

Early Education



Volume 66 *Spring / Summer 2020*

- Teacher Led Innovation Round 3
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- Peer learning in ECE
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- Children, families in prison and ECE practice
- Reflexes and support early learning



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Contributions

Contributions of articles and photos are welcome from the early childhood community.

Early Education welcomes:

- Innovative practice papers with a maximum of 3,500 words, plus an abstract or professional summary of 150 words and up to five keywords.
- Research informed papers with a maximum of 3,500 words, plus an abstract or professional summary of 150 words, and up to five keywords.
- Think pieces with a maximum of 1500 words.
- Commentaries on management matters with a maximum of 1500 words.
- Book or resource reviews with a maximum of 1000 words.

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Data, knowledge, action

A teacher led inquiry into data informed teaching in early childhood education

Lynda Hunt, Tara McLaughlin, Sue Cherrington, Karyn Aspden and Claire McLachlan

Introduction to the inquiry

The Data Knowledge Action (DKA) research initiative began in 2017 when a partnership formed between a multi-university research team and the Ruahine Kindergarten Association to explore how innovative data tools can support kaiako (educators) to improve curriculum experiences for children. The DKA programme of research is guided by the premise that effective data can lead to knowledge and knowledge can lead to action for improved teaching and learning (Earl & Timperley, 2008; Gunmer & Mandinach, 2015).

In 2017 a pilot study was launched to trial and refine the DKA data tools in a local kindergarten. The findings of this pilot suggested that the DKA data systems could be powerful tools to support kaiako to gain new insights into children's experiences of curriculum and learning. Our experiences in this project showed access to a broader range of data helped the team to identify new ways to support children, through a consistent team-based approach, that resulted in positive learning for the child and success for the teaching team.

In 2018 we secured funding from the Teacher Led Innovation Fund (TLIF) to expand on this pilot in an 18-month inquiry involving four kindergartens. This project focused on using the DKA data tools to inform each team's specific inquiry into children's curriculum experiences. The inquiry also included a focus on understanding the capacities and skills required to use data effectively and the supports kaiako need to collect, analyse and use data in their settings.

In July 2018 Lynda Hunt took on the role of project lead with the support of four external partners and the Ruahine Kindergarten Association leadership team. The four participating kindergartens began their research journey by deciding on a question of inquiry focused on an area of learning they were keen to explore. Three of the team inquiries centred

on supporting children's social and emotional learning and one team focused on children's engagement, learning and resilience in weekly excursions to a local nature reserve.

This article outlines the key aspects of the DKA systems, including a description of the teacher-researcher role, the data tools, and the role of external partners. This is followed by an overview of some of the professional learning that took place over the inquiry and a brief summary of each team's journey.

Teacher-researcher role

At the beginning of this project each team selected a teacher-researcher for their kindergarten from their teaching team. Each teacher-researcher undertook ongoing training in how to collect, analyse and interpret data using the DKA data tools. They then took responsibility for collecting data in a partner kindergarten. This avoided the potential distractions that could arise when trying to collect data in their own settings. The four teacher-researchers began training in Term 4 2018. This involved four full day training sessions led by our critical friends, practice data collection sessions followed by ongoing termly meetings to support their growing data skills as the project progressed.

This training focused on a range of data and leadership skills giving teacher-researchers the knowledge and confidence to play an active role in promoting data informed teaching both in their partner kindergarten and within their own team.

In 2019 data collection began. Each team engaged in two terms of data collection with a term of data review, action planning and implementation between each data gathering cycle.

DKA data tools and collection

During the beginning phases of the project, the project team gained full ethics approval through Massey University and protocols for the ethical conduct of research with children and families were followed throughout the project. This included

gaining parental consent for all participating children and seeking child assent for specific data collection activities. During an active data collection term, teams identified focus children (i.e., children they were curious to know more about) and data were collected on a focus child each week for 6–10 weeks depending on scheduling. Thus, each term of data collection had between six and 10 days of data gathered. Below is a brief description of our DKA data tools.

The Child Experience Observation System (CEOS) (McLaughlin et al., 2018b).

