

Citation:

Davis, N. E., Mackey, J. & Stuart, C. (2015). *Leadership strategies for a future focused intermediate school - A case study*. Paper presented at the American Education Research Association Annual Meeting, Chicago, 16-20 April. AERA Online Paper Repository

Leadership Strategies For A Future Focused Intermediate School - A Case Study

Niki Davis, Julie Mackey and Carolyn Stuart

University of Canterbury e-Learning Lab, Christchurch, New Zealand

Abstract

How does a middle school principal effectively lead equitable learning with digital technology in collaboration with her school and its communities to improve student outcomes? This paper presents the leadership strategies employed in a path-finding intermediate school within New Zealand, a nation that recognises children from indigenous and poor communities as 'priority learners'. The study answers Levin and Schrum's (2013) call for other exemplary case studies on distributed leadership and systems thinking in 21st century schools. Their 'jigsaw' of eight leadership strategies was present, and it was found that changes to the school culture were required before the vision could emerge. The principles and practices of justice were supported through the inclusion of five diverse principals within the research team.

1. Objectives and purposes

The objective of K-12 schools must include preparation of children and young people for their future in a knowledge society that is already dependent on technology in most sectors, and this is very challenging for school leadership (Dexter, 2008; Levin & Schrum, 2012 & 2013; Wylie 2009). In addition, the research of school leadership is very challenging in the complex and somewhat chaotic environments and embedded ecologies that make up schools and school systems that will continue to evolve under multiple conflicting pressures. Berliner (2006) and others have also clarified that education must also argue for more equity for impoverished in the interests of justice for those are educationally marginalized.

This paper presents the leadership strategies employed in a path-finding intermediate school within New Zealand, a nation that recognises children from

indigenous and poor communities as 'priority learners'. Levin and Schrum (2013) researched in-depth case studies of award-winning leaders of schools and districts where technology had been used successfully as a driver of school improvement. They identified a 'jigsaw' of eight equally important pieces, all of which interact and are essential to sustain successful technology integration in K-12 schools: vision, leadership, school culture, technology planning and support, professional development, curriculum and instructional practices, funding and partnerships. Following further analysis of key factors beyond technology leadership they called for other exemplary cases. This paper presents one such case.

The principles and practices of justice were supported through the inclusion of four diverse principals within the research team. Our case study focused on the question: How does a middle school principal effectively lead equitable learning with digital technology in collaboration with her school and its communities to improve student outcomes?

2. Perspective(s) or theoretical framework

The evolution and co-evolution of education and digital technologies is evident in most places, including new forms of schooling that are mediated through digital technologies (Davis, Eickelmann, & Zaka, 2013). However, most schools find this evolutionary change embedding digital technologies where appropriate into schools very challenging and difficult to sustain because leadership of such change requires sustained system thinking across many interacting components (Levin & Schrum, 2013).

There is an increasing base of research into school leadership that indicates that technology integration within and across schools is necessary in order for students to develop relevant future-focused knowledge and skills. Dexter (2008) reviews such research to indicate many ways in which leadership matters for promoting technology integration. For example, administrators need to be involved in their schools' technology development innovative projects and to support their use, including modelling the purpose and value of relevant software applications (Stuart, Mills, & Remus, 2009; Williams, 2008).

3. Methods

The overarching methodology was an in-depth, collaborative case study investigation of one middle school that was purposefully selected (Maxwell, 2005) for its reputation in using digital technology to transform teaching and learning. The school was regarded as a 'beacon' exhibiting sustained maturity of ubiquitous, open and equitable use of digital technologies to facilitate whole school learning. Leading this change in 2012 was a principal highly respected both within and beyond the school. This intrinsic case provided a valuable opportunity to scrutinise the nature, context, components, interrelationships, and complexities of effective technology leadership in the school community. The purpose of the research was to identify and make explicit the leadership practices where technology has been used to equitably transform practices that benefit students' learning.

