="list-style-type: none"> • Keynote, Prof. Peter Grootenboer • Identifying a problem of practice • Presentation: Cathy Brennan • Articulating a research question and planning for research
March	Face-to-face, 2-hour session at Metella Road Public School	Keynote Speaker: Emeritus Professor Wayne Sawyer, Western Sydney University <ul style="list-style-type: none"> • Keynote speaker: Emeritus Professor Wayne Sawyer “Action Research to improve student engagement in low SES schools” • Progress reports: Participants to report on the progress of their action research. • Planning for data collection. What is evidence? In this session participants will explore what constitutes evidence and the range of evidence available to them within their individual research studies. • Planning to collect evidence: Participants will work with coaches and academics to plan for the collection of evidence. • What does current research say about our identified problem of practice? With the assistance of academics, participants will explore literature pertaining to the focus of their research.
May	Face-to-face, 2-hour session at Metella Road Public School	<ul style="list-style-type: none"> • Discussion of professional reading, “Collaborating with Others”. • Research progress update
October	Online, 1-hour session	<ul style="list-style-type: none"> • Program update • Preparation for and expectations of final report and presentation
November	Online, 2-hour session	<ul style="list-style-type: none"> • Presentation of research findings • Reflection

The Phase 2 iteration of the program (Table 3) was developed prior to the COVID-19 pandemic. This program was designed to be delivered in a fully face-to-face mode following the online introductory session in 2020. This iteration was adapted slightly to include a series of professional readings pertaining to action research and collaboration. Again, coaches from the pilot and Phase 1 program were utilised (n=7) to provide support. This iteration did not include academic critical friend due to reduced funding. Unfortunately, some sessions were cancelled due to COVID lockdowns and the increased workloads on teachers. The resulting program is presented in Table 3 above.

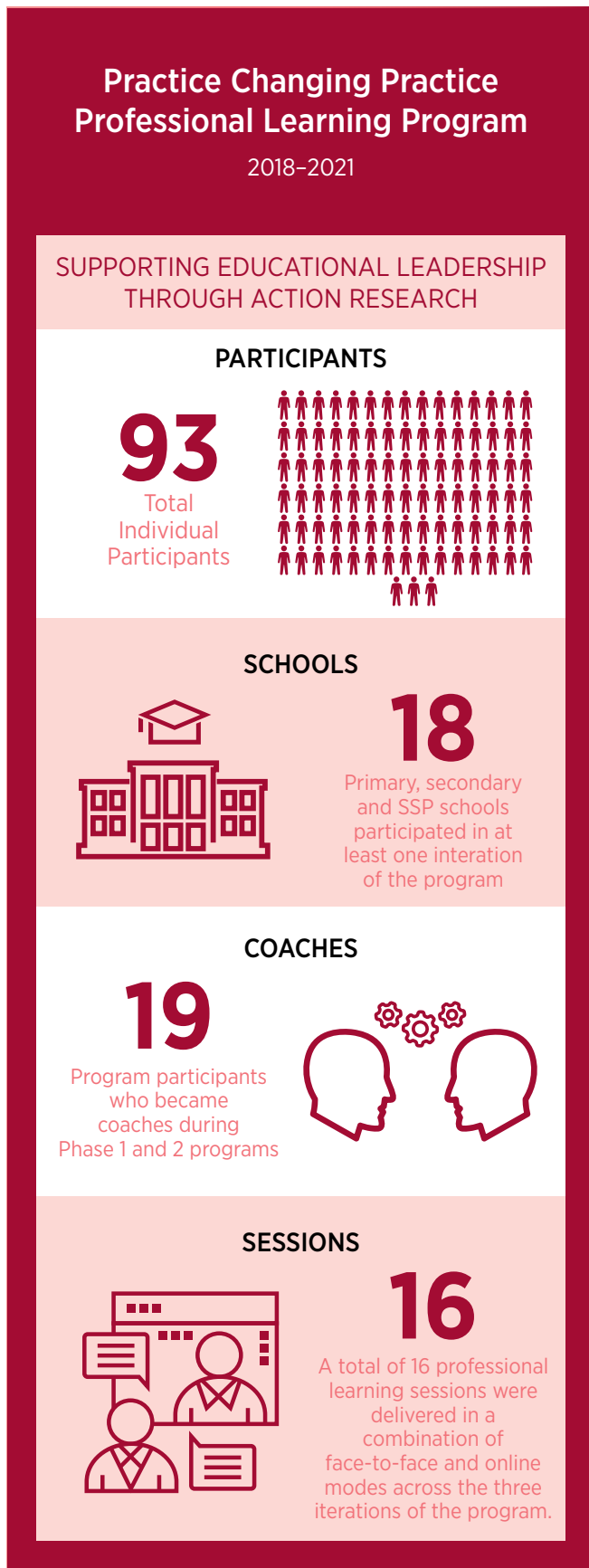
The continuing disruptions to schooling also resulted in the program requirements for a four-page research report and poster presentation being relaxed. Participants submitted a shorter report and, due to the online format of the final session, a one-page PowerPoint slide with a five-minute presentation replaced the original requirement for a poster presentation.

Action research presentation



The Professional Learning Program

Figure 2: Program Statistics



Program Participants

Evidence of the success of the Practice Changing Practice professional learning program is the significant number of school leaders and teachers who participated over the course of the three iterations. Table 4 provides details of the number of participants, schools, and coaches in each iteration of the program.