The CEOS involved a two-hour observation of a focus child. The observation was conducted by the teacher-researcher using a tablet with installed software to record predetermined duration and frequency codes. All codes were operationally defined and agreed upon with teams. The coding categories included things such as: the time spent in different areas, engagement in different types of play and social engagement with peers and teachers. The observation software was used to analyse/summarise the data recorded. Graphs with information about each code were prepared by inserting the summarised data into a graph template. The teacher-researcher added observation notes where needed to give context to these graphs. Graph reports were shared with kaiako then discussed at team data share meetings, which took place at least twice during a data gathering term. Data ‘walks’ to look at graphed data across children were held at the end of inquiry cycles. CEOS data provided information about kaiako and peer interactions and children’s engagement in curriculum experiences.

The Play and Learning Analysis System (PLAS) (McLaughlin et al., 2018c).

On each day of data gathering a focus child was invited to wear a GoPro camera on a chest harness. The teacher-researcher selected and made clips to share with the teaching team to help shed light on aspects of the team inquiry. These clips were reviewed in data share meetings using a pre-developed process and set of reflective questions to prompt team reflection and discussion. PLAS data revealed curriculum experiences from the child’s perspective and frequently gave kaiako detailed and valuable insights that led to shifts in their understanding and practice.

The Child Information Profile (CIP) (McLaughlin et al., 2018a).

The child profile is a series of paper forms, each of which focuses on a different aspect of children’s learning (e.g., information about the child’s

communication and oral language, social-emotional capabilities, dispositions, increasing capability to meet Te Whāriki’s (Ministry of Education, 2017) learning outcomes, and their interests and preferences). These forms are designed with both targeted open-ended questions and structured questions related to the aspect of learning. Teams were encouraged to consider, discuss and record information on the sections they chose to use.

The child profile is primarily designed to prompt team discussion and reflection. There are two recommended approaches for completing the profile, each designed to maximise team discussion and learning. The first approach is to have all team members complete a section separately followed by team discussion about the different perspectives revealed in order to reach a shared understanding; the second is to complete the section collaboratively while encouraging all team members to share their views. Both approaches are intended to highlight different perspectives within the team and reach a deeper understanding about each focus child as a learner. Selection and completion of sections depends on each team’s overall purpose. Selecting and completing all or most forms for a few children provides a holistic perspective; while completion of select forms for a larger group of children provides a deeper focus in a targeted learning area. In our project, one team completed all sections of the profile and three teams chose and completed one or two sections using areas that best matched their inquiry focus.

Learning stories

Teams continued to write learning stories over the inquiry. Kaiako reported that they included insights gained from data using the above tools to write learning stories to illustrate and document learning that had taken place.

External partner role

The extensive experience, knowledge, skill and commitment of our critical friends were key to the success of this project. Our critical friends supported tool selection, training and provided ongoing support for teacher-researchers, teams and the project lead. Their research knowledge, expertise and support were greatly valued in our ongoing data review and action plan meetings. Critical friends challenged kaiako when needed and gradually decreased their support over time to empower kaiako to gain confidence, make decisions and take on leadership roles within the inquiry. The external

experts provided another tier of valuable support and advice over the project. A major role included facilitating focus group sessions with the teaching teams and teacher-researchers to gather some independent data on our progress within the project.

Professional learning across the TLIF project

There were many common team experiences over the course of the TLIF project. At the beginning of the project all teams said kaiako experienced varying degrees of initial uncertainty and apprehension about the research, and their ability to 'get things right'. Kaiako later commented that these fears were unfounded and reported that using the new data systems was less challenging than they had initially expected. The initial concerns that kaiako had about being recorded in video footage typically diminished after a few weeks, with cameras soon becoming accepted as part of normal practice.

Teacher release days were used for data gathering and offered to teacher-researchers and teams each term to recognise the extra time kaiako spent on project work. However, managing time for full team TLIF meetings to discuss progress and plan next steps was often more challenging. This was compounded by changes in teaching teams. Each kindergarten experienced changes in staffing which disrupted the progress of their inquiry for a time. All teams were also involved in preparing for ERO reviews over the inquiry period.

All teams reported huge gains in their confidence and skill to analyse, understand and use data. Kaiako indicated that the initial support that was provided to interpret data was crucial, and this helped them to develop independent data skills relatively quickly. The insights that data provided led to increased enthusiasm about data use. Teams commented on the way the data tools allowed them to examine their question of inquiry from different and much wider angles than their pre-existing methods would have enabled.

