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Leadership attributes that support school improvement: a realist approach

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Nerida Spina is a Senior lecturer at the Queensland University of Technology. Her research interests concern teachers' and school leaders' work in an era of accountability and quantification. She examines these issues through a lens of social justice and equity. She is currently researching how pre-service teachers are assessed and prepared to work in schools given contemporary education policy contexts. Nerida was awarded the *Australian Council for Educational Leaders (ACEL) Research in Educational Leadership and Management Award* in 2017. In 2020 she was awarded the QUT Vice Chancellor's Excellence Award for her Leadership, for her work in the Quality Teaching Performance Assessment. Nerida teaches the sociology of education at undergraduate and postgraduate levels, and has also worked on a number of major research projects including the Stronger Smarter Research Evaluation Team, and the Australian Research Council Linkage grant, "Ethical leadership: How educators address learning, equity and accountability". Nerida hopes to continue to explore how assessment and the "datafication of education" impacts on practice, policy, and the everyday lives of children, families, teachers, school administrators and staff. Recently, she has also investigated the experiences of non-tenured academics working in universities.

Megan Kimber is a Senior Researcher at the Queensland University of Technology, Australia. As an experienced researcher, her interests encompass Australian politics, policy, and public management; democratic theory; educational administration and education policy; and inclusive education. Megan has published on public sector accountability, ethical leadership, inclusive education, service-learning, and public sector reform. Her most recent publications are on social justice challenges confronting school leaders in Australia and ethical leadership for inclusion. Megan's research has been recognised through several awards.

Rebecca Spooner-Lane is a Senior Lecturer at the Queensland University of Technology. Rebecca is the Director of the Quality Teaching Performance Assessment (QTPA) for pre-service teacher education and three partner universities in Australia. In 2020 she was awarded the QUT Vice Chancellor's Excellence Award for her leadership of the QTPA. As a teacher educator and registered psychologist, Rebecca teaches child and adolescent development, educational counselling, and prepares pre-service teachers for the QTPA. She also trains teacher educators to assess the QTPA. She has a keen interest in the professional development and career progression of teachers from graduate to lead teacher. She has worked on a number of projects investigating mentoring, school leadership and school improvement, and highly accomplished and lead teacher certification. Rebecca is currently investigating the impact of the QTPA on the classroom readiness of graduate teachers.

Kate E. Williams is an Associate Professor at the Queensland University of Technology. Her research focusses on children's development of self-regulation and the parenting, educational, and intervention contexts that support such, along with the developmental outcomes associated with children's self-regulatory functioning. She is also involved in program evaluation and interested in the measurement of children's development and wellbeing. Kate is also a Registered Music Therapist and so is interested in the ways that music can be used to support children's development. She is currently developing and trialling a neurobiologically-based rhythm and movement program for stimulating preschool self-regulation skills in disadvantaged communities. Kate has been published in international early childhood, education, and medical journals and has won awards for her PhD and Masters theses and conference presentations. In 2018 she was awarded a prestigious Discovery Early Career Research Award (DECRA) by the Australian Research Council.

Leadership attributes that support school improvement: a realist approach

School improvement reforms aimed at achieving improved student learning remain high on the agenda for leaders across the globe. The purpose of this paper is to understand the leadership attributes that enable school leaders to bring about positive change. This qualitative study is based on interviews with school leaders (school principals and their deputy principals) and focus groups of six teachers in two case study schools. A realist approach is used to understand how leadership attributes spark related social mechanisms that lead to improved outcomes. Data analysis generated four leadership attributes: 1) valuing diversity, 2) support for staff, 3) collaborative leadership style, and 4) valuing teachers' professional learning. Each of these were found to have influenced decision-making and sentiment, which generated positive school improvement outcomes in the two case study schools. These findings have the potential to contribute to professional learning which can improve understanding of how leadership attributes in context bring about school improvement.