A total of 97 individual participants comprising school principals, deputy principals, middle leaders, and classroom teachers participated in the program across the three iterations. Of these, two of participants were involved in all three iterations (once as participants and twice as coaches), and 17 people participated in two iterations of the program. Out of the total 18 schools that were involved in the program, three schools participated in all three iterations, seven schools participated twice, and the remaining nine schools participated in one iteration of the program. During Phase 2, two coaches also participated as researchers.

Table 4: Number of participants in Practice Changing Practice Program 2018-2021

	Pilot Program 2018	Phase 1 2019	Phase 2 2020/2021
Schools	9	10	9
Participants	22	36	35
Coaches	N/A	11	8

Research Design and Methods

The aim of this research is to evaluate the perceived short- and long-term effects of the Practice Changing Practice professional learning program since its inception in 2018.

To do this, a multiple case study approach was utilised to address the following research questions:

1. What are the perceived effects of action research-based sustained professional learning on school culture and individual teacher practice?
 - To what extent has action research-based sustained professional learning influenced individual teachers' practices?
 - To what extent has action research-based sustained professional learning influenced collective practices within schools?
 - What, if any, effect has research-based sustained professional learning had on students?
2. What are the perceptions of participants and others in relation to the impact of research-based sustained professional learning on leadership skills?

The intent of the research was to collect two groups of case studies, with three case study schools from each group. Group A cases consisted of schools and program participants who had taken part in all three iterations of the PCP program. Group B cases consisted of schools and participants who had taken part in one or two iterations of the program.

Research Participants

To address the research questions all past and present program participants were sorted according to the criteria for each group. Three schools that fit the criteria for each group were identified and invited to participate in the research. Principals, participants (past and current), and non-participants were invited to take part in the research. A researcher who was not involved in the professional learning program conducted the data collection to avoid researcher bias.

Due to the disruptions caused by COVID-19 it was not possible to collect all the planned data from each school, that is, three full case studies from each group. However, two full sets of data (Group A: School A1 and Group B: School B2) were collected (Case Study 1 and Case Study 2). Data collected from the two schools will be presented in this report as two case studies. Findings from the remaining data will be aggregated to assist in addressing the research questions.

Research Design and Methods

Table 5: Research Participants

Group A								
	Principal		Participants			Non-Participants		
	Int 1 Term 2	Int 2 Term 4		Int 1 Term 2	Int 2 Term 4		Int 1 Term 2	Int 2 Term 4
School A1 (Case Study 1)	✓	✓	1	✓		1	✓	✓
			2	✓				
			3	✓				
			4	✓	✓			
School A2	✓	✓	1	✓				
			2	✓				
School A3			1	✓				
			2	✓				
Group B								
School B1	✓	✓	1	✓	✓			
School B2 (Case Study 2)	✓	✓	1	✓	✓	1	✓	✓
						2	✓	
School B3			1	✓				

Ethical Procedures

The research methods employed in this study were approved by the Western Sydney University Human Research Ethics Committee (approval number: H13874). All prospective participants were provided with a plain language information sheet explaining the research. Data were collected from individuals who provided informed consent.

Data Sources

Data informing this study were gathered from semi-structured group or individual interviews conducted with each participant group. Interviews were utilised to allow the researchers to address each of the research questions in depth. Interviews were carried out during Term 2 and again on completion of the program (Term 4). All interview protocols are included in Appendix 1.

Data Analysis

Two Case studies were identified as a focus for initial analysis (one from each group where a complete data set was collected). The case studies are identified as School A1 and School B2. All other data has been aggregated into two groups – Group A, Group B. Data was analysed. Results of the program are presented in the following section. First, each of the two case studies is presented. Second, a synopsis of data gathered from principals, participants and non-participants from other schools will be presented. For research participant groups where there is more than one participant, for example, the ‘Participants’ group, data will be aggregated to ensure anonymity.

Program Results

1. What are the perceived effects of action research-based sustained professional learning on school culture and individual teacher practice?
 - To what extent has action research-based sustained professional learning influenced individual teachers' practices?
 - To what extent has action research-based sustained professional learning influenced collective practices within schools?
 - What, if any, effect has research-based sustained professional learning had on students?
2. What are the perceptions of participants and others in relation to the impact of research-based sustained professional learning on leadership skills?

Case Study 1: School A1

Teachers and leaders from School A1 participated in the Practice Changing Practice program since its inception in 2018. Participants from the pilot program in 2018 became coaches within the school and to participants from other schools in the Phase 1 and Phase 2 programs. Two teachers from the school completed the program twice. The sustained commitment of this school to the program implies the program was highly valued professional learning by those in leadership positions and classroom teachers. Data gathered from the school principal and teachers who had completed the program confirmed this as exemplified in this quote from the principal, indicating teachers were eager to participate: "It's definitely increased over time because, simply going into a second version of this, we've got teachers saying, "I want in"" (Principal, School A, Interview 1).

Research participants from School A1 identified specific elements of the PL program to be of value. For example, they regarded the learning that occurred as authentic and sustainable due to the contextualised nature of the action research process. The opportunity to engage in deeply reflective practice that could have immediate impact on school practices and amongst students was highly valued. In addition, the requirement to engage in evidence-based practice was regarded as beneficial.