The collaborative investigation included four principals as co-researchers alongside the university investigators to increase the opportunity for justice. All collaborating principals remain keen to interpret and apply the research to enhance student outcomes in their own schools while also assisting others. All were leaders of elementary schools with 'priority learners' including those living in what Berliner (2006) would identify as 'poor' neighbourhoods. One of these principals was Pacifica and led a school with a high percentage of Maori and Pacific learners. As knowledgeable and experienced peers, these co-researchers probed deeply into the nature, context, components, interrelationships, and complexities (Yin, 1994) of effective technology leadership in the school. Case study is appropriate for understanding processes and the effects of contextual characteristics and to facilitate action as "insights may be directly interpreted and put to use" (Cohen & Manion, 1994, p.123). Alongside the university researchers, the co-researcher principals drew on their own experiences of leading schools to guide, enrich and inform data gathering, analysis and opportunities for dissemination. The methodological decisions were made collaboratively with the principals with guidance from the educational researchers and in consultation with the school community. The underlying principle was that for transformative practice to be sustained, participants need to be closely involved in all aspects of the design and the investigations.

4. Data sources and materials

Data were drawn from multiple sources beginning with a series of interviews and observations in 2012, followed by two further years of data collection. Levin and Schrum's (2012) interview schedule and observation protocols were adopted with some minor adaptations to suit the New Zealand context. Over the three years interviews were conducted with the school principal, six teachers, the technology service provider, groups of students and parents, as well as the elected Board of Trustees. Classrooms were observed as well as an event for Pacific parents. Data were also drawn from recordings of the six project team meetings held throughout 2013 and 2014 where the team members collectively discussed and interpreted the strategies, implications and effects of leading digital technology initiatives within the school. The research team worked guided by a collaboratively written Code of Conduct and an Advisory Board. Two leading researchers in the same field overseas, Lynne Schrum and Bridget Somekh, acted as critical friends to the authors.

Data analysis was ongoing and iterative; the research team worked collaboratively throughout the data analysis process. Levin and Schrum's eight dimensions of technology leadership was the first framework deployed for analyses introduced by Schrum in her role as a critical friend. Data analysis was also informed at a conceptual level by Davis et al.'s (2013) evolutionary framework to enable coherence between the multiple perspectives seen as overlapping ecosystems, including a classroom, networked school and its communities. In addition, Robinson, Hohepa and Lloyd's (2009) eight characteristics of effective leadership provide additional theoretical lenses through which to interpret and analyse the data.

5. The role of the four collaborating principals

The four collaborating principals did not have equivalent roles and individual roles evolved with time and changes in their employment. The project was stimulated and the TLRI funding proposal was collaboratively written with the principal of the case study school, Carolyn Stuart, while she was principal of Tawa Intermediate School. In that role Carolyn was already open to questioning by the many visitors that she and her staff hosted in the school and it became apparent as the research progressed that the welcoming of visitors and visits to other schools was effectively one of her leadership strategies to promote the school's evolution to become a leading future-focused school with strong ICT. It was Carolyn who recruited the other principals with whom she already had a trusting collegial relationship and it became clear to the authors that this included great respect for Carolyn, who always responded to questions in ways that provided useful information and often inducted her less ICT-savvy colleagues in a caring way to aspects of the technology with which they were not familiar. The whole research team recognised Carolyn's willingness to be placed in a potentially vulnerable position as key informant and this was managed from the outset. In addition to the high respect that Carolyn was held by the members the project's Code of Conduct clarified roles and protocols to protect all participants. At times Carolyn was joined as key informant by her deputy principal, who also became an Acting Principal of the school for a few months. However, it is interesting to note that the conference presentation styles collaboratively designed by the research team continued to place Carolyn in a 'hot seat' (like the TV show *Master Mind*) for the ULearn conference in 2013, which also informed the NZEALS conference presentation (Lye, Stuart, Henderson, Jeffries, Simpson, Rickard, Davis & Mackey, 2014). Carolyn's professional role changed dramatically when she resigned as principal to become the educational consultant for the nationwide Network for Learning (N4L) in April 2013, and she negotiated permission to continue as a researcher and key informant; she commented on a number of occasions that the research helped to keep her 'grounded' in the schools that the N4L was being constructed to serve. The threat to the research by Carolyn's departure was managed carefully by limiting the case study to the period for which she was principal. Carolyn also contributed more to dissemination processes than other principals, which is why she is named as lead at times (Stuart 2014; Stuart, In Press 2015)

