

CULTIVATING WHANAU- NGATANGA AND COLLAB- ORATION: EXPLORING THE IMPACT OF INQUIRY-BASED PROJECT LEARNING ON KAIAKO AND TAMARIKI IN EARLY CHILDHOOD EDUCATION IN AOTEAROA

DR SARAH PROBINE, JO PERRY AND DR YO HETA-LENSEN

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Contact:
epress@unitec.ac.nz
www.unitec.ac.nz/epress/
Unitec | Te Pūkenga
Private Bag 92025, Victoria Street West
Auckland 1142
Aotearoa New Zealand

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ABSTRACT

This paper examines the role of collaboration in inquiry-based project work in early childhood education in Aotearoa New Zealand. It draws upon findings from a research project exploring how inquiry-based project learning has been interpreted and undertaken in early childhood settings in this context. Inquiry-based project learning is a collaborative approach, underpinned by sociocultural theories, that supports a democratic view. The study is positioned in an interpretivist qualitative paradigm and is informed by sociocultural theories. A narrative inquiry approach informed the study design. Phase One of the project, which comprised a national questionnaire sent to all early childhood centres registered on the national ECE data base was completed in 2021. Phase Two, underway at the time of writing this paper, has involved a small number of purposively selected early childhood settings. At each of these settings, data collection has comprised an interview with the teaching team about their pedagogical frameworks, key influences and teaching practices, and a period of classroom observations focused on a current inquiry.

Analysis of the data suggests that collaboration is cultivated when kaiako (teachers) prioritise whanaungatanga (sustaining connections and relationships) and have spent time developing pedagogical practices resulting in shared understandings surrounding inquiry-based project work. The impact of collaboration on the learning of tamariki (children) is demonstrated by a series of vignettes from the Phase Two data, demonstrating that developing a collaborative learning culture of inquiry fosters reciprocity, connection, theory making and problem solving.

KEYWORDS

Inquiry-based project learning, early childhood education, collaborative learning

INTRODUCTION

Life in the 21st century is becoming increasingly complex. As we navigate this environment, we have a chance to reimagine what education looks like for our youngest citizens and to consider what value it offers in today's fast-changing society. Developing the skills for navigating complexity and an unknown future are an important focus; however, there are other concepts that also merit attention. For example, the meaning of citizenship within this period of time. Aotearoa New Zealand is now characterised as super-diverse society (Chan & Ritchie, 2019; Ritchie, 2016); multiple perspectives must be carefully balanced with respect to the rights of Māori as the Indigenous people of this country. Arndt and Tesar (2015) assert that early childhood education is "a complex, relational, inter-subjective, material, moral and political practice" (p. 71). Similarly, Freire (1994) argues that education is not neutral, but rather functions as means to either promote conformity or, alternatively, to bring about transformation through teaching tamariki how to participate in a democracy through collaboration. McLeod (2019) explains that, for Freire, education is "a collaborative, problem-posing process of inquiry which starts by questioning assumptions that have been taken for granted and raises awareness of unequal power relationships as part of teaching and learning" (p. 56).

Inquiry-based project learning raises awareness of how privileging teacher knowledge perpetuates unequal relations of power. This approach rejects more traditional conformist approaches and instead empowers tamariki to lead their own learning as they explore and discover answers to their own questions through exploration

and dialogue with their peers and kaiako. Blank et al. (2014) refer to this approach as “negotiated curriculum” to highlight how both teachers and children determine what knowledge is valued. Tamariki work collaboratively, often utilising many aspects of the arts and other cultural tools to represent and adapt their ideas as they co-construct new understandings over time and their kaiako support them to think critically about the ideas they are exploring. Law (2020) argues that introducing critical thinking and critical literacy in early childhood education is a strategy that “prompts children to make connections to prior knowledge and experiences, share perspectives, reflect on ideas and explore possible responses” (p. 26). Taking a critical stance is a learned skill and one that can begin in early childhood, embedded in pedagogies of curiosity, listening and inquiry. In these ways, inquiry-based project learning is an empowering, collaborative approach that supports a democratic view (Chard et al., 2017; Johnson et al., 2019; Lanphear & Vandermaas-Peeler, 2017; Murcia et al., 2020; Stacey, 2019).

In recent years, interest in inquiry-based project learning has gained traction, as more kaiako in both the early childhood and primary sectors recognise its potential to foster the curiosity of tamariki and engagement in their own learning. In Aotearoa New Zealand, interest in inquiry-based project learning burgeoned in the 1980s, when the infant and toddler centres and pre-schools of Reggio Emilia received international recognition (Mawson, 2010; Pohio, 2013). Their approach, along with the Project Approach, conceptualised in America by Katz and Chard (2000), became significant international influences, shaping many early childhood settings’ practices with inquiry-based project learning in this context. The power of these international influences may, however, have overshadowed national imperatives and approaches to inquiry, for example, Māori perspectives of inquiry-based project learning (Alcock & Ritchie, 2018) and the work achieved during the Progressive Education movement by educators such as Elwyn Richardson (MacDonald, 2020). While research has been conducted in Aotearoa New Zealand examining the impact of Reggio Emilia on early childhood education in this context (Bayes, 2005; Haplin 2011; Probine 2015; 2020), little research has examined the approaches and practices of early childhood kaiako in the area of inquiry-based project learning in this country.

