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Claudia A. Hruska *Editors*

Interactions in Early Childhood Education

Recent Research and Emergent Concepts

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Chapter 1
Interactions and Learning: Overview and Introduction

Claudia A. Hruska and Alexandra C. Gunn

This book considers the place and utility of interactions as a basis for learning in early years education and care. Of increasing interest to scholars and practitioners of early education, interactions are an important aspect of process quality[1] that can give us insights into how and why learning is supported or hindered in the early years. In the broad sense, this book is concerned with understanding how we might recognise educational environments that foster learning and support pedagogical practices based upon quality human relationships and interactions between children, people and things in early childhood education. We are interested in exploring: what is it in relationships between children, families and professionals that sustain learning and development in early years? How are interaction partners affording each other opportunities for learning or working together to advance learning? How can educators in the early years take insights from interaction research into practice and improve the quality of pedagogical practices?

This introductory chapter outlines what we mean by 'interaction' and why we consider interactions important to pay attention to within early childhood education. We discuss how interactions feature in debates over quality early childhood education and explain how contemporary views of learning rely upon the concept of interactions for their coherency. The chapter concludes by introducing each of the authors' contributions to this book.

[1] Process quality typically refers to daily experiences within early childhood education programmes and involves all aspects of the physical, social, emotional and pedagogical aspects of activity including interactions with people and things.

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What Do We Mean by 'Interactions'?

What do we mean by 'interactions'? And how can we think through interactions to get a sense of quality pedagogy in early childhood education? In our sense, interaction refers to the ways people communicate (in the broadest sense) and act with each other, in relation to place and things, including the broader social structures of which they are part. Interaction may be thought of as the myriad of reciprocal exchanges that occur as people engage with the world. By focusing on the interaction, we can see the relatedness of people and things, how people and things are coordinated in a place and how they influence each other. It is this interplay between people, or people and things in a location, that is of interest in the pedagogical sense. How that interplay affords learning in the location of the early childhood setting is the question with which this book will contend.

In psychology or sociology, interaction studies typically use markers of body language, gesture, mimic, or verbal, paraverbal and non-verbal cues in communication and their relatedness, reciprocity or synchronicity to explore interactions. Another strand of interaction research is concerned with processes of people getting to know each other and relationship formation. In clinical settings, research may focus on attachment quality in early childhood or effects on children's development of parental stress or vulnerability. In education, the ways interactions shape possibilities for learning, and subsequent to this development, are of interest, especially in curriculum contexts where the co-construction of meaning is of central concern. This would be the case in New Zealand, for instance, where the early childhood curriculum *Te Whāriki* (Ministry of Education 1996/2017) has long been based upon sociocultural learning theory and ecological models of human development and learning.

A Shifting Gaze in the Science of Teaching and Learning

Debates over learning and the purposes of schooling have circulated for centuries and addressed major philosophical questions around the nature of truth and knowledge, who gets to know and how best to achieve this. Explanations for learning, which proliferated in the late nineteenth and early twentieth centuries (through traditions of behaviourist, cognitivist and humanist thinking and research), produced as well a new science of teaching. Honing the skills and expertise of teachers through the development of the most effective pedagogical interventions to improve learning for the individual has become a major scientific goal. The sciences of learning and teaching, institutionalised within the dual modernist regimes of developmental psychology and schooling, have become prominent as systems of formal schooling and nonfamilial care for children increased over the last century. Governments want accountability for their investments; evidence-based accountability is the present gold standard of currency. In the realm of early childhood education, the development of ideas about teaching and learning conflated with

understandings of human development over the early part of the twentieth century to individualise our gaze. However, the dominance of individualistic, behaviourist and cognitivist approaches to conceiving of and understanding learning has begun to lessen as more culturally bounded and distributed accounts of learning and development have emerged.

Providing a more holistic account of the conditions within which learning occurs, sociocultural, ecological and social constructivist perspectives are shedding new light on learning and early childhood practice. These views account for the reciprocal ways individuals and others in a place and with things combine to condition learning and, subsequent to this, development. Taken up in systems of early childhood education, such as in New Zealand, over the later part of the twentieth century, curriculum policy in early childhood education has foregrounded the critical importance of interactions as a basis for learning in the early years. There are many reasons why early childhood educators should be thinking about interactions and teaching; several of these are discussed below.

Why Should Those Invested in Early Years Education Pay Attention to Interactions?

Quality in early childhood education settings has become a major discussion point in world countries where children in their before school years are increasingly being cared for outside of the home. In Germany, for instance, there has been a rapid expansion of early childhood education over the past 10 years, especially for people aged under three. The same can be said for New Zealand where the number of infants and toddlers attending early childhood education in the years 2000–2013 has increased by 53% (Education Review Office 2015). Most teaching in early childhood education in countries such as New Zealand and Germany is conducted through play-based curriculum where children's interests provide the fuel for organised curriculum experiences. These experiences, balanced with routine across the day, serve as the basis for what teachers intend to be learned and how.

We have more of an appreciation than ever before of how learning is mediated through children's engagement with others and things in experiences that are culturally valued and meaningful; it is learning that the early childhood teacher is charged with stewarding in collaboration with parents and others. Figuring out how the interplay between people and things in an early childhood environment is implicated with learning must therefore be of central concern to the teacher. We understand from the perspective of sociocultural learning theory (for instance, Vygotsky's explanation of the zone of proximal development, 1980) that learning experiences contribute to changes in development; teachers can influence the conditions for learning and therefore too the conditions for development. So understanding the reciprocal exchanges between children and others may provide insights for teachers about where and how they may improve the quality of early childhood pedagogy.