Keywords: school leadership; school improvement; leader attributes; realist approach

Introduction

Well, I think it's ... what we do every day. So just making sure that teachers are aware of what our improvement agenda is, what our school priorities are, feeding that information to our community, which is what we do. But just making sure that everyone knows, and that everybody is on the same page. (School leader)

School improvement continues to be of interest to governments and researchers in many countries, including Australia, Canada, the UK, and the USA (Hallinger and Heck 2011, Wrigley 2013, Feldhoff *et al.* 2016, Sinay and Ryan 2016). School improvement can be viewed as what a school community does to enhance teachers' and leaders' 'capacity' (Woods and Brighouse 2013, p. xi) to increase its students' 'learning outcomes' (Hallinger and Heck 2011, pp. 1, 15). Policy makers and researchers have examined school improvement for over 30 years; however, there is a lack of understanding about how school

leaders work in specific contexts (Hallinger and Heck 2011, Wrigley 2013, Feldhoff *et al.* 2016, Sinay and Ryan 2016).

School improvement is ‘a systematic and sustained effort aimed at making changes that accomplish educational goals more effectively and enhance student outcomes, as well as continuing to strengthen the school’s capacity to make and sustain further improvements’ (Woods and Brighthouse 2013, p. xi). Many governments continue to investigate how school leaders drive school improvement. The importance of school improvement is evident in the agreement between federal and state governments that ‘[a] framework should include self and independent assessment of each school against the National School Improvement Tool, or its equivalent, by someone external to the school on a cyclical basis to allow schools to identify and benchmark their performance’ (Council of Australian Governments 2013, p. 38). The National School Improvement Tool (NSIT), developed by the Australian Council for Educational Research (2016, p. 1), commences with the statement that ‘research is revealing the powerful impact that school leadership teams can have in improving the quality of teaching and learning’.

The importance of the school leader’s role in school improvement research is well supported (Hitt and Tucker 2016), as is the understanding that leadership in general involves leadership attributes that can cause intentional influence of others in the group or organisation (Yukl 2012). This paper reports on findings from a study that took a realist approach (Pawson 2006) to understanding and explaining how school leaders influence school improvement. We sought to understand how school improvement operates and to explore underlying invisible causal processes (Pawson 2006). Our analysis of two case study schools in Australia explores how leadership attributes cause social mechanisms (Dalkin *et al.* 2015) that lead to particular outcomes. We wish to be clear that the data reported in this paper are not intended to evaluate a school improvement intervention in the way that a realist evaluation might do

(Pawson and Tilley 1997). Rather, our focus is on using the realist approach (Pawson 2006) to explain how leadership attributes influence decision-making and sentiments of staff in ways that lead to school improvement outcomes in two case study schools.

Researchers have identified a range of leadership attributes and sometimes connect these with different leadership styles (e.g., transformational, transactional) or investigate if they differ by gender. Some of these attributes include accountable, flexible, empathetic, client focused, collaborative, vision, innovative, committed, reflective, resilient, ambitious (Griffiths *et al.* 2019, p. 38), idealised influence, intellectual stimulation, inspirational motivation, and management by exception (Miranda 2019, pp. 609–610). Leadership attributes are informed by values. Values are predispositions that influence behaviour and guide reasoning that lead to actions and outcomes (Vaughan and Hogg 2014). As indicated earlier, whether or not leaders adopt a collaborative approach (Fasso *et al.* 2016) is one attribute and a factor that is important to school improvement as it can contribute to the extent to which leaders develop trust among staff (Karami-Akkary *et al.* 2019). A further factor is school culture, which relates to the views held and the values shared by members of the school community (Chatman and Jehn 1994 cited in Parker and Bradley 2000). Some writers refer to a similar idea as school climate, which encompasses ‘the quality of teaching and learning, school community relationships, school organization, and the institutional and structural features of the school environment’, which are important factors in school improvement (Wang and Degol 2016, p. 316).

School improvement: short-term and long-term change

In Australia, leadership of school improvement occurs in the context of high-stakes accountability including pressure to improve student outcomes on large-scale standardised assessment, ongoing data monitoring, and evidence-based policy making (Hallinger and Heck 2011, Harris *et al.* 2018). School leaders may feel overwhelmed by competing pressures in

this context of accountability and feel that they need to take urgent action (Duignan 2007, Keddie 2013). We suggest that school leaders' attributes influence interactions with the school community and planning for short-term or long-term changes that lead to school improvement. They make choices between competing forces that impact on people's lives (Mulford *et al.* 2009) and consider the people and events in their school community. They often grapple with situations that concern individuals, collectives in the organisation, systemic policy, and the social-cultural and political context. To illustrate these competing forces, Keddie (2013) highlights how expectations of parents, students, and teachers are contextual dimensions that do not inevitably align with external requirements such as the expectations of leaders as part of review processes. Leaders must balance political and bureaucratic requirements on the one hand and the needs of teaching staff, students, and families on the other hand. Long-term change for school improvement requires leadership attributes that enable school leaders and staff to work together over a sustained period of time (Carrington in press). The research reported in this paper builds on previous work (Harris *et al.* 2018, p. 150) where it was noted 'the need for fast change is at odds with key elements to support successful collaboration, critical inquiry and reflection in schools'.

