"See what I see":

Photography as a window to children's meaning making

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ABSTRACT

Children's understandings of the world and their interpretations of experiences both past and present are embodied as well as expressed through their verbal or silent language. A camera in the hands of a young child can speak volumes, and act as a tool for adults to visually listen to the child and hear their perspectives including their 'working theories'. Photography offers a unique window into children's seeing and makes their learning visible. This article features one child's photographs taken during a group learning journey navigating a mountain track near the sea, in Aotearoa, New Zealand. Coco was a participant in an action research project called The Ngahere (the indigenous New Zealand word for bush or forest) Project, and although she was under four years of age, she purposefully engaged with the place and photography. Coco brought her own knowledge and past experiences to these interactions. Explored from multiple perspectives - the child's, her educator's, researchers', and her parents', her photographs reveal her unique and aesthetic views of the natural world. This analysis and interpretation, following on from The Ngahere Project, shows that adults have much to learn about children and their meaning making via their unique individual perspectives of their 'chorotopos' (space/place/ community). Knowing children well, and involving their families in discussions about their current thinking and understandings, can lead to rich(er) analyses of their meaning making.

Introduction

The Ngahere Project (Kelly et al., 2013) was set in an Aotearoa, New Zealand context where the bicultural Early Childhood Education (ECE) curriculum Te Whāriki "emphasises the critical role of socially and culturally mediated learning and of reciprocal and responsive relationships with people, places and things" (Ministry of Education [MoE], 1996, p. 9) Children's developing 'working theories for making sense of the world' feature in Te Whāriki alongside dispositions for learning such as courage and curiosity and perseverance, to name a few. Working theories have previously been explored by a number of researchers such as Claxton (1990); and in our country's ECE context by Claxton & Carr (2004), Peters and Davis (2011), Hedges (2011), Kelly et al., (2013) and Kelly & White (2012). Hedges (2011), explains working theories as:

> *"Ways children process intuitive, everyday, spontaneous knowledge, use this to interpret new information, and think, reason and problem solve in wider contexts... The word 'working' suggests that these theories are tentative and speculative... children employ working theories to make sense of new experiences during their ongoing inquiries into their everyday lives and worlds"(p. 284).*

ECE teachers also recognise the importance of creativity and artistic expression (Wright, 2012), multiple literacies (Jones Diaz, 2007; Mitchell, Simonsen & Haggerty, 2009) and the child's hundred languages (Malaguzzi, 1998). This research analysis highlights the complexity of "a child's thinking and feeling through close observation of the artistic activity (photography) itself and the talk that accompanies it" (McArdle, 2012, p.35). It also points to the importance of multiple perspectives – the child's, their educators', researchers' and parents', as well as close connections between ECE and home to assist with understanding children's thinking. Wright (2012) argues that the arts are "a vehicle by which we can express our growing awareness of ourselves and the worlds in which we live" (p.2). Hence, the natural and social worlds that young children inhabit both in ECE and in their wider communities are seen as significant learning environments.

Cameras are a common cultural tool in Aotearoa New Zealand ECE settings where they are generally used by teachers to capture children's learning moments for assessment purposes. However, Clark (2005) reminds us of other uses specifically the particular value photographs have in making children's perspectives visible to adults (p.31). In *The Ngahere Project* initial research, the educators and researchers were keen to understand what it was that children saw when they ventured beyond their home base. Thus, cameras provided an inclusive research method for children to communicate with adults, and photography became 'a tool for listening' (p.28), a lens for their thinking. McArdle (2012) reminds us that, "when they are provided with the necessary skills and techniques for communicating, children can show us what they know, what they think, and how they feel – even when they do not have the words, or there are no words for what they want to say" (p.35). However, White (2009) cautions that often children's thinking will be beyond adult ways of knowing.

The Ngahere Project

The article centres on research data collected from a home-based ECE setting that was one of six research sites in *The Ngahere Project* (Kelly et al., 2013). The four children who attended this service were among 230 participants from six ECE settings who were involved in this large participatory action research project (Kemmis & McTaggart, 2000), that took place over fourteen months in 2010-2011.

As teachers looked at teaching and learning possibilities in nature settings, they sought to examine the pedagogical and practical implications of regular nature based outings in their communities and how these, alongside their commitment to sustainability practices, impacted on children's learning (Kelly et al., 2013).