INTRODUCING THE RESEARCH

This paper examines the role of collaboration in inquiry-based project learning, drawing upon a current research project that aims to address this gap. The project is exploring how inquiry-based project learning has been interpreted and undertaken in early childhood settings in this context. The research has examined the pedagogical influences that have shaped kaiako thinking, the pedagogical processes for undertaking and progressing an inquiry that have been developed, and has considered how this approach impacts the learning of tamariki. Both the findings from Phase One, and initial analysis of the data collected at the first six settings involved in Phase Two suggest that collaboration is cultivated when kaiako prioritise whanaungatanga and have spent sustained time developing pedagogical practices resulting in shared understandings surrounding inquiry-based project work. The impact of collaboration on how tamariki learn, which is demonstrated by a series of vignettes from the Phase Two data, demonstrates that developing a collaborative learning culture of inquiry fosters reciprocity, connection, theory making and problem solving.

LITERATURE REVIEW

What is inquiry-based learning and what is its value?

At its core, the roots of inquiry-based project approaches lie in social-constructivist and socio-cultural theories that argue that knowledge is subjective and contextual. In alignment with these theories, in inquiry-based project learning, childhood is viewed in a particular way where tamariki are seen as agents of their own learning, encouraged to be curious and ask questions (Stacey, 2019). Interactions and relationships with kaiako are built on listening, encouragement and questioning. Kaiako facilitate conversations that empower tamariki to find their own answers and create their own understanding of their environments. In doing so, tamariki develop agency as they develop the understanding that they have the skills and dispositions to solve their own problems and develop a

growing awareness of their individual identity and who they are as learners (Santin & Torreuella, 2017; Lev et al., 2020).

A key aspect of inquiry-based project learning is that it is collaborative in nature. Tamariki work in groups to form working theories, research, answer questions, discuss, debate and represent their thinking as they construct new understandings (Santin & Torreuella, 2017; Ministry of Education, 2017; Murphy et al., 2016). While Katz and Chard (2000) assert that this process promotes intellectual development, a further value of this approach is that it promotes relationship building. Nxumalo et al. (2020) assert that the collaborative nature of inquiry-based project learning supports children to “build relationships with one another, with their teachers, and with members of a wider community in which they play an important part” (p. xvii). Kokotsaki et al. (2016) argue that the emphasis on relationships and collaboration embedded within this approach fosters intersubjectivity. Nxumalo et al. (2020) support this view, arguing that this approach provides “critical entry points into contextual, creative, meaningful, and justice-oriented curriculum” (p. 1).

Inquiry-based project learning in the context of Aotearoa New Zealand

Te Whāriki. He Whāriki Mātauranga mō ngā Mokopuna o Aotearoa: Early Childhood Curriculum (Ministry of Education, 2017) guides the practices and priorities of all mainstream early childhood education settings in Aotearoa New Zealand. An important aspect of *Te Whāriki* (Ministry of Education, 2017) is that while it provides a framework for curriculum development, it also creates the space for each early childhood setting to build their own localised approach based on the values and priorities of their unique context. Within this framework, early childhood settings may choose to adopt an inquiry-based project approach but are not required to. This bicultural curriculum is underpinned by four key principles: Whakamana (Empowerment), Kotahitanga (Holistic Development), Whānau Tangata (Family and Community) and Ngā Hononga (Relationships). The curriculum positions relationships as a foundational aspect of any learning relationship, which is particularly significant for Māori. It states:

It is through responsive and reciprocal relationships with people, places and things that children have opportunities to try out their ideas and refine their working theories. For this reason collaborative aspirations, ventures and achievements are valued. Connections to past, present and future are integral to a Māori perspective of relationships. This includes relationships to tipuna who have passed on and connections through whakapapa to, for example, maunga, awa, moana, whenua and marae. (Ministry of Education, 2017, p. 21)

Another overarching tenet of the curriculum is that it prioritises the development of knowledge, skills and dispositions. Both the principles and priorities of *Te Whāriki* (Ministry of Education, 2017) align closely with the core tenets of inquiry-based project learning.