It's really helped us stop looking at from 'we're going to fix everything; to okay, 'how-what processes can we put in place to support this? Or what can we do to identify the educational problem to begin with and then look at investigating ways and have that research base, or evidence base, rather than just going on a hunch...it's made us more thoughtful and more aware of our own practices and the processes we've put in place (Principal, School A1, Interview 1)

Program Results

Influence on leadership skills

The original intent of the PCP program was to build leadership skills amongst teachers, regardless of their position within the school. Thus, participants from School A1 held a range of leadership roles that spanned from senior school executive to middle leaders (those with a combination of formal leadership roles alongside classroom teaching), and those who were full-time classroom teachers. Regardless of their role, each of the research participants indicated their leadership skills had improved because of the PCP program.

There were several elements of leadership practice that were identified as having been improved. For one leader, feedback from academics during the program provided an opportunity to reflect on a tendency to control initiatives and actions rather than using a collaborative approach with her team: “I’m a bit of a control freak. I had to release that, and I learnt a lot about my leadership skills based on that. So that was personal impact” (Participant, School A1, Interview 1). Another element of leadership that appears to have improved is the ability to provide evidence-based professional learning for colleagues. This professional learning that was provided at School A1 was a direct result of the action research conducted during the program. The program also gave new leaders confidence in providing informal professional learning across the school: “It allowed me to look at things in a bigger picture, to work with teachers all across the school” (Participant 1, School A1, Interview 1).

Influence on individual practice

It is difficult to untangle the influence of the Practice Changing Practice program on individual practice from the influence on collective practice due to the collaborative nature of action research and its implementation by teams of researchers at School A1. Each of the action research teams included ‘others’ in their work. That is, their research had direct implications for other teachers and teaching practices. However, there is clear evidence from the data collected that in each iteration of the program, participants from School A1 experienced individual benefit from the program. The following quotes exemplify the impact on individual teaching and leadership practice:

I have found it very worthwhile, and I have made sure that I’m continuing on with it. In the future, I think it will definitely be something that I look to continue even if it’s only within my classroom when I find that there is a problem. However, at the moment I’m more looking at it as a leadership possibility and opportunity.

The influence on individual practice was confirmed by the Principal of School A1 when he discussed how the program has had influence on both individual and collective practice at the school:

I’ve also got people who, like I said, were starting to utilise this way of thinking in other areas. It’s not just being part of that PCP thing. It’s actually being - now it’s part of our strategic improvement plan. It’s part of what I’m hearing teachers are doing, breaking down other areas of the school that they need to fix.

The inclusion of action research within the school's Strategic Improvement Plan indicates a strong desire to continue to build a culture of action research at School A1. However, while there is strong evidence that a cultural shift has begun to occur, there are staff members who have not participated in the program and have not yet conducted action research, perhaps viewing the process as something 'others' are involved in. When interviewed about her perceptions of the program, a non-participating teacher from School A1 made this comment:

It's mentioned in the executive meeting and who's involved in it, and it's also mentioned, like obviously the other Assistant Principals tell me about it, but to me, I never asked what they're actually doing research on (Non-Participant, School A1).

It is not clear if this sentiment is representative of the perceptions of other non-participants at the school. However, the comment has implications for future iterations of the program at the School and the ways in which staff are included in the research including the dissemination of results to ensure a substantive shift from individual to collective practice occurs.

Influence on collective practice

While it is evident that not all teachers at School A1 have engaged with the Practice Changing Practice program or action research, there is ample evidence that the school is progressing towards the development of a collective practice of action research. A total of 11 (30%) staff from School A1 participated in at least one iteration of the program, however the nature of their action research appeared to have impact on the practices of others within the school. One participant who was involved in two iterations of the program made this comment:

...knowing that we were completing action research, the teachers were really willing to open up and allow us to talk to them about what was happening within their classrooms and gather the data that we needed. So, it did have a really big impact on the culture (Participant, School A1, Interview 1).

The uptake of action research and participation in the professional learning program at School A1 is impressive given that participation was voluntary, as evidenced in the following quote:

That's actually been the major change because you do this and you pick up a small group of teachers to do this, participate in this project or this program about what we found was the rest of the school were starting to go, 'I want in'... We now had K-6 going, 'I want in, I want to be part of that', which is brilliant, absolutely fantastic (Principal, School A1, Interview 1).

Program Results

The increasing participation in action research because of the program appears to have caused shifts in culture at School A1. This is particularly evident in reflective, evidence-based, and collaborative practices at the school, as signalled by the Principal:

What that developed was this massive culture of reflection, to say ‘what are we doing, how are we going to fix this’. We’ve got a problem here, I’m going to now not just do it on my own but I’m going to be talking to people (Interview 1).

While acknowledging collective practices were still developing at a whole-school level, the Principal of School A1 committed to continuing action research as an integral element of school culture through its inclusion in the school’s 2021–2024 Strategic Improvement Plan.

Influence on student outcomes

The ultimate goal of any teacher professional learning is to improve student outcomes. While it is difficult to attribute any change in student outcomes to a specific cause, program participants from School A1 believe their action research has had some impact. Three of the research participants from School A1 commented on the change in student writing outcomes as a direct result of their involvement during the Phase 1 program in 2019. The following quote exemplifies their sentiments:

We’re using rubrics that are aligned to the syllabus and when we look at it, you can definitely see a marked difference. We’re also using PLAN 2 data to track these students because, so we do have tangible data to show that it’s really making a difference (Participant, School A1, Interview 1)

There is also clear evidence of an influence on student outcomes that has occurred across the school, beyond the classrooms of those participating in the program:

So the impact on our students is that our students are taking more risks with their writing and they’re not so lock-step in the structure of their writing...the writing has definitely improved, it’s more creative (Non-Participant, School A1, Interview 2).