Each setting had its own research question and specific data generation methods and these supplementary questions fed into the project's overarching research question. This qualitative, interpretivist study (Flick, 2006) was granted ethical approval by the author's institution. Participation was voluntary and informed consent was gained from teachers and parents. Children's ongoing assent was monitored and when assent was withdrawn by several children their wishes were respected and they were withdrawn from the project in its entirety. Participant children chose their own pseudonyms whilst the teachers, educators and researchers are acknowledged using their real names.

From the outset of the action research project children were seen as hermeneutic partners capable of interpreting their own learning alongside adults. Two university researchers (Kelly & White) were involved in the wider study, and both of us are committed to honouring children's voices in our research and writing. For example in Peters & Kelly (2011) my co-author and I noted that "as adults attempt to hear and understand children, new and exciting insights are being gained into children's views, their capabilities, and how they make sense of the world" (p. 20). In a number of recent publications about her various research projects, White (2009; 2011) also discusses children's unique ways of seeing.

This article involves fresh analysis that highlights one child's meaning making drawing on the notion of chorotopos, as discussed by Trimis & Savva (2008; 2009), through the lens of a camera. This analysis of a very small subset of the initial project data is separate to (and somewhat different from) the original analysis that involved an additional researcher and teacher participants besides the author.

The home-based ECE setting

The initial research question investigated by the ECE setting that is profiled in this article was: What do children "*see*" in nature based education beyond the home-based setting gate?"

As part of *The Ngahere Project*, we were curious to see what children see when they open the gate, and leave their home base with their educator, to explore the natural world. When asking this question, we were inquiring from an interpretive or

hermeneutic perspective. We understood that each child's "seeing" would be personal, based on prior experiences and interpretation of current experiences. According to Clark (2005, 2007) the 'silent voice of the camera' added another dimension to hearing and seeing the world from the child's perspective. Our vision was also honed by our knowing that children's interpretations and understandings are embodied, that they come to life through children's bodies, thoughts, their verbal or silent language, and their artworks, in this case their photographs.

Four children and Trudie, their home-based educator, were involved in fortnightly learning journeys during June-July 2011 as part of the data generation phase of the project. Each child was given a digital camera (Panasonic Lumix) and encouraged to take photographs of 'what you see'. The children had three practise sessions with the cameras and a 'trial run' in the community beyond their home base before official data generation began. Once the group returned home all of the children's photographs were printed out into booklets. Trudie, the educator then interviewed the children individually, showing them their photographs and questioning them to stimulate recall. First she asked "Which three photos would you like to share with your family?" and once the children had made their selection, she requested "Can you tell me about the photo, why you took it and what you were thinking at the time?"

In the original project analysis, the photographs that the children had taken and the stimulated recall interviews (Einarsdóttir, 2007) were viewed as "interactions and discussions [that] formed the basis of co-constructed research narratives which aimed at making meaning from experience" (Clandinin & Connelly, 2000, as cited in Richards, 2009, p. 2). As children discussed their individual photographs with Trudie, the interviews were recorded and later transcribed. The transcripts were analysed alongside the children's chosen photographs by the home-based ECE research team. Photographs were categorised based on the content of the images that children selected to show their families and their interpretations of what they captured on film. These initial findings were shared with children and their families during the project.

Overall, the photographs taken by the four children alongside their explanations of their photographs revealed insights into their connections to things, places and events in the local and national community (MoE, 1996). Initial analysis of the entire set of photographs from the home-based ECE setting revealed children's understandings in relation to aesthetics, spiritual and fantasy worlds, literacies in the environment, and relationships with human and non-human others. The photographs and accompanying transcript of their conversations with the educator highlighted the complexity of their thinking, and the situated nature of their learning through relationships with people, places and things (MoE, 1996). Children's seeing and thinking surprised adults. A full discussion of the original research findings from the home-based ECE setting is likely to be published in due course.

After *The Ngahere Project* concluded, and in light of the 5th International Art in Early Childhood Conference themes of *Identity, Places and Communities,* I revisited one child's entire photograph set from a single outing with a 'visual arts' lens. I was supported in

this work by Kathryn, the service coordinator, who knew the child whose pseudonym was Coco and had been on numerous excursions with her and her peers.

Coco's unique ways of seeing and knowing this place

Coco, a girl aged 3 years 7 months, was the youngest of four children enrolled in the home-based ECE setting who took part in the learning journeys and the research project. The others were two girls a little older than Coco and a near five year old boy, who was the educator's son. The group made four learning journeys during the research project, three to a farm park, and one to Mauao (otherwise known as Mount Maunganui) where they navigated a popular walking track at the foot of a mountain called Mauao Base Track.