Understanding whanaungatanga

Māori philosophical understandings are deeply embedded within *Te Whāriki* (2017). The process of maintaining connections to past, present and future sits at the heart of whanaungatanga. This provides an insight into Māori views of time, which are non-linear. It refers to maintaining a pattern of right relationships between people, place, space, materials and time. Thus, whanaungatanga does not just refer to relationships that occur for shared aspirations or collaborations in the current context. It is not a temporal or a time-bound practice, but an enduring – even lifelong – commitment. It also concerns relationships we foster and maintain with taiao, the living natural world. By incorporating it as intentional pedagogy, kaiako have an opportunity to draw on the essence of whanaungatanga to guide their approach to inquiry-based project learning that reaches into the potentialities of all tamariki as agentic learners, dynamically connected to te ao (the world).

An emphasis on whanaungatanga in inquiry-based project learning that recognises the aspirations of tamariki and whānau Māori can support culturally sustaining practices that benefit Māori. Whanaungatanga also enables kaiako to work at the cultural and political interface of intersubjectivities that exist within a bicultural country that is, and has always been, made up of culturally diverse communities. As a process, whanaungatanga actively interacts

with history through recognition of the genealogies that all people bring with them into their current contexts. Incorporating whanaungatanga as part of the pedagogical approach to inquiry-based project learning can re-centre localised curriculum and honour community knowledges, devolving unequal relationships of power from the kaiako to a power-sharing model (Bishop & Glynn, 1999) based on community aspirations that recognise Māori as tāngata whenua, acknowledges iwi and mana whenua, and supports community collaborations.

Pedagogical influences

For those early childhood settings in Aotearoa New Zealand that have chosen to engage in inquiry-based project learning, there have been a range of theoretical and pedagogical ideas that have influenced their pedagogical thinking. It is important to acknowledge that the story of inquiry in Aotearoa New Zealand begins with Māori, who were the first inquirers of this country. In alignment with this, *Te Whatu Pōkeka: Kaupapa Māori Assessment for Learning: Early childhood exemplars* (Ministry of Education, 2009), which guides the assessment practices of early childhood kaiako in both full immersion and mainstream early childhood settings in this country, has strong correlations with the tenets of inquiry-based project learning.

While the principles of inquiry-based project learning align closely with national early childhood documents such as *Te Whatu Pōkeka* (Ministry of Education, 2009) and *Te Whāriki* (Ministry of Education, 2017), many early childhood kaiako in this context have sought deeper understanding surrounding the pedagogical processes involved in initiating and maintaining collaborative inquiry-based projects, leading them to the international literature on this topic. One of the most significant international influences has been the Reggio Emilia approach. The infant and toddler centres and preschools of Reggio Emilia have received international recognition for their work developing the potential of this pedagogical approach. A core aspect of this is collaborative inquiry-based projects called 'progettazione', which translates as 'flexible planning'. In America, the evolution of the Project Approach, developed by Katz and Chard (2000), has been another impactful contribution to the development of inquiry-based learning in an international context. Many countries around the world have adopted and reconceptualised these pedagogical ideas (Gandini et al., 2005; Giamminuti, 2013; Moss, 2018).

McLeod and Giardiello (2019) assert that internationally renowned pedagogical ideas, such as these two examples, are often valued as exemplars of "socially just, participatory and democratic practice" (p. 1) and are used "as a provocation for stimulating critical discussions around the relevance of local ECE projects" (p. 3). Several authors, however, warn that transplanting pedagogical ideas from one very different context to another, without deep examination of what these ideas could mean for the new context, can create misunderstandings and cultural knots (Mawson, 2010; Miller & Pound, 2010; Pohio, 2009). Robertson (2006, quoted in Pohio, 2009) describes these as "the untidy complexities that emerge when differing cultural contexts intermingle" (p. 11). Alcock and Ritchie (2018) support these concerns and argue that looking further afield for pedagogical inspiration can overshadow localised theories and approaches. In Aotearoa New Zealand's context, these might include the commitment to bicultural practice that *Te Whāriki* (Ministry of Education, 2017) so strongly advocates for, and the rich local kaupapa (principles and ideas) drawn from te ao Māori (the Māori worldview) and mātauranga Māori (Māori knowledge and understanding).

METHODOLOGY AND STUDY DESIGN

The study is positioned in an interpretivist qualitative paradigm and is informed by sociocultural and bioecological theories, which recognise knowledge is constructed and is influenced by a complex web of contextual perspectives and associated histories. In 1993, Bronfenbrenner and Ceci commented that "human development takes place through processes of progressively more complex reciprocal interaction between an active evolving biopsychological human organism and the persons, objects, and symbols in its immediate environment" (p. 317). Later, Kahlke et al. (2018) suggested that "sociocultural theory attends more to the relationships between people and social practices" (p. 117). The interplay of both these theories focuses on the interactions and relationships

between the tamaiti (child) and kaiako, in this case in early childhood settings, and the influences they experience jointly and individually.

