

**Project Team:** *Principal investigators:* Dr Frances Edwards (University of Waikato), Prof Bronwen Cowie (University of Waikato) *Research team:* Dr Suzanne Trask (Research Assistant, University of Waikato), Nicola Gibson (Lead Teacher, Pukekohe Intermediate School), Libby Bickley-Barry (Puni School), Michelle Wallis (Puni School)

## Project Description

While teachers and schools have access to an increasing range of data, the challenge is using these data to support student learning outcomes. This project worked with a range of schools from one Kāhui Ako to develop a common narrative to better understand and use the information collected about students. The development of teacher data literacy allowed teachers to zoom in to consider individual student or small group data, and zoom out to consider larger data sets including data across schools, in order to make better founded teaching and learning decisions. The participating teachers then acted as coaches to their colleagues, through the use of a Data Conversation Protocol (DCP) and by sharing their teacher inquiries.

## Aims

This project aimed to understand how to develop teacher data literacy as a process that involves generating and using data to inform teacher action with classes and individual students, and through consideration of the implications of student data collated across a Kāhui Ako. Using a design-based implementation research approach, we explored the nature of effective development and support for teachers as data coaches of their colleagues as a means of developing a culture of proactive data use.

## Why is this research important?

Despite increased interest in evidence-based practice internationally and within New Zealand, research consistently reports that many educators do not make effective use of the student data they collect. Currently there is concern regarding the level of teacher data literacy in New Zealand (ERO, 2017). This project provided a focus on how teacher data literacy could be increased across schools within a Kāhui Ako through the use of data coaches, and thus will inform professional learning of data literacy (including data formative use) more widely.

## Key Findings

**Data literacy in action in the classroom:** teacher data literacy was seen to improve when teachers were given support and time to interrogate data. They understood the need to think about students' current learning in terms of both the past and the future, with a focus on learning pathways. Timely, strategic and intentional use of relevant elements of a robust standardised data set attributed value to data that might have been viewed as irrelevant/out of date if teachers had probed only to surface-level features rather than to root causes and implications going forward.

**Data coaches as change agents:** teacher-coaches positioned themselves as co-learners with colleagues. They drew on the authority of their learning and experience developed during workshops and through their own inquiries using a data conversation protocol (DCP). The tools and strategies developed were also important sources of self-confidence; taking time to build trust was important.

**Benefits of zooming in and out change:** processes of 'zooming in and out' from individual student data to class, school and national-level data were important and useful. Zooming in to analyse data at item level for individual students enabled teachers to consider root causes and to target their teaching for those students. Group analysis of school and across-school Kāhui Ako PAT data allowed teachers to gain a greater appreciation of the strengths and weaknesses across schools and levels, and informed wider PLD decisions and targeted areas for action. This led to a sense of collective responsibility.

**Protocols, materials and ways of working:** Implementing a standardised assessment tool across the Kāhui ako proved useful. The DCP supported collaborative analysis of student data by providing a structure, language, and specific purpose for the various analytical steps. Conceptualising the coaching process as a roadmap or network of activities and pathways, including some road blocks, rather than as a linear pathway supported responsive approaches. Teacher case studies captured some of the benefits and pitfalls of peer coaching, including the relational and emotional dimensions of coaching colleagues.

## Implications for Practice

### For individual teachers

- In order to make best use of the data they collect from students, teachers need to be allocated time and support to develop data literacy skills.
- A tool like the Data Conversation Protocol can assist teachers to slow down and question: How was the data generated? What *could* it mean in terms of student thinking and prior experience of different teaching strategies? What might be the root cause of student responses? What is the horizon for student development?
- Teachers need to consider how they can plan for front footing for students in their classes—anticipating what students need to know to learn upcoming material and supporting them in small groups to learn this and a bit beyond this in order to support student self-efficacy and understanding. In planning for action, the notion of horizon knowledge can help teachers take a longer-term view of students' learning pathways.

### Data coaching to build capacity and culture

- For collegial data coaching to be successful school leaders need to be supportive and clear that their focus is on improvement
- In order for data literate teachers to act as effective in-school data coaches for their colleagues they need to be able to develop a coach/coachee relationship with high levels of trust with a shared focus on improvement not judgement.
- Data coaches need access to tools and resources to enable productive coaching - these can include evidence from their own inquiries as exemplars, the project DCP, and knowledge of progression frameworks

### For schools/ Kāhui Ako: For collaborative analysis and action

- School leaders and teachers within a community share responsibility for student learning across their school and Kāhui Ako. It is important that trust is built within all layers of a Kāhui Ako and that active support is given to the development of a school data use culture.
- Teacher agreement about the tools used (including standardised assessment data) and consistency of practice (including moderation) is needed to generate data that is trustworthy and can be meaningfully collated, analysed and acted on within and across Kāhui Ako
- There is value in meeting across year levels and schools to share and discuss data, possible meanings and implications and action on data.

### Cross school meetings to discuss data and actions

- Teachers valued having dedicated time to come together from different schools to co-construct definitions for key constructs, analyse research articles and share the nature and outcomes of their work with students. A key issue raised by the teachers in the last year of the project was how they could sustain their collective and collaborative work. This challenge was not resolved.

## Our Partners

Our partners were primary and intermediate teachers, teaching at a range of year levels from the Pukekohe Kāhui Ako:

Nicola Gibson, Diana Jolly, Kim Woolliams (Pukekohe Intermediate School); Michelle Wallis & Libby Bickley-Barry (Puni School); Lisa Goldsack (Buckland School); Melinda Bolton (Paerata School); Lyndal Fonokalafi (Pukekohe East School) and ten other teachers from across the Kāhui Ako schools

## Contact Details

Dr Frances Edwards, [frances.edwards@waikato.ac.nz](mailto:frances.edwards@waikato.ac.nz)  
University of Waikato, Hamilton, New Zealand