The role of the other principals was less intense, although all welcomed visitors to their school including the project team and so all had some experience of being interrogated. As researchers all the principals acted as members of the research interrogating one another on their leadership practices with ICT, particularly Carolyn and her deputy in charge of ICT. All principals also engaged in data analysis and writing, mostly during the project's retreats. From an equity perspective, it became clear to the authors that the principal of the least resourced school with the highest proportion of 'priority learners' asked some of the most important questions and it was interesting to see how important it was for him to repeatedly rephrase his questions until the answer could be applied to his context and fit with his understanding of ICT, which was not strong. Although

the research design was for the main school case study to take place during the first year to be followed by smaller studies of change in the other schools, it was clear that the principals applied their finding when it fitted their needs. All of them applied new understandings gained from the project during the first year. A publication for their professional association of principals, the New Zealand Principals' Federation, encapsulates the most important aspect for each of them, including the principal who has replaced Carolyn in the case study school (see Stuart et al., 2015, In Press).

6. Findings

There is not enough space to present the case study of the school in this paper and its production is still in progress so that a paper will be submitted to a journal within a few months (Mackey et al., In preparation). Instead we present our findings on the principles introduced earlier. Our most important finding relates to the addition of a new model on top Levin and Schrum's (2013) 'jigsaw' of eight equally important pieces, all of which interact and are essential to sustain successful technology integration in K-12 schools: vision, leadership, school culture, technology planning and support, professional development, curriculum and instructional practices, funding and partnerships. Schrum joined the 2013 retreat of the project and all of the principals recognised value in the eight pieces and their holistic application. The project therefore used the eight principals for the ongoing literature review and deductive coding of the data gathered during 2013 and 2014.

However, a secondary inductive analysis of this large dataset by the whole research team in the final retreat with the goal of communicating key findings resulted in the emergence of a new model that describes the process in which the conditions for innovation are created and maintained. Carolyn, the key informant was the one who came up with the analogy of a spinning top and she continued to work with the authors and their research assistant, Pinelopi Zaka, to produce the graphic in Figure 1. In Stuart (2014) she describes it as follows:

Reminiscent of a child's spinning top, authentic relationships are the pivotal point of the organisation. Coming from the centre are shared vision and values leading to future-focussed expectations. Trust in people and trust in process are the next layer out, with trust in process leading to a willingness to comply and trust in people permitting freedom to innovate. Finally the momentum which keeps the top spinning is inquiry-based practice. It is important to note that the tension between the willingness to comply and the freedom to innovate gives the spinning top balance. Too much compliance will lead to bored disengagement, but innovation without the structure that compliance brings, will cause an organisation to get the speed wobbles. Spinning tops with speed wobbles career away on unpredictable paths.

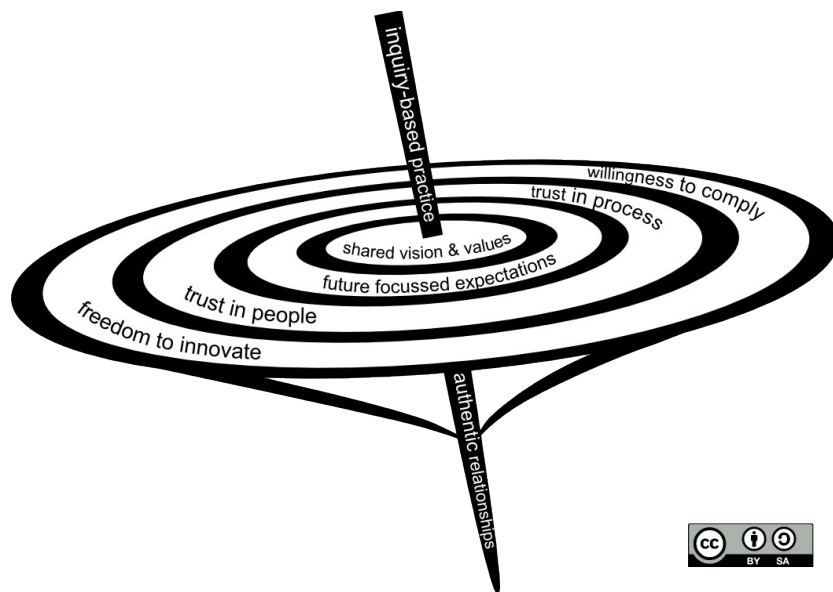


Figure 1. The conditions for maintaining ICT innovations on a spindle of inquiry-based practice grounded with authentic relationships (First published in Stuart, 2014, with permission).