A realist approach to understanding leadership

Pawson and Tilley's seminal work (1997) draws on realist philosophy and considers the nature of reality, including an exploration of how causation works. Previous research in school leadership has not taken a realist approach. We have adopted Pawson and Tilley's (1997) notion of context that encapsulates not only locality, but also other factors such as interpersonal and social relations and conditions. They suggest that 'standard measures of demographic difference in social science, in terms of sex, age, ethnicity, and class, are in themselves unlikely to capture what is contextually important, but may at best be rough

indicators' (Pawson and Tilley 1997, p. 8). With this in mind, we suggest that the context of the school includes the attributes of the school leader.

Because realism is a school of philosophy, applying this approach requires consideration of deep philosophical assumptions (Westthorp 2014). The following assumptions were important for the current study. First, that the social/cultural world, including the attributes of the school leaders, is real and can have positive and negative consequences that might impact on how school improvement works. Second, perceptions of reality, gathered through interviews, can help to explain the leadership attributes that influence the outcomes of the school improvement process. It is people's stories and ideas across layers in an organisation that can be captured and used to describe the attributes. These social mechanisms, such as decision-making and sentiments, are unobservable and may directly or indirectly contribute to outcomes. We further assume that the attributes that school leaders bring to leading school improvement exist within education systems with their own resources and cultural rules that exert an influence over a leader's approach and decision-making. Understanding how the attributes of the leaders facilitate or constrain school improvement in specific contexts is therefore a complex task.

A realist approach is ideal for exploring initial theorisation about how the attributes of a leader impact on school improvement. This is because the approach prompts questions beyond 'what works', extending to how or why does this work, for whom, in what circumstances (Pawson and Tilley 1997). According to Pawson and Tilley (1997), generative causation is a process of determining the effects associated with an action in a context. Mechanisms and associated actions such as reasoning, planning, and interactions between leaders and teachers may have transformative potential when triggered in the right context conditions where a leader demonstrates particular leadership attributes. An initial theory about how the attributes of a school leader impact on school improvement will provide

explanations that can be described as CMO chains (Context + Mechanism= Outcome) (Pawson and Tilley 1997). Drawing on the case study data, this research develops an initial theory of what contextual factors, such as leadership attributes, support school improvement, in particular the contextual factors that generate mechanisms that lead to the observed school improvement outcomes in that school.

Research methodology

We now move to a description of the research study that focused on collecting data from school principals, their deputy principals, and teachers in two case study schools in Australia that were involved in school improvement. Case study was selected as an appropriate qualitative methodology to guide the research, since it is frequently used to study programs, people, and events (Patton 1990). As Yin (2011) describes, qualitative research design is typically focused on inquiring into real world contexts and conditions, and includes an exploration of participants' experiences and perceptions.

Our case study research was designed to address the research question: How do contextual leadership attributes influence decision-making and staff sentiments that lead to school improvement outcomes? Two primary sources of data were used: semi-structured interviews and focus groups with participants. Interviews were conducted as an appropriate means of addressing case study research into human experiences, events, and perceptions (Yin 2011). Recruitment was purposive in that both schools had been identified by the education department as requiring additional support to further improve student outcomes.

Roseville School (pseudonyms used) is a medium-sized elementary school with approximately 800 students located in a metropolitan region in Australia. Flowery School (elementary) has approximately 600 students and is located in an outer-metropolitan region. The school leaders of the case study schools responded positively to an invitation to

participate in the research project. This research has university and education department ethical clearance.