Data gathered on the conclusion of Phase 2, where the research focus was to increase student engagement with mathematics, also indicates some influence on student learning:

...it really helped us to determine student voice on it, we would never have understood what the kids really wanted. Had we not done this action research, we wouldn’t have known what they wanted (Participant, School A1, Interview 2).

Overall perceptions of the Practice Changing Practice Program

It is evident from the data collected that the perceptions of those who participated in the Practice Changing Practice program indicated they highly valued the professional learning and the use of action research. Reasons for this include the contextualised and personalised nature of action research and the resulting changes to teacher practice. The following quote synthesises the perceptions of the program participants at School A1:

This is something that we will continue to do and it’s something that, like I said, the best PL I’ve done and I know for our school, we’ve seen massive impact because of it (Participant, School A1, Int 1).

Case Study 2: School B2

Staff from School B2 participated in the Practice Changing Practice program during the pilot in 2018 and again in the 2019 Phase 1 program. Unlike School A1, staff from School B2 did not participate during the 2021 program. The intention of School B2's involvement during 2018 and 2019 was very different to that of School A1, where the research foci evolved for teams of participants within the school. For School B2, the intention was to work collaboratively to progress student outcomes on a pre-identified issue (developing a rubric to measure growth in student writing skill) as opposed to School A1, where the over-arching intent was to develop an overall culture of action research. The following quote, gathered one year following the action research, provides evidence of the research focus and the uptake of the research product, a writing rubric, over a period of time:

What we're looking at is being able to use this in our learning [sprints]. So working as a whole school but within themes. There's that discussion, collaboration, on what are we doing? How can we do it better? What are the needs of the students? How are we going to target this? This year, I can really see how the rubric is actually being used (Principal, School B2, Interview 1).

Influence on Individual Practice

Due to the nature and collaborative intent of the research conducted at School B2 there were influences on both individual and collective practice in relation to the assessment of writing. For example, this participating teacher commented: "I feel I am more objective" (Participant, School B2, Interview 1), when referring to the benefits of the program in relation to the judgement of student work. However, the influence of action research itself as a practice-changing practice on individuals and collectively is not evident from the data collected. This could be attributed to the use of a pre-determined research focus that potentially decreased individual input in the process of action research.

Influence on Collective Practice

Data gathered from research participants at School B2 indicates a clear improvement in collective practice as a direct result of the program in 2019. The following quote from a past participant is representative of the findings:

...we became more collaborative. Before, it's like yes, okay use that, check that, and then mark the grade. But now, we are - it's now a team effort. We now look at the whole speech and then we are now sharing ideas. Like this is a strategy that worked for me to lift them up so maybe this is something you can try also. So it's now - it's becoming more of a team effort (Past participant, School B2, Interview 1).

The sentiments expressed above are reiterated by School B2's principal, who made this comment regarding collective practice and collaboration:

...there's a lot more collaboration. Teachers working together, having these really important discussions about where we are and where we can get to next. Having a look at the students and being able to work out where are we going to take them and how are we going to take them to the next stage?

When questioned about the improved uptake between participation in the Pilot (2018) and Phase 1 program (2019), the principal responded that the selected topic of research had practical implications for all teachers at the school:

... it was something that the teachers all had a part in, in one way or another. We did start with only Stage 1s, but they saw it as a practical use. Something that is useful and that was some of the comments that we got back from the surveys.

The principal also discussed how the 2019 action research was developed over time, reflecting input directly from the professional learning program regarding the process of developing research questions.

Program Results

Influence on Student Outcomes

When questioned about the influence of the program on student outcomes, a non-participating teacher explained that the product of the action research (a rubric), allowed teachers to tailor support to individual students

*Using that same rubric, we have now plotted a data - a writing data wall. We had the reading one before. Now we have a writing one as well. So all teachers were given a class list and using the rubric, they placed a student wherever they are on that rubric. So now we can see a whole snapshot of where our kids are, exactly how many are in you know Basic 1 and how many outstanding we have and what are the next steps. The teachers are engaging in that conversation and feeling open about it to share as well
(Non-participant, School B2, Interview 1).*

The data indicates that the ability to accurately identify and address student needs was of direct benefit to students as it assisted them in focusing their work on specific areas:

*For the students I think most important thing that I see, like most significant thing that I see is now the students are able to identify exactly what they can do and what they can work on. Because the rubric that we have is very, very specific. So we can tell them - they understand the rubric. We present it to them, we show it to them and they say okay, this what you can do. How can we help you to move on to the next step? So it's not just the teacher
(Past participant, School B2, Interview 1).*

At the time of data collection evidence of student improvement was anecdotal. This was, in part, due to disruptions caused by the COVID-19 pandemic.

PCP as PL

Research participants from School B2 strongly agree that the Practice Changing Practice program was valuable professional learning. This comment from a non-participant indicated high levels of engagement from participant teachers. Arguably, these high levels engagement contributed to the overall impact of the program at this school and will potentially influence the sustained impact of action research as professional learning: "Because it was coming from them. It was coming from them. That ownership - look, this is the need that we have identified. What can we do now to address that need?" (Non-participant, School B2, Interview 1).