The eight conditions our research has identified are: (1) shared vision and values, (2) future-focussed expectations, (3) trust in people balanced with (4) trust in process, (5) willingness to comply balanced with (6) freedom to innovate, (7) inquiry-based practice supported by (8) authentic relationships. The model also indicates ways in which they are dynamically interrelated. Illustrations of these keys will be found in the descriptions of the case study and the projects undertaken in the other four principals' schools (Mackey et al, In Preparation; Stuart et al., 2015, In Press). The authors would also like to note that the spinning top in Figure 1 also fits our process in this research and that it is likely to be one of the ways in which educational research can become more equitable.

5. Substantiated conclusions

The school is an intermediate school, catering for students around 11 to 13 years old. This presents unique leadership challenges in that students are only at the school for the two years between elementary and high school and there is a relatively short time to develop relationships with students and their families. It is near the higher end (8/10) of a socio-economic index used to allocate school funding (less funds are allocated to schools with a higher index; in the USA it would have been eligible for a low proportion of free or reduced-price meals). Students at the school were diverse (European, 48%; indigenous Māori, 20%; Pacific, 15%; Asian, 9%; other, 8%).

While the case study cannot be presented in the space available we can confirm that all eight factors identified by Levin and Schrum (2012; 2013) were present and continuing to evolve. During the three years of case study research the role of principal has been transferred from the original principal to another principal in the research team who was competitively appointed to lead the school.

Interestingly the deputy principal responsible for technology also joined the research team and led the school as an interim principal for three months. All of the school's principals were observed to consciously focus on multiple aspects while progressing the school towards its vision focused on improving student outcomes. The strong vision to “engage, grow, inspire” students in the 21st century was evident throughout the school and clearly understood by the teachers. There was a shared understanding that use of digital technologies was a means to address the vision and not an end in itself. Teachers were free to try different tools, depending on the needs of their class, as long as the innovations were seen as fit for purpose. An important leadership strategy was to use the vision to steer by highlighting where practices were relevant to the vision, while also giving time for ‘things to grow’ and coaching strategically.

However, careful questioning of the original principal by other principals, particularly the Pacifica principal, identified that the school's vision was not worked on until earlier strategies had changed the school culture over 15 months so that more ‘voices could be heard’ and, in addition, the leadership team had begun to use technologies to support their work. For example, the leadership team used Google docs to support strategic planning and the principal supported her peers to see what those tools were capable of. The adoption of relevant technologies by the school's leadership team before it was applied within the classroom was a strategy that was repeatedly emphasised, as well as giving the teachers access to relevant technologies before their students. It was interesting to note reports of the use of this strategy with Google Docs into other schools led by the collaboration principals. The research team reflected that without this experience it may not have been possible to distribute the leadership as effectively or to develop such a shared vision.

The questions that were put by the collaborating principals to the principal of the case study school were often repeated in a number of ways before the strategy became clear. It was necessary to simplify the complex demands on school leaders to enable the strategy to be seen to be relevant to another context, particularly for schools with some low income communities.

6. Scientific and scholarly significance of the study

The study answers Levin and Schrum's (2013) call for other exemplary case studies on distributed leadership and systems thinking in 21st century schools. Their ‘jigsaw’ of eight leadership strategies was present, and it was found that the emphasised strategic action changed over time depending on the state of the ecology, including the school culture. The action oriented ‘spinning top’ analogy of six conditions on a ‘spindle’ of inquiry-based practice grounded with authentic relationships complements Levin and Schrum's earlier analogy of a jigsaw of eight pieces.