Data collection

Members of the research team travelled to each school to collect data. Semi-structured interviews (Minichiello *et al.* 1990) were used to collect data from the school principals and deputy principals, as well as a focus group with teachers (Roseyville School — four teachers; Flowery School — six teachers). Information about the project was shared at each school and teachers were invited to participate. Focus groups allowed the teachers to discuss and support each other's reflections about how the school leaders influenced decision-making and staff sentiment in two case study schools. The interviewees were emailed a list of questions prior to the interviews. The planning for the interview questions was influenced by the realist approach (Pawson and Tilley 1997), with consideration of gathering data to find out about the school context, the social mechanisms, and the outcomes of the school improvement process. Planned interview guidelines with lists of questions contribute to the reliability of the study (Manzano 2016). The semi-structured schedule enabled the interviewers to probe further, posing follow-up questions and becoming involved in longer conversations with the participants where the exploration of key experiences could be shared and observations or perceptions about the participants' experiences could be unpacked (Patton 2002). The interviews took place at each school, were audio-recorded, and transcribed for importing into NVivo (QSR International 2018). Participants were emailed a copy of the relevant interview transcript and invited to confirm the transcript as an accurate recording of the interview. Only one participant from Roseyville School made a change to the transcript and no participants from Flowery School responded to the invitation to provide feedback. The possibility to give feedback on the transcripts contributes to the reliability of the study (Corbin and Strauss 2015). In summary, participant data reported in this paper are — Roseyville School: one

school principal, one deputy principal, four teachers in a focus group; Flowery School: one school principal, one deputy principal, six teachers in a focus group.

Data analysis

All interviews were de-identified, and imported into NVivo (QSR International 2018) to support data organisation and analysis. The research team collectively analysed the interview transcripts and coded interview data following the realist approach of developing chains of CMOs as a basis for moving toward explanatory data analysis (Pawson and Tilley 1997, Shaw *et al.* 2018). As the research team became more deeply aware of the impact of context, including the attributes of the school leaders on the social mechanisms that emerged through in-depth reading and discussion of the interview data, we used the constant comparative method (Freeman 2005) to go back and read the details in the literature about the impact of school leaders on school improvement and have conversations about the research findings. Data analysis beyond the separate Cs, Ms, and Os across the two case studies enabled the development of CMO chains that were determined by consideration of which elements of the context and mechanisms led to what outcomes.

Research findings

The data analysis generated four CMO chains. These chains will form the basis of an initial theory about how leadership attributes are features of the contextual conditions pertinent to the social mechanisms that bring about school improvement outcomes. Each CMO chain will be discussed with supporting data from the case study schools.

CMO Chain 1

Where there are school leaders who value diversity [context], then they have a sense of respect for staff and students [mechanism], contributing to an inclusive school culture [outcome].

School leaders are expected to value and respect diversity in learners and families and this requires leadership of collaborative teamwork (AuCoin *et al.* 2020) that is informed by inclusive values (DeMatthews *et al.* 2020). Flowery School had a complex school community that required school leaders and teachers to work together to support high student social-emotional needs, along with cultural and ability diversity. The school principal highlighted the importance of values and relationships: There is a need for ‘a lot of humanity to try and bring them together ... my relationship with my deputy and my colleagues were really important’.

Mechanisms of acting in respectful ways ‘highlighted the opportunity for some of the [teacher] cohort to come closer together and be able to build consistency with how they were supporting some of our, like diverse learners and that’ (Flowery School focus group teacher with agreement by the whole focus group).

The deputy principal from Flowery School, in her role as a curriculum and pedagogy leader, talked about the focus on learning and capacity building, and reinforced that any school improvement decisions and strategies highlighted a commitment to meeting the needs of the diverse study body. Acknowledging the challenges, the Flowery School principal noted that, ‘we have very professional teachers working with some pretty tricky young people. And we love them, they’re ours, but they’re tricky’. This acknowledgement of student needs supported an inclusive culture. For this reason, the deputy had a strong focus on teacher professional learning in pedagogy, curriculum, and assessment. Discussing her approach to teachers’ assessment work, the deputy noted:

We do a lot of work in the pre-moderation phase, where we look at the assessment task, and work out what kids need to know and do. What is a C going to look like? What is an A going to look like? So we’re doing a lot of work in that, before you even start teaching.

It was evident that the school leaders demonstrated the attribute of value for diversity (context) which led to a sense of respect for both teachers and students (mechanism). In discussing her approach to building professional capacity in using formative assessment, the deputy went on to explain that this practice was seen to be essential for creating an inclusive school culture, the outcome, because it enabled all students to access the curriculum and achieve success in assessment tasks.