The methodological framework of the project draws upon narrative inquiry, which supports the value the research team members hold for the stories of the early childhood kaiako and communities collaborating in this research. Mertova and Webster (2020) support this idea when asserting: “Narrative allows researchers to present experience holistically in all its complexity and richness” (p. 2).

The research has been undertaken over two phases. Phase One comprised a qualitative questionnaire sent to all early childhood centres registered on the national database of ECE services. The findings here informed Phase Two, which involved working with a small number of purposively selected services across Aotearoa with the aim of capturing a diverse range of cultural and pedagogical perspectives across a range of geographic locations. Data has been collected at six centres. At each setting, focus-group conversations with kaiako and observations of a current inquiry have been completed, alongside reflections and initial analysis. There is also further scope to work with two to three settings in 2023.

Data analysis

Clandinin (2014) argues that because narrative inquiry is such a subjective and personalised approach, it is crucial that the researchers declare their own subjectivities and the impact this has on the analysis of data. Informed by this, the researchers acknowledge that their multi-faceted identities – which include being kaiako educators and early childhood kaiako – have shaped their interpretation of the data as they sought connections and patterns, and identified emerging themes and theories. The research team worked collaboratively to thematically analyse the questionnaire responses, and the data collected during Phase Two is currently being analysed through examination of temporal, social and place dimensions through reflective and theoretical lenses that align with the research questions and research paradigm (Clandinin, 2014).

Ethics

The lead researcher sought and was granted ethical permission to conduct this project. In Phase One, the design of the questionnaire meant that centres’ and kaiako identities were protected, unless they chose to express interest in participating in Phase Two. In Phase Two, consent to participate in the research was sought and granted by all participants, and assent forms were issued to tamariki. Participants understood that they may be identifiable in photographic imagery included in the research reporting.

PHASE ONE FINDINGS

The impact of relationships and collaboration

Sixty-three early childhood settings that currently use inquiry-based approaches participated in Phase One. When asked about the benefits of using inquiry-based approaches, participants highlighted the building and fostering of relationships between tamariki and kaiako. Collegiality, working in a community of learners, collaboration, and opportunities for tuakana–teina (where the younger learns from the older) relationships were also valued by many participants. For example, one participant wrote:

“I have learned about children as social learners ... the importance of engaging in rich dialogue with children, the importance of building trusting relationships with children, the idea that [we] are learning alongside the children as co-researchers.”

And another:

“Tuakana/teina relationships benefit both parties as tamariki observe, take part and assist others. This is also connected to the idea of ako, where the learning and teaching roles are exchanged between all members who participate.”

Based on the feedback from the survey and the settings that were purposively selected to participate further, Phase Two of the data collection provided an opportunity for a much more in-depth exploration of pedagogical approaches to inquiry-based project learning and the various influences that have shaped them.

PHASE TWO FINDINGS

Prioritising whanaungatanga

Initial analysis of the data collected in Phase Two suggests that collaboration is cultivated when kaiako prioritise whanaungatanga and take the time to celebrate every small event and the voice of every tamaiti. For example, at Little Doves, an early childhood setting in Tāmaki Makaurau Auckland, each new discovery a tamaiti makes is carefully documented and valued. Sonya, one of the Kaiako, explained:

“We’ve broken it down so that we can celebrate the tiny ... we really need to be equipped, and ready to recognise and celebrate, and to share, and to respond to every single tiny something that happens along the way.”

Another example is Daisies early childhood centre in Te Whanganui-a-Tara Wellington. Here, at the beginning of an inquiry, the teaching and pedagogical teams hold a full-day wānanga where the overarching inquiry is presented, and then teams discuss, theorise and research possibilities of directions the inquiry might travel in before beginning their work with tamariki.

At Toi Ohomai early childhood centre, in Tauranga, whanaungatanga is fostered through honouring and documenting moments of ako (teaching and learning). At this setting, their current inquiry is focused on ngā atua (the tamariki of Ranginui, the sky, and Papatūānuku, the Earth, who are also the guardians of their parents’ domains). The tamariki and kaiako have created a waiata (song) together. Kim, one of the teachers at this setting, digitally documented a very special moment when one of the tamariki – who is a descendant from another country and speaks English as an additional language – taught their grandparent this song. The grandparent remarked that her grandchild talked about this song and the Māori atua often at home. When they came into the centre, this tamaiti spontaneously took the opportunity to share their knowledge. Kim reflected on how inquiry-based project learning can also foster whanaungatanga beyond the context of the early childhood setting as tamariki are provoked to share the excitement of their learning with their whānau (family).

Sustained time spent developing pedagogical processes

The kaiako in each setting have spent sustained time developing their pedagogical practices. The impact of this is the development of shared understandings surrounding their work. At each setting there are core teaching teams that have been working together for some time. This has allowed for deep pedagogical discussions and for shared understandings to be established about the theoretical ideas underpinning their inquiry-based approaches and the pedagogical processes required to sustain an inquiry.