Although the results of School A1 and B2 are quite different, each school experienced success as a result of participation in the program. The following quote indicates the success of the action research in influencing assessment practices across the school:

*Personally, for me, with the rubric that they developed in their action research project, we took it on as a literacy committee and we incorporated other bits and bobs in it to make it user friendly for our - for all staff so that when they are having - when they're assessing students - so having that consistent teacher judgment across the whole school
(Non-Participant Teacher, Interview 1).*

Results from other research participants

In this section, the remaining data is synthesised. As discussed in the case studies above, each participating school had different intentions for their involvement in the Practice Changing Practice program. Despite differences in the initial intent, there were also similarities. As in School A1, the PL program was perceived as sustainable and contextualised. The ability to align PL to current needs resulted in a shift in the professional learning culture of the schools. The following quote is typical of comments from across the schools:

*.. it's had a massive impact on the professional learning culture and the ability now to really differentiate PL and have PL on a very weekly basis that's very suited to the needs of a specific stage in the school
(Principal, School 1B, Interview)*

One of the aims of the PCP program was to embed action research into the practices of leaders and teachers. This was reflected in a teacher's observation on the change in the professional learning culture at School A3:

*I would say, professional learnings have impacted my practice. The action research aspect of it is that it's always developing, changing and growing as we utilise it and, I guess, test it out in the field and then look back on it collaboratively and see where improvements can be made and see what's been effective and how we can follow on from that
(Participant, School A3, Interview 1).*

In addition, a difference in the PL program related to the overall intention of targeting writing at School B1, was a focus on stage-based practice allowing for a deeper focus on issues and approaches:

*...streamlined and more differentiated professional learning at a stage-based level, where... there's a lot more time devoted to... professional learning and doing things in a much more deep manner
(Participant, School B1, Interview 2)*

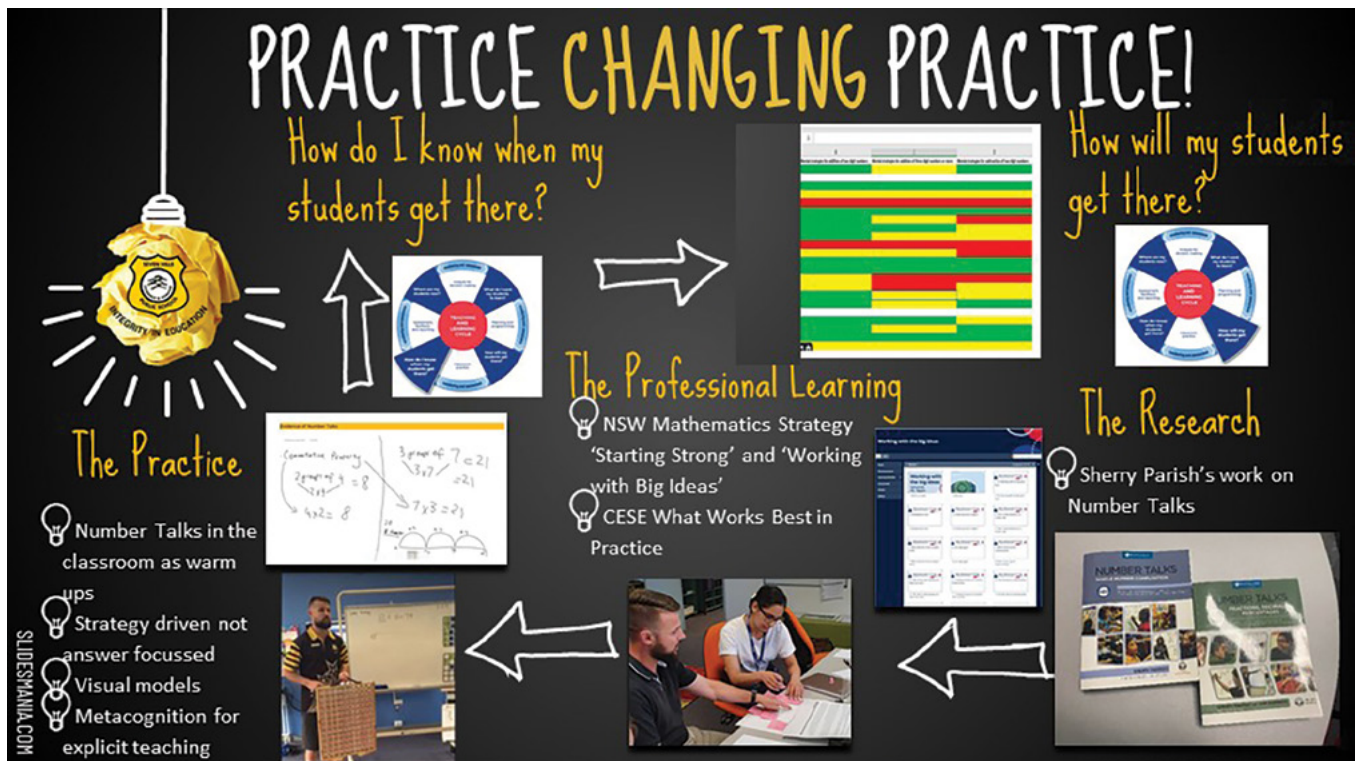
Action research presentation

Our journey

- ▶ The problem:
 - ▶ A very large (and unmanageable) proportion of students being referred to the LST for reading-related issues
- ▶ What did you do?
 - ▶ Investigate staff knowledge about teaching reading
 - ▶ Develop staff knowledge about the main aspects of reading
 - ▶ Trial the implementation of Heggerty's Phonemic Awareness program
- ▶ What did you find out (i.e. results)?
 - ▶ Data collection compromised by COVID home learning period
- ▶ What did you learn?
 - ▶ Collective staff knowledge around teaching reading needs further development
 - ▶ We have only just begun!