This work, which stemmed from ensuring teachers developed understandings of student needs (context), was linked to respectful ways of working (mechanism), which supported the development of an inclusive, equitable, and transformative agenda for their school (outcome).

CMO Chain 2

When school leaders care for their staff [context], then they consider staff feelings and stress [mechanism], contributing to collegial relationships and a climate of trust within the school [outcome].

The school leaders at Flowery School supported staff through their approach to goal setting and planning for school improvement. After acknowledging her own stress, the principal said, ‘the term I use is “you can’t startle the herd”. So as the leader you’ve got to try and put on this “Fake it till you make it, it’s going to be ok, we’ll lead from the front”’. She went on to say:

But also for [teachers] to try and not feel, I guess, the reverberations of my distress or stress at the time, because I know I didn’t want that to go out into the classroom, so we were really careful and methodical.

The principal’s comment highlights how she considered staff feelings. Similarly, the deputy principal commented on the efforts to support relationships with staff during school improvement efforts: ‘Probably really just that, because as a school, we were very confident

with how we were operating at the time, probably the anxiety too would have been around “Have I supported the staff enough to feel confident as well?”” The leadership team extended this ethic of care, which is one of Starratt’s three tenets of ethical school leadership (2014), to their prioritisation of teachers’ wellbeing during the action planning for school improvement. Acknowledging that working in a complex school community could lead to significant workloads, the principal noted that, ‘And I know our teachers are exhausted, and we often step back sometimes and go “Right, everyone take a breath, let’s remember these are our priorities”. So we do have to do that from time to time’.

Teachers in the Flowery School focus group discussed their feelings about how the leadership team had prepared them for the school review process. School reviews are conducted every four years by the education department, using the National School Improvement Tool (Australian Council for Educational Research 2016).

... it’s just another day where someone’s going to ask me another question about something, I didn’t necessarily feel any anxiety or pressure in regards to that, because I knew that I had the support of, we’d already been told ‘Whatever you know for yourself is what you say’, so I didn’t feel pressure that I had to perform or say the right thing.
(School principal, Flowery School)

The teachers in the focus group indicated that their feelings changed over time because they felt supported by their school leaders, which allowed them to feel connected to colleagues and to develop trust among the teaching staff. One teacher reflected:

Cause I always found it was quite confronting at first, because there was so much, there was like a demand on improvement. And like, but that was like, our first response was like ‘Oh, it’s new, like what does this involve? Like it’s so unfamiliar and it’s a new direction of doing stuff?’ but like in the last two years, we can really see how it’s like really improved the way in which we teach.

Flowery School's deputy principal described how the leadership team provided support to teachers. One teacher in the focus group said, 'Yeah, how is it managed and put forward to the teachers, are [leaders at other schools] putting a lot of pressure on their own teachers [to demonstrate improvement] ... I kind of felt like "Well, if we don't get it right the first time, then we'll just be working to make everything right"'.

At Roseyville School the deputy principal found some of the processes associated with improvement, such as participating in school reviews, had been personally stressful. However, she thought carefully about how to best communicate with staff when discussing school improvement efforts:

... you don't want the teachers to know what you think all the time, do you? So that would be great, if they are happily going along thinking that this systemic process is a positive one, then that's brilliant.

A teacher in the Roseyville focus group explained why the process of planning for school improvement requires support over time and consideration of staff feelings and stress:

I also guess I understand that when you have such a large staff ... a diverse staff, that doing a lot of things quickly can, yeah, it's not successful, because people feel rushed, they feel out of their depth, they don't feel supported, there's pushback, so I think that's why it happens so slowly. I just think the most important thing is that we're really intentional about those steps that we do take, so that they are based on the research, and what it's saying are the right things for us to do, but also that it's communicated really clearly, so that everyone knows what's happening, what it looks like, where they can go for support, where the resources are.

As these examples show, there was evidence at both schools that leaders cared and were aware of the feelings of teachers (context). They were committed to communicating about school improvement efforts in ways that would reduce staff stress (mechanism).

Teachers and leaders at both schools described this approach as having been important for

building school cultures based on collegiality and trust, which acted as enablers for bringing about improvement in teacher professional practice (outcome).