At the settings with larger teaching teams, clear frameworks that offer guidance on how to establish an inquiry and processes for progressing through the inquiry have been developed. These frameworks help newer members of the teaching team to become familiar with this approach and to ensure that there is consistency in their approaches with tamariki. For example, the teaching team at Little Doves early childhood centre shared how they had worked to establish a framework that makes explicit links with *Te Whāriki* (Ministry of Education, 2017). This has helped them utilise the curriculum as a tool to drive the inquiry. Sonya, one of the kaiako, explained their rationale for creating their own pedagogical framework:

"We teach what we know, so I think we began our journey initially bringing with us and teaching in a way where we had come from ... I think that's probably what prompted us really investing and developing our own approach."

It was particularly important to this learning community that *Te Whāriki* (Ministry of Education, 2017) was strongly integrated in the framework. Sarah, the centre director, explained:

"We really wanted to draw on Te Whāriki to give kaiako a tool to ... drive their inquiry, not leaving it to chance, not leaving it to a kind of instinct or 'know how', but to really provide a framework so that teachers could develop their expertise in inquiry."

This careful work has enabled these teams to draw upon international approaches as inspiration, but to interpret these ideas in terms of the context of Aotearoa, the curriculum, and their local contexts.

The impact of a focus on whanaungatanga and collaboration on how tamariki learn

Initial analysis of Phase Two suggests that when teaching teams working with inquiry-based project approaches prioritise whanaungatanga and collaboration, this directly impacts the culture of learning in the setting. Through collaboration, these teams have developed established practices and processes that support a democratic classroom.

Collaboration is a key aspect of inquiry-based project approaches, which are underpinned by social constructivist and sociocultural theories. In Phase One, some participants expressed uncertainty about their roles within an inquiry; during Phase Two we found that the kaiako had developed this clarity. At all six settings, kaiako positioned themselves as co-constructors, collaborators and co-learners within the inquiries of tamariki. Sarah, the centre leader at Little Doves, explained that the values of curiosity and exploration are equally important for kaiako. She said we need to recognise:

"That teachers also want to stay curious, stay interested, be learning, be open to new ideas and new perspectives ... rather than getting stuck and producing the same work day after day, year after year."

For this setting, the focus of collaborative inquiry enables a culture of curiosity and research to also be fostered amongst the teaching teams.

The impact of these practices is that tamariki experience an environment of reciprocity and connection, a classroom culture where their theories are valued and creativity and problem solving are fostered. Further, it can be seen that inquiry-led learning and teaching aligns with Māori pedagogies, which facilitate non-hierarchical teaching and learning relationships of ako. 'Ako' means to teach and to learn.

Fostering reciprocity and connection

A rich example of how inquiry can support a collaborative learning culture where reciprocity and connection are fostered is Rimu kindergarten in Tāmaki Makaurau Auckland. This teaching team is newer to inquiry. As they began this journey, they decided to focus on the local ngahere (bush). The group ventures out to the forest each week. The kaiako spent many weeks giving the tamariki time to explore and connect with the ngahere and with each other through visiting the same places each week. Over time, they recognised that the tamariki were deeply curious about the traps they had discovered. This became the focus of their inquiry, leading them to connect with the local primary school and environmental group, who had placed their own traps. The tamariki are now taking responsibility for refilling the ink traps that capture small creatures' footprints, and the group takes great pride in taking care of this space.



Developing a culture of theory making

A further impact of focusing on whanaungatanga and collaboration is the value kaiako hold for how tamariki develop working theories as a basis for developing emergent curriculum. At Lil Pumpkins, a semi-rural setting in Hamilton, the current overarching project is focused on outer space. One experience involved the tamariki exploring different materials that represented the moon, asteroids, moon dust and craters. One of the kaiako asked, "What happens if we drop this on the moon?" A tamaiti replied, "This is an asteroid, and it makes big holes." The kaiako drew on a range of open-ended questions to provoke the thinking of tamariki about their inquiry as well as supporting the tamariki to make connections to some complex conceptual and scientific ideas.

Fostering problem solving and creativity

The team at Pakuranga Baptist Kindergarten have been inquiring into their local environment for several years. Tamariki have been theorising about the creatures that live in the water, and have been representing this through their artwork in the studio. More recently, the kaiako have shared a local legend of Te Moko Ika a Hikuwaru, an eight-limbed taniwha (guardian of water) who fell in love with Kaiahiku (now the Panmure Basin). One of the tamariki arrived at kindergarten one morning with a plan to create a taniwha. His kaiako, Jacqui, responded immediately, and after a small group of curious participants had gathered, they discussed and chose appropriate materials. They worked tirelessly throughout the morning to realise their plan, stopping regularly to discuss small challenges.