The mountain is a dormant volcanic cone which has huge significance to local indigenous Māori people. It is highly visible from the adjacent city and is special to residents in local and neighbouring communities, visitors from other parts of the country, and international tourists. This mountain and the surrounding harbour, ocean, and beach are significant and familiar features in Coco's chorotopos both when she is attending the home-based ECE setting and when she is with her family. Coco's photographs from this trip were selected for 'arts focused' analysis and presentation/ publication by the author because they were seen to represent a young child's complex seeing, knowing and meaning making. They are also congruent with '*Identity, Places, and Communities*' theme of the conference and this special edition of the journal.

Data gathering and analysis

The children's exploration of the mountain track and its environs took several hours. In that time Coco took over one hundred photographs of the physical and social environment. By comparison, her older peers took approximately 40 photographs each. In line with the data collection methods Coco chose specific photographs to share with her family, and explained her selection. She and Trudie, the educator also discussed other photographs as they flicked through the booklet that contained her entire day's efforts. In the photographs and transcript excerpts that follow the audience is treated to glimpses of Coco's views, her capabilities and how she makes sense of the world especially this place.
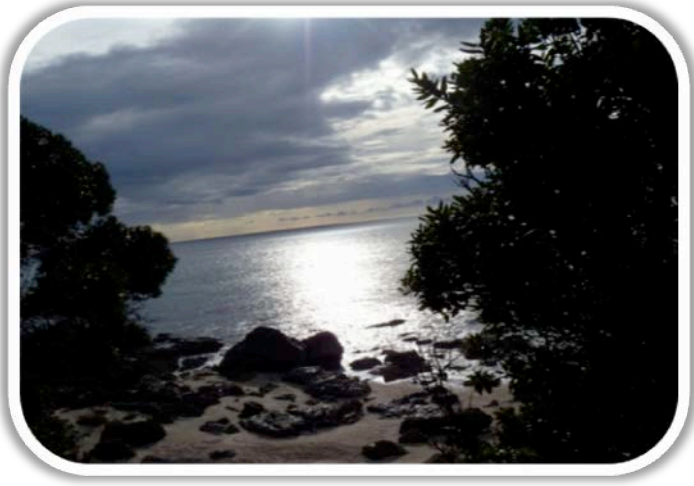
Figure 1 & 2: Coco, June 28, photos 30 and 37

Trudie: You've done some really good photos there Coco. You've seen lots of things.

Coco: Another part of the sky.

Trudie: What's different about that sky? That photo that you took? Can you see what's different about that one?

Coco: Um, maybe it's dark?

Trudie: It's dark? What were you thinking when you took the photo of the dark sky I wonder?

Coco: Maybe um, the blue sky, um, makes it darker when I went to take a photo.

Trudie: Oh, how would that happen? Wonder how a blue sky would then turn into a dark sky.

Coco: No, um, maybe the blue sky got into the black sky.

Trudie: Right. I think you might be right there Coco.

Coco's response shows her tentative speculative theorising about the dark clouds and their creation. She can be seen to be experimenting in both modalities – her speech and the composition of the photograph with elements of art such as line, colour, shape and space. These photographs taken from a similar vantage point were obviously taken with a time lapse between them as they record the sun's path reflected in the water as it moved across the sky.

Figure 3: Coco, June 28, photo 5

Coco:	The sea… and sky again.
Trudie:	Mmm.
Coco:	Maybe they haven't seen that one.
Trudie:	Looking out to the end… oh it looks like the end of the ocean doesn't it?
Coco:	Hmm.
Trudie:	The sky down there. I wonder what you were thinking when you took that photo?
Coco:	I wonder if it goes all the way down there.
Trudie:	Right. It does go all the way down there, cause that's a long way isn't it?
Coco:	Yep. We couldn't swim that way could we?
Trudie:	I don't think we could. How's another way we could get there?
Coco:	Hop on the boat.
Trudie:	Hop on the boat. Your Dad's got a boat hasn't he?
Coco:	Yep.
Trudie:	Yep. And do you often see the ocean and the sky join together when you go out in the boat?
Coco:	Yep.