CMO Chain 3

When school leaders are collaborative [context], then a culture of trust [mechanism] contributes to a supportive school community where staff share ideas [outcome].

The school leader at Roseyville School had a focus on developing collaboration with her staff, describing collegial relationships as highly valuable in her leadership work:

I guess my leadership style is very much collaborative and I like to have that distributed leadership. To me that's really important to getting traction in school.

When we asked her about the process of developing an action plan to support school improvement, she said, 'we constructed that together, we meaning the leadership team'.

The deputy principal also focused on developing relationships with the leadership team and with teaching staff so that they could work together to make improvements:

Well, I was looking at it as whatever the [school review] feedback was that then gave me something for conversations with the staff around 'Ok, so what are our next steps, what do we need to do to move the school forward? Because the data's saying that we can do better'.

Teachers in the focus groups at both schools indicated that a leader who supported collaboration had created a climate of trust among teachers and leaders. This is evident in the Flowery School principal's discussion about how the team worked together to achieve the goals in the school improvement action plan:

So I guess with the leadership team, it was really around what we were doing was looking at, we constantly were coming back to, you know, you couldn't do it all the time, but every term we were coming back with 'what's working well, what evidence do we have about what's working well in the school, and what are our next steps?' So our

leadership meetings were very much around these priority areas. We were very focused on these.

We were meeting weekly. Yeah, every week we met to just check. I mean, we were out doing the work, like case management ... so we were doing the work, but we were also coming back and just checking and going 'Ok, where are we up to?' that was with reading, that was with data, and that was around our consistency of practice. So how, yeah. So you can just see, we, so we did meet weekly. And that was holding everyone accountable as well. So that was another purpose of meeting weekly.

Collaborative leadership built a culture of trust: 'we wanted to build that trust in, you know, the knowledge is in the room, and you know, that teachers have the expertise'.

The collaboration built by the leadership team also drove collaboration between teaching staff. At Flowery School, the deputy principal discussed this approach of building a culture of collaboration and trust. She reflected on a conversation with teachers:

'You guys [teachers] actually do know the work. You need to share the good practices that we're seeing,' and so one of the things that we did put in place was triads and dyads, where teachers went and observed others working ... I could say 'Oh, this person, you know, uses this strategy really well, why don't you do a triad with this person?' so you know, that involved, I think, and that actually helped to build a lot of trust, I think, between staff and the leadership team.

An outcome of this leadership approach was reflected in the teachers' discussions about their approach towards school improvement, including that working together was productive, and led to practices that could be sustained over time. A teacher in the focus group commented on the school's focus on building a culture of trust and collegiality following from the school review:

Over the last few years, we've done, had a lot of work around 'teaming', and our leadership team, and school team, and cohort, we've done a lot work, funded out of school budget in that area, because that was something we knew we had to work on.

This type of comment was reinforced by another teacher in the focus group: ‘Yes ... we set the actions, and we knew what we wanted to head towards, we really just worked together’. This teacher explained how school improvement priorities were divided between the team: ‘someone would go “Well, you’re responsible for that, you’re responsible for that”, that type of thing’. Another teacher in the focus group said: ‘there was a lot of work on building trust with the staff, sharing the good practices across the school’.

At Flowery School:

I think cause everyone, like, it was the same message for everyone, and so everyone, like, collectively we had to all come together and go ‘Right, this is the work to be done, it doesn’t matter if you’re in Prep or Year 6, the same work has to be done’, and so we all had to just back each other, and go ‘Right, what does it look like for us in our cohort to help support the change, the strategy?’ and making sure that like nobody was taking on the whole role, that you had to make the change yourself. The outcome was, ‘We’re all in it together’. (Focus group teacher)

Similarly, teachers in the focus group at Roseyville School reflected on how leaders had cultivated a culture of trust through their support of teachers sharing ideas. One teacher described that ‘our classroom doors are definitely more open’, in part because the leadership team had invested time and money into supporting collaborative, non-judgemental processes. Another teacher said this way of working now extended to teachers’ openness and willingness to work with colleagues within and beyond the school:

I am very open to people coming into my classroom, cause I think we’re all learners, and we have skills that we can, you know, show others, and I particularly, and we’ve tried, with admin, to see if we can do cross-sector, so that we can see, you know, where the students are going next year, so that teachers from like the different year levels will see what’s coming, and then we can also see, because we have differentiation of students, so that we can meet the curriculum demands for children that are high-achieving, and that’s really favourably received, admin are really encouraging staff to do it, which is a voluntary thing.