Over the following days, opportunities to decorate and then represent the taniwha were provided. This same tamaiti soon had another idea, and suggested they create a stop-motion movie of the legend. Again, his idea was immediately supported by his kaiako,



and the group set to work on creating a film set. Stop motion was a new medium for Jacqui. She and the tamariki worked collaboratively to figure it out. Later, she expressed the importance of making visible to tamariki that she too is a learner, and she intentionally role-models the strategies she uses when experiencing something new and challenging.



DISCUSSION AND CONCLUSION

The impact of collaboration and whanaungatanga

Te Whāriki (Ministry of Education, 2017) defines whanaungatanga as “a relationship through shared experiences and working together that provides people with a sense of belonging” (p. 67). This research demonstrates that when whanaungatanga and collaboration are core values within ECE environments using inquiry-based project approaches, there are positive impacts for both kaiako and tamariki. For the kaiako who were participants in this research, they experienced a sense of collegiality and focus, and appreciated that they had a shared purpose in their daily work. This is particularly significant given the current statistics that indicate the wider early childhood sector in Aotearoa New Zealand is currently in crisis. Many teachers have reported on a lack of teacher resourcing, government and policy support, and a myriad of other issues resulting in teachers experiencing burnout (Office of Early Childhood Education, 2022). Returning to Freire’s (1994) ideas about the purpose of education being to teach tamariki how to participate in a democracy, these young tamariki are learning, through collaboration, how to work in a group, listen to diverse points of view, share ideas, debate, and work collaboratively to solve problems. As they engage in this work, they are developing many of the skills the literature argues are critical for navigating life in the 21st century (Kim et al., 2019).

Developing a culture of theory making, problem solving and creativity

Kim et al.’s (2019) 21st-century skills framework lists 12 skills that will be needed in the workplace of the future, based on the idea that working with authentic, real-life tasks will teach skills such as theory development, problem solving, creativity, communication and more. Further, several authors argue that these kinds of learning experiences, that encourage intersubjectivity and critical thinking, are crucial in developing these skills (Krogh & Morehouse, 2020; Meier & Sisk-Hilton, 2020; Stacey, 2019).

Sustained time spent developing localised and culturally responsive pedagogical processes

We see that inquiry-based project learning has the potential to challenge kaiako working with tamariki in the early years to readdress their roles and to position themselves as co-researchers and collaborators alongside tamariki as they learn. Tzuo (2007) suggests that the role of the kaiako is a complex one, and that overly controlling children’s

experiences can limit their participation and contribution. However, this author also recognises that kaiako do play crucial roles in guiding the learning of tamariki. The kaiako participating in this research have reflected deeply on the power relationships that can occur within teaching and learning, and strive to honour the ideas of tamariki, working theories, and interpretations as a core aspect of their shared inquiries.

Phase Two, in particular, has highlighted that inquiry-based project approaches have created space for kaiako to embody ako (where teaching and learning are reciprocal) as they have found ways to position themselves alongside tamariki, learning local histories and deepening their knowledge of te ao Māori together. The findings to date indicate that inquiry-based learning approaches can address some of the challenges of meeting the bicultural intent of *Te Whāriki* (2017) related to partnership with whānau, as raised by Ritchie (2016). Ritchie points out that past attempts to partner with whānau Māori have been hampered by a lack of understanding of te ao Māori – the Māori world, language and culture. A powerful aspect of inquiry-based project approaches is that they invite whānau collaboration in the building of knowledge.

We argue that this approach provides both a shared focus and sense of purpose that every member of the learning community can contribute to each day. This is significant given the complex challenges both families and the early childhood sector are currently navigating. We have discovered that the impact of prioritising whanaungatanga and collaboration within inquiry results in unhurried time for tamariki to explore and develop working theories together, and kaiako who observe closely in order to respond sensitively and pedagogically to the ideas of tamariki. As a result, both tamariki and kaiako experience an environment of sustained focus, wellbeing and empowerment.