Coco continues to theorise about space in their discussion about photographs in which she captured the horizon and the island, this time it is the end of the sea, and by inference the beginning of the sky. In this and other dialogues, the educator can be seen to be 'interrupting' or 'hijacking' Coco's theorising about possibly either the sea or the sky (Peters & Davis, 2011). It may be that Coco was attempting to continue her earlier musing about the end of the sea that she saw first through her naked eye and then through the lens of the camera. Nevertheless, the educator knowing a little about the child's life beyond the home-based setting makes explicit the connection between Coco's suggestion to 'hop on the boat' to go 'all the way down there" because "we couldn't swim that way", and her father's (family's) boat. Bronfenbrenner (1979) highlights that connections between the different contexts of children's lives – in this case, the child's home and ECE setting, are significant to their learning.

Another of Coco's photographs (unavailable for this publication) showed a seat, the track gate, a person being pushed in a wheelchair and a large tree with the sun poking through its branches. Surprisingly to the educator, the child's focus was the ring of purple colour around the sun which she had not noticed until Coco pointed it out to her. Throughout their discussions the focus was still on the research question "what do children see beyond the gate"?

These examples show Coco theorising about the natural world – the horizon, the colour of the sky, light and dark. They also show that the educator possibly assumed "knowledge of [Coco's] interests and meaning and hijack[ed] the direction of the activity or conversation" (Peters & Davis, 2011, p. 12). When she and other teachers throughout *The Ngahere Project* reflected on their discussions with children captured electronically in video or audio files, they often became aware of their power and ability to dominate children's thinking, and theorising, with their own agendas. Wright (2007) observed that "the dialogue between the teacher and child must be sensitively considered" (p. 38) to avoid the process being stopped or changed inadvertently. While she was referring to children's 'drawing-telling', the same rule-of-thumb could be applied to children's photographs and stimulated recall interviews.

Another interesting phenomenon in Coco's photographs was the subtle changes visible in successive shots. Allegedly she did not know how to preview photographs that she had already taken on the digital camera. Yet, these pairs of photographs show that a second photograph was sometimes taken immediately or soon thereafter to portray the same vista albeit without people. For example, her male peer is present in photograph 19 and absent in Photograph 20, and he and a jogger are visible in photograph 33 and not in photograph 34. We suggest that Coco's ability to remember the shot in the view finder and wait for the path to be clear of humans shows her unique 'seeing', her analysis of that 'seeing' and her revisiting the vista for an alternative shot. These are examples of complex thinking, judgements and actions for a child aged three years seven months.

Figure 5: Coco, June 28, photos 19, 20, 33 and 34

Seemingly, at the time Coco's preference was for a landscape view without human intrusions. This contrasts with later photographs where she photographed human subjects. Was this specifically her aim we wonder? Maybe she was interested in patterns and detail such as getting a closer look at another child's hair and hairline between photographs 64 and 69.

Figure 6: Coco, June 28, photos 64 and 69

A focus on patterns and detail is also evident in the juxtaposition of a second child's hair with the nearby pōhutukawa tree branches in photographs 32, and capturing this child and Trudie on film in photograph 51.

Figure 7: Coco, June 28, photos 32 and 51

Findings

Despite having taken more than one hundred photographs in a couple of hours, Coco's photographs do not appear to have been taken hurriedly, nor do they look amateurish or childlike. The composition of the photographs, angles of the shots and their subject matter all suggest that she took her photography seriously, carefully considering each

shot. Many viewers have speculated that these photographs could have been taken by an experienced adult photographer rather than a three year old child.

It is my contention that Coco's photographs alone (without the accompanying transcript) illustrate her complex 'seeing'. The camera lends its voice to Coco through the photographic documentary of her learning journey in this special place. Coco and the other children with her that day can be seen to be experiencing 'place' "through what [they] could sit on, touch, taste, see, breathe, smell and move within" (Lines, 2001, p. 65). In later discussions, Coco's mother confirmed that this place and the harbour entrance and ocean around it were all very familiar to Coco. Hence, I suggest that her sense of belonging in this chorotopos is evident in her photographs.

Coco's photographs illustrate sophisticated views, capabilities (with and beyond the camera), and inquiries into her world, well beyond her age. Coco's appreciation of beauty, her aesthetic, involved ways of seeing that went beyond her ability to verbalise [possibly due to the interview setting] her unique ways of seeing. Clark (2007) argues that the child's personal photography raises the status of young children's image making to enable them to enter adult debates. This has certainly been the case as adults have discussed the extent of Coco's (and other children's) seeing and meaning making.

Coco reveals understandings, or what could be seen as her 'working theories' about complex phenomena like the horizon, rain clouds and the sun's light from her perspective via the camera lens and subsequent photographs. She recognised and connected the same tree species on the foreshore with trees in her home environment. The interview transcripts show that often her understandings differed from the adults (Clark, 2007; White, 2009) and on occasions revealed the tacit knowledge she possessed, previously unknown to the adults around her (Richards, 2009).