Program Results

Action research presentation

**Leadership skills**

As with School A1, leadership practice in schools was identified as having improved. For participants who were in a position of leadership, opportunities for building capacity and team consistency were identified.

... I've been able to then run my panels and like the coach of a team, build my team and make that work and then try and get some consistency with where people are in the school (Principal, School B1, Interview 1)

The support of the school's executive leadership in the development of leadership skills in teachers was also noted. Encouraging teachers into leadership roles resulted in reflexive approaches to teaching in addition to the opportunity to expand teaching career pathways.

I was asked to participate by the executive from the school and I agreed. I was sort of just really beginning to explore the idea of a higher level of accreditation... as my sort of career pathway, my trajectory within teaching and Practice Changing Practice seemed like a really valuable experience around how to ... critically evaluate what I was doing as a teacher but also a lot of the different areas that I was leading within the school but still very much being based within the classroom (Participant, School A1, Interview 1).

Supporting aspiring teachers in their action research journey to enable the development of leadership skills, appeared to instil confidence in teachers to lead others:

...throughout the project, I felt very supported to develop my understanding and my ability to apply and then lead other people on the journey with me (Participant, School A2, Interview 1).

In addition, the development of capacity in aspiring leaders to embrace evidence-based approaches, instilled confidence in guiding others in the process of action research for making informed and targeted decisions.

I have the data and the information and the research and the knowledge to know what a good outcome would be from a situation, it's being able to guide other people through each of those steps so that at the end of the process, when a decision is made, people aren't just standing around scratching their head thinking why? (Participant, School A2, Interview 1).

The following quote indicates the success of the action research in influencing assessment practices across the school:

(A school leader) who did PCP in the first year... moved into the second year of the program the mentoring role and supporting others and it just changed the whole, her whole thinking and approach to, you know, to the all decision making and it wasn't just limited to curriculum, it was, it was every aspect she really was focused on that deep dive in that that constant questioning (Participant, School A2, Interview 2).

This allowed teachers who were aspiring leaders to feel assured that the culture of action research in the school would provide a baseline for what is considered best practice amongst leaders and teachers.

I think culturally for me there is a lot of grey ... because amongst the executive level what we have found that all the executives also think differently as well in terms of what we should be teaching our students in this particular setting. Now obviously then that will then create confusions amongst the teachers and the teachers don't know what we're supposed to be teaching, what is the best practice... Now what we hope this research will bring is at least one consistent at least baseline, so that everyone can refer to the same document, everyone can refer to the same tool I suppose (Participant, School A3, Interview 1).

Notably, ongoing involvement in the PCP program over the years, has resulted in the development of a pipeline of leaders to provide opportunities to transform practice through implementing the inquiry approach:

Three participants were targeted in terms of their direction and drive ... aspiring leaders and future leaders within the school, were far more receptive to this concept of deeper thinking and deeper dives into problems of practice and really conducting action research around it. The reason we got involved, as I said earlier, was about leadership development and building the leadership capacity and capabilities of our future pipeline of leaders (Principal, School A2, Interview 1).

Program Results

Although the results across the participating schools are quite different, each school experienced success as a result of participation in the program, the action research component was often identified as influencing individual practice in terms of exploring the issues and relevant solutions through the development of a researchly disposition. This was supported in a statement by a classroom teacher on the benefits of the program for improving capacity for writing by aligning student goals and monitoring their achievement.

... myself personally, as a teacher, I think it's going to be really useful to build that capacity in writing goals for students. Being able to have a smooth, cohesive process, a handover, aligning goals and making sure they're always progressing and not regressing, for lack of data, basically (3A CP Teacher_Int_1JB)

Often descriptions of individual practice were in relation to working with others who shared the same objectives. In the following quote, the teacher identified the benefits of working with staff who were likeminded in aiming to critically examine how to improve student outcomes:

...rubbing shoulders with not only likeminded people that have the same objective but really have the heart to increase student outcomes, but also thinking on a different level (Participant, School A3, Interview 1).

As previously stated, the nature of action research in stage based primary school settings lends itself to collective practice. The program encouraged school-based teams to form and work together on a mutually identified area, and a number of responses highlighted the many benefits of collaborative practices. This includes the spiral of inquiry as a shared process for identifying shared pedagogy:

...that notion of spiral of inquiry that notion of action research where collectively a group of teachers will notice a common problem with the learning, or perhaps with the teaching across a certain KLA, for example spelling... team of teachers from kindergarten to six [(Participant, School B1, Interview 2). were] involved in a spelling programming development project

In the next response, the progress of students is at the forefront of how the cycle of action research can be utilised to improve pedagogy:

They're talking about this is where they started, this is where they are, what can I do next? What little cycle of action research can I put I place to see if we can do something different? ... collaborative practice isn't about writing a program. It's about discussing pedagogy. It's about discussing student outcomes. It's about discussing how we can improve (Principal, School A3, Interview 1).

Another benefit of the program are the motivational factors that are mobilised by collective practice. The opportunity to work together results in new learning and new ways of thinking when staff are committed"

...then we bring together - learning means not just me bringing it, but the collective staff bringing together new learning. We work at that hard, and then we transform that into some sort of plan within their classroom (Participant, School B1, Interview 1).