REFERENCES

- Alcock, S., & Ritchie, J. (2018). Early childhood education in the outdoors in Aotearoa New Zealand. *Journal of Outdoor and Environmental Education*, 21(1), 77–88. <https://doi.org/10.1007/s42322-017-0009-y>
- Arndt, S., & Tesar, M. (2015). Early childhood assessment in Aotearoa New Zealand: Critical perspectives and fresh openings. *Journal of Pedagogy*, 6(2), 71–86. <https://doi.org/10.1515/jped-2015-0014>
- Bayes, C. (2005). *Provocations of Reggio Emilia: Educators making meaning about curriculum* [Unpublished master's thesis]. The University of Auckland.
- Blank, J., Damjanovic, V., da Silva, A., & Weber, S. (2014). 'Standing out': Situating the Project Approach in contemporary early schooling. *Early Childhood Education Journal*, 42, 19–27. <https://doi.org/10.1007/s10643-012-0549-2>
- Bishop, R., & Glynn, T. (1999). Researching in Maori contexts: An interpretation of participatory consciousness. *Journal of Intercultural Studies*, 20(2), 167–182.
- Bronfenbrenner, U., & Ceci, S. J. (1993). Heredity, environment, and the question "how?": A first approximation. In R. Plomin & G. G. McClearn (Eds.), *Nature, nurture, and psychology* (pp. 313–323). American Psychological Association. <https://doi.org/10.1037/10131-015>
- Chan, A., & Ritchie, J. (2019). The significance of place: Some considerations for early childhood care and education in a superdiverse 'bicultural' New Zealand (Aotearoa). *The International Journal of Critical Pedagogy*, 10(1), 51–74. <http://libjournal.uncg.edu/ijcp/article/view/1529>
- Chard, S., Kogan, Y., & Castillo, C. (2017). *Picturing the project approach: Creative explorations in early learning*. Gryphon House Inc.
- Clandinin, D. J. (2014). *Engaging in narrative inquiry*. Left Coast Press. <https://doi.org/10.4324/9781315429618>
- Freire, P. (1994). *Pedagogy of hope*. Continuum.
- Gandini, L., Hill, L., Cadwell, L., & Schwall, C. (Eds.). (2005). *In the spirit of the studio. Learning from the atelier of Reggio Emilia*. Teachers College Press.

- Giamminuti, S. (2013). *Dancing with Reggio Emilia: metaphors for quality*. Pademelon Press.
- Haplin, J. M. (2011). *Teachers' meaning-making of the Reggio Emilia approach within the cultural context of Aotearoa New Zealand* [Unpublished master's thesis]. The University of Auckland.
- Johnson, L., McHugh, S., Eagle, J., & Spires, H. (2019). Project-Based Inquiry (PBI) global in kindergarten classroom: Inquiring about the world. *Early Childhood Education Journal*, 47, 607–613. <https://doi.org/10.1007/s10643-019-00946-4>
- Kahlke, R., Bates, J., & Nimmon, L. (2018). When I say ... sociocultural learning theory. *Medical Education*, 53, 117–11. <https://doi.org/10.1111/medu.13626>
- Katz, L., & Chard, S. (2000). *Engaging children's minds: The project approach* (2nd ed.). Ablex.
- Kim, S., Reza, M., Seidman, E. (2019). Improving 21st-century teaching skills: The key to effective 21st century learners. *Research in Comparative & International Education*, 14(1), 99–117. <https://doi.org/10.1177/1745499919829214>
- Kokotsaki, D., Menzies, V., & Wiggins, A. (2016). Project-based learning: A review of the literature. *Improving Schools*, 19(3), 267–277. <https://doi.org/10.1177/1365480216659733>
- Krogh, S. L., & Morehouse, P. (2020). *The early childhood curriculum. Inquiry learning through integration* (3rd ed.). Routledge.
- Lanphear, J., & Vandermaas-Peeler, J. (2017). Inquiry and intersubjectivity in a Reggio Emilia-inspired preschool. *Journal of Research in Childhood Education*, 31(4), 597–614. <https://doi.org/10.1080/02568543.2017.1348412>
- Law, S (2020). Critical literacy in early childhood education: Questions for critical conversations. *He Kupu*, 6(3), 26–33. https://www.hekupu.ac.nz/sites/default/files/2020-05/06_Law.pdf
- Lev, S., Clark, A., & Starkey, E. (2020). *Implementing project based learning in early childhood: Overcoming misconceptions and reaching success*. Routledge.
- MacDonald, M. (2020). Richardson, Elwyn Stuart – Biography. *Dictionary of New Zealand Biography, Te Ara – the Encyclopaedia of New Zealand*. <https://teara.govt.nz/en/biographies/6r8/richardson-elwyn-stuart>
- Mawson, B. (2010). Finding our way: Interpreting Reggio in a New Zealand context. *Early Childhood Folio*, 14(1), 18–22. https://www.nzcer.org.nz/system/files/journals/early-childhood-folio/downloads/ECFolio_14_1_2010_018.pdf
- McLeod, N. (2019). The reflexive educator. In N. McLeod & P. Giardiello (Eds.), *Empowering early childhood educators: International pedagogies as provocation* (pp. 36–62). Taylor & Francis Group.
- McLeod, N., & Giardiello, P. (2019). Introduction. In N. McLeod & P. Giardiello (Eds.), *Empowering early childhood educators: International pedagogies as provocation* (pp. 1–7). Taylor & Francis Group.
- Meier, D., & Sisk-Hilton, S. (2020). *Nature education with young children: Integrating inquiry and practice* (2nd ed.). Routledge.
- Mertova, P., & Webster, L. (2020). *Using narrative Inquiry as a research method* (2nd ed.). Routledge.
- Miller, L., & Pound, L. (2010). Taking a critical perspective. In L. Miller & L. Pound (Eds.), *Theories and approaches to learning in the early years* (pp. 1–18). Sage.
- Ministry of Education. (2009). *Te whatu pōkeka kaupapa. Māori assessment for learning: Early childhood exemplars*. Learning Media Ltd.
- Ministry of Education. (2017). *Te Whāriki. He whāriki mātauranga mō ngā mokopuna o Aotearoa: Early childhood curriculum*.
- Moss, P. (2018). *Alternative narratives in early childhood: An introduction for students and practitioners*. Routledge.
- Murcia, K., Clifford, E., Cross, E., Pepper, C., & Drury, S. (2020). Young children's inquiry: Questioning for science and mathematics learning connections in a construction project. *Teaching Science*, 66(4), 20–29. <https://eric.ed.gov/?id=EJ1283220>
- Murphy, R., Ridgway, A., Cunneen, M., & Morgan, M. (2016). Reggio Emilia. In T. David, K. Goouch, & S. Powell (Eds.), *The Routledge international handbook of philosophies and theories of early childhood education and care* (pp. 306–315). Routledge.
- Nxumalo, F., Gagliardi, L. M., & Won, H. R. (2020). Inquiry-based curriculum in early childhood education. In *Oxford Research Encyclopedia of Education* (Published online) (pp. 1–22). <https://doi.org/10.1093/acrefore/9780190264093.013.1064>