Teams described the way data sparked deeper team conversations and how these discussions led to a more collaborative and consistent team approach. This had a positive impact on team planning, assessment and evaluation practice. Planning became increasingly data informed and involved teams identifying and implementing targeted teaching strategies that led to a more intentional teaching approach for children.

Data also provided evidence about the progression of children's learning over time. When kaiako

shared data with whanau (extended family) to illustrate progress in children's learning they reflected that this had helped build stronger relationships with whānau. Discussions about data often prompted families to share what was happening at home leading kaiako to gain an increased understanding about the child.

The data focus of the inquiry, increased kaiako's awareness about gaps in their knowledge about focus children and prompted them to find ways to fill these gaps. Data affirmed team knowledge about some children, while it also challenged assumptions kaiako had made about others. This led to new insight and understanding about these children and an awareness that "*What we think is happening, isn't always happening*".

Team inquiry overviews

Over and above the common threads described above each team experienced a unique inquiry journey. The four TLIF teams in our inquiry have each written an account of their experiences in the articles that follow. A brief summary of each team's experience follows:

Hokowhitu's inquiry explored ways the team were supporting children's social competencies. Their story highlights the valuable role that video clips played in revealing subtle cues in children's interactions. This changed the team's view about some focus children and enabled them to respond with appropriate supports and interventions in the moment. This enabled the team to build stronger relationships with children and whānau.

The **Kelvin Grove** team explored the impact their 'Kind Hearts' philosophy (based on the vision of the local Kind Hearts Manawatu organisation) was having on children's interactions and their play. Data from this inquiry made kaiako aware how important it was to explicitly teach strategies to support Kind Hearts actions. Their story describes some of the impacts that data informed teaching has had on their team.

Riverdale's inquiry explored the learning that took place on trips to Ahimate Reserve, a wilderness area adjacent to their kindergarten where kaiako regularly took small groups to explore, enjoy and care for this natural environment. In cycle 1 they focused on children's sensory engagement on trips. In cycle 2 they expanded this focus to gather data about children's risk taking and resilience on trips and began to explore the links between learning and their kindergarten philosophy. The team developed two new profiles to support this change. Their team

story highlights how data reflected the uniqueness of each child's experience and the many variables that impacted on each trip.

West End's initial inquiry explored the social skills children used when playing and learning with their peers. Data, especially from the CEOS graphs, revealed surprisingly low levels of collaboration and assertiveness in the focus children observed. The team realised that for many children a low sense of self was making it difficult for them to enter play and share their ideas. The team recognised they had to take a step backward to build children's sense of self before working on their social skills. This led the team to reframe their inquiry focus on ways they could intentionally strengthen children's positive sense of self.

Summary

The team inquiry journeys that follow highlight each team's unique experiences. Across the teams, there is a strong sense that using the range of DKA data tools helped strengthen and deepen kaiako knowledge about children and their experiences of curriculum specific to their inquiry focus areas. This has, in some instances, significantly re-framed kaiako views of children. Shifts in kaiako practice included more collaborative planning for individuals and groups of children, strengthened relationships with whānau, and greater intentionality in their teaching interactions with children. These shifts in kaiako knowledge and practices have supported meaningful and measurable impacts on children's learning. The repeat data on target children provided evidence of progression in children's learning. Progress was also evident when evaluating plans and reviewing learning stories. Changes in child outcomes have included increased engagement, exploration, risk-taking and positive social interactions.

The TLIF project has supported teams to gain confidence and capacity to use the DKA data tools to inform their teaching and support children's learning. Teams valued each of the different data tools and found when these were used together the multiple lenses provided a more robust and comprehensive view of children's learning and development. As the project progressed, teams began to adapt and integrate the systems with their

existing approaches to documentation, assessment and planning to support their sustained use of data-informed teaching. A key aspect of supporting data confidence and capacity in our inquiry was the support of our external partners.

Participation in the Data Knowledge Action project has highlighted the value of data to improve teaching practice and strengthen outcomes for children's learning. Kaiako have made huge gains in their confidence and skills to collect, analyse and use data in their everyday teaching. Moving forward, teams are continuing to explore ways to adapt the DKA data tools and integrate the learning from this inquiry into their daily practice to ensure data will continue to inform their teaching beyond the 18 months of this funded inquiry.

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