It appears that opportunities for collective problem solving are afforded when staff are supported by structural changes to collaborate:

We have a system in place ...on Friday, my three kindergarten teachers work for the first hour on class for the next four hours. and for the following two hours, they have a deep inquiry, a look collectively what we have as areas of concern in our teaching in our students learning (Principal, School B1, Interview 2).

Sustained Influence of the Program

The sustained influence of the PL program to develop a culture of action research amongst teachers and leaders is evident in responses with many focusing on the ‘spiral of inquiry process’ as part of ongoing practice:

Going down and down and through those spirals of why is it that we do what we do, what are we hoping to get out of it...and why is that important? (Participant, School A2, Interview 1)

The importance of evidence-based reflection was also highlighted with attention given to critically reviewing and evaluating the process of revising pedagogy.

...what does the data say just plainly? Don't read any implications into it. What is the data saying? Then in terms to critically evaluate that... Why? Why is it happening and what control do you have over it? ...What changes can you make? Why would you make those changes? It's not just I guess what would you add to what you're currently doing but it's looking at what would you stop doing? ...You can't just constantly add without stopping doing something that's not working anymore (Participant, School A2, Interview 1).

Again, a factor contributing to the sustained influence is when structures are established to support PL and a collaborative approach to finding solutions and making decision is utilised.

...actively seeking to be making these informed decisions at every step, whether that's in my own classroom Or making whole school sort of systemic decisions that impact hundreds of kids (Participant, School A2, Interview 1).

This approach is supported when integrated into school planning as evidenced in this quote: “It changed the approach to doing our performance and development plans” (Principal, School A1, Interview 1).

Student outcomes

Whilst not investigating direct causal links, interview responses from leaders and classroom teachers suggest improvements in student outcomes as identified in NAPLAN results, normative tasks (records of reading improvements) and anecdotal evidence (observation of writing improvements).

19 NAPLAN did show certainly improved results for our Year 3 and 5 kids. Certain aspects of our reading and numeracy check in assessments [for] last year's students in place of NAPLAN were encouraging (Principal, School B1, Interview 1).

[E]very semester, or at the end of every spiral, we do a check-in... work sample analysis of the kids' writing, or a writing a record in terms of their reading ...sometimes the more qualitative stuff, like asking kids how do you feel about maths... (Participant, School B1, Interview 1)

Non-participants

Lastly, such perceived improvements in student outcomes and the cohesiveness of staff in exploring problems and seeking solutions, has appeared to have acted as a motivator of staff who have not participated in the PL programs. Non-participant staff are being drawn into the culture of inquiry through informal and formal interactions, as indicated by the following quotes:

What's happening at [a school] is they've started something and then the other teachers are now starting to see it. They're going oh... maybe we can try that (Principal, A3, Interview 1).

It brings teachers together... when I go down to those meetings and they're sitting together, working together and talking (Principal, A3, Interview 1).

Summary

This research explored the following questions in relation to the Practice Changing Practice professional learning program:

1. What are the perceived effects of action research-based sustained professional learning on school culture and individual teacher practice?
 - To what extent has action research-based sustained professional learning influenced individual teachers' practices?
 - To what extent has action research-based sustained professional learning influenced collective practices within schools?
 - What, if any, effect has research-based sustained professional learning had on students?
2. What are the perceptions of participants and others in relation to the impact of research-based sustained professional learning on leadership skills?

The following section provides responses to the questions according to the data presented in the previous section.

Perceived effects of action research-based sustained professional learning on school culture and individual teacher practice

Evidence gathered from school principals, program participants and non-participants revealed the following effects on school culture:

- Teachers are working more collaboratively to solve shared problems of practice.
- The contextualised nature of action research resulted in a greater buy-in of both participating and non-participating teachers.
- Teachers' work has become more evidence based.
- In several cases, the success of participants had positive impacts on non-participants and their classroom practices.
- Schools developed a stronger culture of reflective practice.
- The development of true collective practice takes time and requires ongoing commitment of school leadership.

The following are the reported effects on individual practice:

- Teachers are more likely to rely on evidence when making decisions.
- Individual teachers engaged in higher levels of reflective practice.
- For some participants, action research has become part of everyday practice.

While there were many disruptions to learning during Phase 2 of the program, there were reported positive impacts on students:

- Evidence of improvement was gathered from a range of sources including anecdotal and qualitative evidence.
- Students across schools appear to have experienced a range of benefits including more tailored and focused teaching.
- Anecdotal evidence from several schools indicated student work had improved as a direct result of action research.

Perceptions of participants and others in relation to the impact of research-based sustained professional learning on leadership skills

Within the context of the program, the concept of leadership applied to all levels of educators. That is, principals, middle leaders and teachers were all considered to be leaders in education. While the questions posed in interviews did not specifically address leadership skills, participants were aware that this was one of the original intentions of the program. The following points synthesise the perceptions of the program's impact on leadership skills:

- Action research provided a foundation of evidence by which teachers could plan and implement professional learning within their school contexts.
- Opportunities for reflective practice improved leadership skills by providing a more focused and evidence-based approach to leaders' work.
- Action research promoted a more collaborative leadership approach.
- Participating leaders reported new opportunities to build their own capacity and the capacity of others.
- The Practice Changing Practice program increased the confidence of participants who aspired for more formal leadership positions.
- The program has provided a strong pipeline of future leaders, particularly in schools that have continued their participation across all three iterations.