- Office of Early Childhood Education Te Tari Māturanga Kōhungahunga. (2022). *Early childhood education sector confidence, 2022*. <https://oece.nz/public/evidence/reports/confidence/>
- Pohio, L. (2009). Reggio Emilia pedagogy in early childhood education: How can this approach enhance visual arts experiences in New Zealand? *He Kupu: The Word*, 2(2) 10–18. <https://doi.org/10.26443/crae.v44i1.41>
- Probine, S. (2015). *The visual arts as a tool for learning within an early childhood setting* [Unpublished master's thesis]. The University of Auckland.
- Probine, S. (2020). *Examining the in-between: Contextual influences on how young children learn through the visual arts* [Unpublished doctoral thesis]. The University of Auckland.
- Ritchie, J. (2016). Qualities for early childhood care and education in an age of increasing superdiversity and decreasing biodiversity. *Contemporary Issues in Early Childhood*, 17(1), 78–91. <https://doi.org/10.1177/1463949115627905>
- Santin, M. F., & Torruella, M. F. (2017). Reggio Emilia: An essential tool to develop critical thinking in early childhood. *Journal of New Approaches in Educational Research (NAER Journal)*, 6(1), 50–56.
- Stacey, S. (2019). *Inquiry-based early learning environments: Creating, supporting, and collaborating*. Redleaf Press.
- Tzuo, P. W. (2007). The tension between teacher control and children's freedom in a child-centered classroom: Resolving the practical dilemma through a closer look at the related theories. *Early Childhood Education Journal*, 35(1), 33–39.

AUTHORS

Dr Sarah Probine is a Principal Lecturer in the School of Education at Manukau Institute of Technology | Te Pūkenga, Tāmaki Makaurau Auckland. Her current research interests include early childhood visual-arts education, inquiry-based teaching and learning in early childhood education in Aotearoa, and the examination of practicum in pre-service teacher education. sarah.probine@manukau.ac.nz

Jo Perry is a Senior Lecturer and Academic Research Lead in the School of Education at Manukau Institute of Technology | Te Pūkenga, Tāmaki Makaurau Auckland. She teaches in two early childhood teams in the Certificate and Bachelor of Education. Her research interests are the processes of teaching and learning, educational technologies and teaching in the 21st century, and research pedagogies. jo.perry@manukau.ac.nz

Dr Yo Heta-Lensen works on the Bachelor of Education and the Master of Teaching and Learning programmes in Te Kura Mātauranga School of Education at Auckland University of Technology. Yo's teaching experience includes early childhood education, Te Kohanga Reo, primary, bilingual teaching and learning, and initial teacher education. Her research interests include language revitalisation, Kaupapa Māori theory and praxis, decolonising education, transformational leadership, inquiry-led teaching and learning, Indigenous studies in education for the 21st century, narrative inquiry research, and Tirititanga as embodied bicultural practice. Yo has a background in educational leadership and in curriculum design. She is passionate about transformative praxis, localised curriculum, sustainability and manaaki whenua, and the role of whānau as the first teachers of children. She is interested in visual arts and storytelling as literacy. She is an advocate for marae-based teaching and learning, nature-based pedagogies, and whanaungatanga as pedagogy to support inclusive practice.