The need for a long-term whole school approach is described by a teacher at Roseyville:

... initially when we rolled out [collaborative approaches to pedagogy such as classroom observations] we were going into every single classroom, to get consistency, and there was a bit of pushback, or we sensed some pushback there, but now it's that opt-in type model where teachers are more willing to come forward and say 'I need help in this area, could you come in?' Yeah, so it's evolved over time.

Another teacher spoke positively about the effectiveness of engaging in professional conversations with colleagues as part of a more collaborative approach to capacity building in the school:

I think the biggest thing to come out of it is to actually put school improvement on the agenda for us. So to take it from just 'are we doing things well?' to 'how can we do things better?' So I think it definitely made us, as a school, start thinking about improving, and 'what's the next step? Ok, yep, awesome: we've achieved this now, we've got some consistency – where do we go next?' So I think that's probably the big thing that's come out of it.

Data indicates that the leader attribute of being collaborative (context) led to a culture of trust (mechanism) and contributed to situations in both schools where teachers worked together to support school improvement (outcome), and we suggest that this can be sustained over time.

CMO Chain 4

When school leaders value teachers' professional learning [context], then school staff are committed to learning and sharing new pedagogies [mechanism], contributing to leaders and teachers believing that professional learning is relevant and effective when differentiated to teachers' needs [outcome].

The final CMO chain we identified began with school leaders valuing teachers' professional learning. School improvement literature has broadly noted the importance of leaders acknowledging teachers' professional knowledge and practices, as such recognition contributes to positive relationships between school leaders and followers (in this case teachers). It also draws attention to how relationships between leaders and followers impact on trust and loyalty and thus contribute to improvement (Yukl *et al.* 2002, Kugelmass and Ainscow 2004, Brown and Trevino 2006). The principal at Roseyville School indicated her valuing of professional learning for her staff when she facilitated the triad and dyad discussions where teachers observed each other teaching. This created increased trust between teachers and was important in moving teachers towards school improvement outcomes, as they reflected on their own teaching practice and professional learning needs:

... this is very related to their own reflections on their teaching, around the teaching of reading, they identified people that they might like to go and observe, or we could recommend, cause we did lesson observations ...

The leadership focus on sharing the knowledge from inside the school and trusting the expertise of the teachers enabled teachers to work collaboratively towards school improvement goals. As has been argued elsewhere (Bloxham *et al.* 2015), teachers are unlikely to be able to create the conditions for student engagement and improvement if they are not working in an environment characterised by positive relationships with school leaders.

The principal at Roseyville described the long-term work of planning for the next four years, building capability in the school staff and facilitating a commitment to learning new pedagogical approaches, often by sharing practices within the school:

... we did a big, a lot of work around visioning for the next four years. And we actually, at the end of 2015, had a four-year strategic plan for the next four years. So there was a lot of work on building trust with the staff, sharing the good practices across the school.

Leaders at both schools implemented cycles of inquiry with school leaders and teachers working together, visiting and observing each other's classrooms and having conversations about quality of teaching and learning. It was noted by one of the teachers in the Roseyville focus group that although the change in school climate took some time, the professional learning was differentiated, and relevant to teachers' needs:

It has taken time for some teachers to be comfortable in the process. There were, and are, some teachers who don't like to have people come in and show them different ways of doing things, and that's just the nature of humans. But as a whole, in general, I think teachers can put their hand up to go in and observe each other, like teaching, whether it be a specific teaching or strategy or whatever it is, and then they get some time to sort of sit and give each other feedback and have a chat about it.

Similarly, the leaders and teachers at Flowery School commented that leaders' valuing of teachers' professional learning had empowered them to refine their teaching practice. The school principal described that a key outcome of this approach was:

Our teachers now willingly, without any problem, in fact look forward to enquiry cycles. I do not do any formal, walk into the classroom with a clipboard, and do that type of feedback. We do what I say is instructional rounds, but what we are careful of is that we're looking for consistency across the cohorts, like even this morning, my leadership team, we do a three-week cycle, so our curriculum focus has been reading.