Recommendations

As a result of the findings presented in this report, the following recommendations are made:

- Ongoing commitment from school and system leadership is recommended to ensure the development of true collective action research practice. This commitment should include the provision of time for groups of researchers to meet, access to external critical friends from other schools, and access to research literature.
- To maintain the integrity of action research as a cultural practice, it is recommended that a network across schools be developed to provide space to meet, receive and provide collaborative feedback. Such meetings could occur once a term or twice a year.
- It is recommended that the Practice Changing Practice program continue as a formal professional learning program to ensure action research is continued. This is particularly important as it will address the challenge of staff renewal. The program has now developed a group of leaders capable of running the professional learning and does not require any external input other than the potential use of academic critical friends.
- Any future programs should undergo evaluation and should incorporate student voice to ensure the intended outcomes of any action research aligns with students' experiences and outcomes.
- Future monitoring of student outcomes is encouraged to measure the long-term impact of the professional learning program.

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Appendices

Group A principal interview scripts and prompts

INTERVIEW 1: Term 2

- What do you hope to gain from participation in the Practice Changing Practice Program for
 - a) you personally?
 - b) your students?
 - c) your school's professional culture?
- What impacts of the action research of others (past participants), if any, have you noticed so far on
 - a) your individual practices?
 - b) collective practices?
 - c) school professional culture?
- What impacts of the action research of others, if any, have you noticed on student experiences or outcomes? If so, what is the evidence
- What specifically are you hoping to focus on in your action research this year?
- What are your initial perceptions of the Practice Changing Practice program and action research as a form of sustained professional development?

INTERVIEW 2: Term 4

- Can you please give an overview about anything more that has happened in your classroom and, more broadly, at your school since our last interview, as a result of your participation in Practice Changing Practice this year?
- Are you aware of any further impacts of your action research and participation in the program on
 - a) your individual practices?
 - b) collective practices?
 - c) school professional culture?
- What have been the impacts of your action research, if any, on student experiences or outcomes? If so, what is the evidence? Is this what you expected as a result of your engagement with the program? If not, why do you think this is so?
- Can you talk about whether you believe your practice of action research will be maintained in the future? If so, how?
- Is there anything else that has changed for you and the way you work with others as a result of your participation?
- What are your overall perceptions of the Practice Changing Practice program as a model for sustained professional development?

Groups A & B past participants interview scripts

INTERVIEW 1: Term 2

- Can you give an overview of the school's past participation in the Practice Changing Practice Program?
- What did you hope to gain from participation in the Practice Changing Practice Program for
 - a) personally?
 - b) your students?
 - c) your school's professional culture?
- What impacts of action research, if any, have you noticed so far on
 - a) your individual practices?
 - b) collective practices?
 - c) school professional culture?
- What impacts of action research, if any, have you noticed on student experiences or outcomes? If so, what is the evidence? Is this what you expected as a result of your participation in the program? If not, why do you think this is so?
- Have you continued to conduct individual or collaborative action research in your classroom/ stage/school? If yes, can you tell me about what you are doing, and how?
- Can you talk about whether you think the impact of the program on your personal practices and on your school has increased over time, and if so, how? If not, why do you think this is so?
- Given what we have discussed, can you talk about whether your previous participation in the Practice Changing Practice program will lead to further engagement with
 - a) the program itself, and
 - b) action research? Why/why not?
- What are you overall perceptions of the Practice Changing Practice program and action research as a form of sustained professional development?

INTERVIEW 2: Term 4

- Can you please give an overview about anything more that has happened in your classroom and, more broadly, at your school since our last interview, as a result of your past participation in Practice Changing Practice?
- Have there been any further impacts of action research and past participation in the program on
 - a) your individual practices?
 - b) collective practices?
 - c) school professional culture?
- Have there been any further impacts of action research, if any, on student experiences or outcomes? If so, what is the evidence? Is this what you expected as a result of your past engagement with the program? If not, why do you think this is so?
- Can you talk about whether and how any impact of the program on your practices or the practices of others at the school has been maintained over time, and if so, how? If not, why do you think this is so?
- *(Group B only)* Given that it is now some time since your school's engagement with the Practice Changing Practice program, how confident are you that you and your colleagues will continue to conduct action research?
- *(All)* Given what we have discussed, what are your overall perceptions of the Practice Changing Practice program as a model for sustained professional development?

Appendices

Groups A & B non-participants interview scripts

INTERVIEW 1: Term 2

Your school has been involved in the Practice Changing Practice program for at least one year. This program required participants to conduct action research based on an identified problem of practice in your school.

- What is your understanding of the Practice Changing Practice program?
 - To what extent, if any, do you think the program has had an impact on
 - a) your practices?
 - b) the practices of your colleagues?
 - c) your students?
 - d) your school's professional culture?
 - What, if any, other changes in your school have you observed as a result of teachers participating in the Practice Changing Practice program?
 - If the opportunity arose, would you participate in the program and or undertake action research? Why or why not?
- Thank the participant for their time today
- Stop the Zoom recording and inform the participant that recording has ceased

INTERVIEW 2: Term 4

- Since we last spoke, have you noticed teachers at your school conducting action research?
- Have there been any professional conversations at your school relating to action research or the Practice Changing Practice program?
- What other professional development have you been involved with this year? Can you talk about whether you consider these sessions effective?
- How has your most recent professional development impacted your practice and the practice of others?
- How has your most recent professional development impacted student outcomes?
- If the opportunity arose, would you participate in the program and or undertake action research? Why or why not?

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