The photographs accompanied by the interview transcript show the educator Trudie leading Coco in interpretation and meaning making. Wright (2003) argued that "communicating via [*photographs and stimulated recall*] gives children the opportunity to create and share meaning using two modes – the non-verbal (i.e. graphic depiction) in collaboration with the verbal (i.e. creating a story that accompanies *it*)" (p.15). Whilst Wright was talking about children's 'drawing-telling' her recognition of the value of two complementary modes of communication for meaning making is apt in the case of Coco describing her photographs as discussed herein. Clark (2005) reminds us that "visual data in the form of photographs do not provide instant access to children's perspectives. Photographs only tell part of the story. They still need to be interpreted and this process, as much as the documenting process itself, must involve children" (p.32). Children were part of the meaning making process this research as well as taking their own images.

Contextual information from Coco's parents

During *The Ngahere Project* children and their families shared in presentations of initial research findings from their settings. The home-based ECE children's parents were fascinated with both the photographs and interview excerpts, and their research team's analysis. I remember Coco's mother being unsurprised by her unique ways of 'seeing'

the natural world. She relayed stories to us of Coco dawdling on walks as she looked closely at the world around her. She told us that Coco often wanted to pick a flower, not satisfied with any flower but a specific one that she could 'see' from a distance. To her mother the flower appeared to be the same as all of the rest in the field, but Coco knew which flower she specifically wanted, obviously seeing it differently to the rest.

I also heard that Coco's family regularly spent time on their boat, often being on the sea before the sun rose in the early morning, in order to catch fish to eat and share with others. This led me to speculate that Coco's fascination with the horizon and the light were directly related to these family outings. The sea and sky in her photographs, taken from her mountain track vantage point, could also have been reminiscent of these outings. These conversations with Coco's family provided an additional social and cultural context for Coco's complex thinking and ways of 'seeing' and knowing about the world. Her understandings were clearly based on her prior experiences and the subjective interpretation of these experiences through her photographs.

Limitations

Interviewing young children is complex as the transcripts show. It is easy to make assumptions or not give children enough time to hear process and respond to our questions (Dunkin & Hanna, 2001). We might never know fully what Coco was thinking when she took these photographs. What we do know is that she has a highly developed artistic 'eye' that the camera helped give voice to. Coco's photographs are a visual display that caused me (and others) to reflect on, and consider, the powerful images that she observed in a location familiar to her. Her photographic responses to her chorotopos gave some of the adults around her previously unknown insights into her unique ways of seeing and making meaning of her world. These insights were made possible through verbal and non-verbal modes of expression. They may have been less visible without either her photographs or her commentary.

Further research is needed with young children and cameras to fully "explore the potential of photography to provide a visual starting point for describing experience'' according to Clark (2005, p.29), and to help adults understand their unique "ways of seeing" (McArdle, 2003, 2012). The pedagogical and practical implications of regular nature outings and their impact on children's thinking and actions in relation to sustainability are also worthy of further investigation. How can we teach children to artfully care for the environment? (Kelly, 2013).

Conclusion

Like Mitchell et al., (2009) the importance of the social and cultural contexts of Coco's family and community were highlighted in our study. Conversations with her and her family about her chorotopos revealed links between the different contexts in her life - in this case the home-based setting and her family's leisure pursuits (Bronfenbrenner,

1979). The primacy of relationships between people, including children, in these different contexts of Coco's life was also reinforced as was the value of sharing perspectives of children's understanding and thinking with the child themselves and their families.

Two complementary modes of communication – or multiple literacies that is photographs and verbal literacy, supported Coco's meaning making and provided windows into her complex thinking and 'seeing'. Throughout both analyses we saw a child's thinking and learning becoming visible. Empowered by a tool (the camera), artefacts (her photographs) the context (a learning journey with her peers) and mediated by the environment and the educator, relationships developed that facilitated and extended the child's learning about the environment and concepts related to it (Smidt, 2009).

Wright (2003) reminds us that "Artistic knowing and communicating involves a non-verbal expressive literacy – a special type of literacy that is every bit as important as the mainstream concept of literacy so prominent today" (p.15). Coco is a competent, multiliterate child whose ways of seeing, knowing, and communicating about her chorotopos are evident throughout this discussion. The camera played a significant role in mediating her learning, and supporting adults to see what she saw in this familiar place.

Acknowledgements

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