When the school leaders supported professional learning (context), this enabled school leaders and teachers to work together to engage in enquiry cycles (mechanism), which led to professional learning conversations that were important in developing a sustainable approach towards positive long-term change (outcome).

Discussion

This study sought to understand how school leadership attributes caused social mechanisms that led to outcomes in school improvement. At both schools, there was evidence of contextual leadership attributes of valuing diversity, supporting staff, developing a collaborative leadership style, and valuing teachers' professional learning. These leadership attributes influenced decisions and ways of working in the school environments (Dalkin *et al.* 2015). Without supportive leadership, and the opportunity to observe the impact of pedagogical changes, teachers may find it difficult to commit to the change process.

The leadership attributes triggered positive decision-making and actions such as facilitating collaborative ways of working and learning together that was supported by sentiments of trust, respect, and commitment. In each case, the principal and leadership team took an active role in working in partnership with small groups of teachers to reflect on student data and methodically plan appropriate ways forward while, at the same time, acknowledging the valuable work they were already doing to support the complex student needs within their classrooms.

Each principal reported that establishing an upward trend in school improvement takes time. In our study, school leaders demonstrated a commitment to collaboration (Harris *et al.* 2018) and normalising a school improvement agenda leading teachers to commit to a culture of ongoing collegial learning to support school improvement over time. School leaders who have a collaborative style focus on fostering teachers' professional capability through building and sharing effective practices teachers are implementing within their school. Duigan (2007) suggests that giving leaders time to have conversations where teachers can share their perspectives helps to develop a shared commitment to the values and vision of the school. The celebration of teachers' work is also an important strategy for supporting teachers as they strive to achieve long-term, sustained improvement. It also suggests that

principals who value their teachers and their efforts are better positioned to optimise student outcomes. When teachers begin to see positive outcomes for their efforts, it helps legitimise the shared vision for school improvement.

The present study suggests that leader attributes contribute to developing trusting relationships with their leadership team and teaching staff and could establish outcomes that lead to long-term change (Duignan 2007). Establishing a positive, respectful, and collegial school climate can support a school community to collectively bring about intentional influence to work together to make improvements (Harris *et al.* 2018).

Our study revealed school principals and their leadership teams in the two case study schools were instrumental in achieving successful school improvement outcomes. These principals established leadership teams that embraced the principal's vision and direction of the school. The following propositions summarise the initial theory of how leadership attributes support school improvement:

Proposition 1: School leaders who value diversity in their students and staff will respect their school community and develop an inclusive school culture.

Proposition 2: School leaders who support staff and consider feelings and stress through the actions of working for school improvement will develop a school climate that values collegial relationships and trust.

Proposition 3: School leaders who have attributes aligned with a collaborative style support staff to trust and share ideas which leads to a school improvement agenda that can be sustained over time.

Proposition 4: School leaders who value teachers' professional learning facilitate a staff commitment to learning and sharing new pedagogical approaches, which leads to a long-term strategy of planning professional learning that is relevant and differentiated for teachers' needs.

Limitations

While the findings of this study add to the literature about how school leaders impact school improvement, there are some limitations that need to be acknowledged. First, the paper reports on data from a small sample of participants from two case study schools in Australia. The school leaders self-selected to participate in the study which aimed to develop an initial theory of school improvement. Second, the study reports on data from school leaders and teachers where they share their views and experiences of engaging in processes of school improvement at their school. Further research with a larger sample of schools and using a mixed methods approach will be needed to test this initial theory.

Conclusion

This qualitative study based on interviews with school leaders and focus groups of teachers in two case study schools utilised a realist approach to understand how leadership attributes, as an integral part of school context, trigger social mechanisms including decision-making and staff sentiments that contribute to school improvement. Data analysis generated four leadership attributes: 1) valuing diversity, 2) support for staff, 3) collaborative leadership style, and 4) valuing teachers' professional learning, that influenced decision-making and sentiments that led to school improvement outcomes in two case study schools. A key feature of school improvement is that it is context-dependent (Harris and Jones 2018). We further suggest that contextual leadership attributes impact on decisions school leaders make and influence staff sentiment that impact outcomes in school improvement. Evidence about

leadership attributes has the potential to contribute to professional learning discussions in schools about school improvement.

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