Berliner (2006) and others have also clarified that education must also argue for more equity for impoverished communities so that “scholarly interests can align more closely with the interests of justice for those who have been and are educationally marginalized” (King & Gordon, 2014). The principles and practices

of justice were supported through the contributions of additional principals within the research team because they sought strategies that were relevant to their 'poor communities', as called for by Berliner (2006). We recommend that strategy to others researching educational leadership while also noting the importance of strong authentic relationships from the start of such projects, including grant writing.

While the deeper fuller description gathered over three years that was called for by Levin and Schrum (2013) is not possible in this version of the case study, a large volume of evidence has been gathered that will be used to describe the detail elsewhere. This school is increasingly supporting cloud computing and 'bring your own device' to school. Like the cases they studied, the need for such strategic leadership is continuing and there is an increasing need to source technology in collaboration with school communities in equitable ways. Additional publications are planned to include accounts of the leadership strategies that have adopted and adapted into their own schools by our collaborating principals. Such accounts may expand the understanding of ways in which relevant strategies can be transferred by principals with less skill and knowledge of digital technologies, which is an additional issue.

Acknowledgements

The authors would like to acknowledge TLRI funding managed by NZCER as well as all the participating schools, their staff, students, communities and Boards of Trustees. The project's critical friends Lynne Schrum and Bridget Somekh are also thanked for their guidance and support.

References

- Berliner, D. (2006). Our impoverished view of educational research. *Teachers College Record*, 108, 949-995.
- Cohen, L. & Manion, L. (1994). *Research methods in education*. 4th Edition. London: Routledge.
- Davis, N.E., Eickelmann, B. & Zaka, P. (2013). Restructuring of educational systems in the digital age from a co-evolutionary perspective, *Journal of Computer Assisted Learning*, 29(5): 438-450.
- Dexter, S. (2008). Leadership for IT in schools. In J. Voogt and G. Knezek (eds.), *International Handbook of Information Technology in Primary and Secondary Education*, (543-554) Amsterdam: Springer.
- Levin, B. & Schrum, L. (2012). *Leading technology-rich schools: Award-winning models for success*. New York: Teachers College Press.
- Levin, B. & Schrum, L. (2013). Using systems thinking to leverage technology for school improvement: Lessons learned from award winning secondary schools/districts. *Journal of Research on Technology in Education*, 46(1), 29-51.

Lye, A., Stuart, C., Henderson, B., Jeffries, T., Simpson, P., Rickard, K., Davis, N. & Mackey, J. (2014). How can school principals effectively lead equitable e-learning in collaboration with their school communities to improve student outcomes? Presented at NZEALS, Wellington, 29 April-1 May. Retrieved from <http://www.nzeals.org.nz/pdfs/Mackey.pdf>

Mackey, J., Davis, N.E., & Stuart, C. (Submitted). Leading a future focused school. *SET: Research Information for Teachers*.

Maxwell, J. A. (2005). *Qualitative research design: an interactive approach*. 2nd Edition. Thousand Oaks, CA: Sage Publications.

Robinson, V., Hohepa, M., & Lloyd, C. (2009). *School Leadership and Student Outcomes: Identifying What Works and Why*. Wellington: Learning Media for the Ministry of Education.

Stuart, C. (2014). Six keys for digital leadership. *New Zealand Principal*, November 2014, 6-8.

Stuart, C., Henderson, B., Jeffries, T., Lye, A., Simpson, P., Mackey, J & Davis, N.E. (In Press 2015). Extending innovative leadership to enable e-learning for better student outcomes in primary schools, *New Zealand Principal*, March 2015.

Stuart, L.H., Mills, A.M., & Remus, U. (2009). School leaders, ICT competence and championing innovations. *Computers & Education*, 53, 733-741.

Williams, P. (2008). Leading schools in a digital age: A clash of cultures. *School Leadership and Management*, 28(3), 213-228.

Wylie, C. (2009). Tomorrow's Schools after 20 years: can a system of self-managing schools live up to its initial aims? Retrieved from

<http://www.victoria.ac.nz/education/research/nzaroe/issues-index/2009/pdf/text-Wylie.pdf>

Yin, R. K. (2014). *Case study research: design and methods*. 5th Edition. Los Angeles, CA: Sage.