We also have a much more nuanced understanding about how rates and pathways for development vary across different world populations and at different times in history. Development, influenced by learning (predicated on participation and engagement – interactions of various sorts), has been shown to be related to the cultural expectations people have of you, as well as the historical context and location of your growing up. By more fully understanding the cultural nature of human development (through the work of, for instance, Bronfenbrenner 1979; Rogoff 2003) and the place of learning in relation to this, we have been able to think about an individual's learning and development as interwoven with the collective and with cultural practices. So by exploring interactions, our gaze is expanded to see change as it involves but also exceeds the individual child, involving the context and ourselves concurrently. People and practices grow together – by observing and understanding their interactions we can not only view how individuals change, but how individuals contribute to change in others and shared practices too. Therefore, within early childhood education, a location in which more children are growing up, we can perceive the importance of interactions to high-quality pedagogy and learning for all.

This Book's Chapters

This book begins with arguments about the theoretical basis for interactions research. The present chapter has described what we mean by interactions and how the phenomenon may be framed within different research traditions. It has discussed also how a shifting gaze in the sciences of human learning and development has illuminated the social-situated and distributed nature and effects of learning in organised settings of early childhood education and care. We argued that educators should pay close attention to interactions as a basis for pedagogy in early childhood education because if you improve the quality of interactions, you improve the quality of pedagogy at the same time. This chapter is followed by *Hans-Werner Klusemann*'s thesis on micro-sociology's contribution to a theoretically and empirically well-founded didactic for early childhood education. Klusemann asks, "how do children/human beings learn? And can we identify specific ways in which learning is more or less successful?" Klusemann also outlines major conceptions of learning that have informed his work in the field.

The book then moves into several chapters that provide scope for understanding *how* interactions shape learning in early childhood education. *Regina Remsperger* uses video data to illustrate the concept of 'sensitive responsiveness'. She argues that if the concept is used for interpreting interactions between teachers and children in early childhood education, it may provide a means of judging the quality of interactions within teaching. Remsperger writes to demonstrate how teacher behaviour, when it is either more or less sensitively responsive, directly influences children's learning. Her aim in the chapter is to support the improvement of interaction quality within early childhood education.

Chapter 4 is co-authored by *Amanda Bateman, Alexandra C. Gunn* and *Margaret Carr*, who, from New Zealand, write about children's interactions with story partners from a Teaching and Learning Research Initiative study into children's storyte0lling and narrative competence. The story partners of interest in the chapter are objects utilised by children as part of their storytelling, and thus our conceptions of interaction and interaction partners is expanded into the more-than-human realm of *things* and how children's interpretations of the actions of things might be involved in what and how children learn.

Following, *Anne Kultti, Niklas Pramling* and *Ingrid Pramling Samuelsson* delve into the communicative experiences of young children in Australian early childhood settings. Focusing on children with a first language other than English, the authors bring together findings from three related studies to address relations between institutional, interpersonal and individual aspects of children's engagement in early childhood education. The question of how to represent children's non-verbal interactions in research is mooted in this chapter, and thus it addresses another dimension of the book: how best to *study* the phenomenon of interactions?

Chapter 5 considers how interactions between children shape possibilities for learning. Here *Alexandra C. Gunn* reports on children enmeshed in a story about girl-boy relations at kindergarten. Close observation of children's verbal and non-verbal interactions which are supported indirectly by adult responses from further afield shows how peers communicate expectations about appropriate and inappropriate girl-boy interactions and therefore influence what each other may learn.

The book's chapters then begin to inquire into methods and concepts for studying learning interactions. Beginning with a chapter by *Jayne White* and *Bridgette Redder* who are researching infant interactions with others, the authors introduce us to the polyphonic video method of data gathering and Bakhtinian concepts of the formation of identity within events of co-being. Importantly, the chapter draws attention to interactions occurring with and without words, foregrounding the infants' intentional communication with others, and she or he acts intersubjectively in the world.

Daniel Lovatt, Maria Cooper and *Helen Hedges*' chapter on home visits in early childhood education reminds us of the absolute value of teachers' quality interactions with families for strong pedagogical decision-making in early childhood education. By observing families interact at home, early childhood teachers can recognise the expertise and family pedagogies that support children's learning, mirroring these in the early childhood context and providing a bridge for children's participation in early childhood education.

Chapter 9, by *Rachel Burke* extends this cultural framing of the phenomenon of interactions in her study of early childhood teaching practices in New Zealand and Japan. By examining the diversity of practice across these two cultural sites, the chapter reminds us that what we take to be 'fair' and 'just' in any interaction is guided by the cultural context from within which we experience and interpret the interaction.

Questions about child and adult verbal and non-verbal interactions in early childhood education are raised by *Claudia A. Hruska* in Chap. 10. Hruska outlines an 'interaction analysis' method of inquiry for teachers. She argues that the professional

learning of teachers should encompass whole of early childhood centre inquiry that involves scrutiny of verbal, paraverbal and non-verbal aspects of communication.

In the book's final content chapter, *Claudia Wirts, Monika Wertfein* and *Andreas Wildgruber* co-author a discussion of the relationship between teachers' professional knowledge and interaction quality, paying attention to structural and process factors of quality early childhood education. They describe findings of studies about interaction quality, and they make arguments about features of German teachers' skills and abilities within pedagogical interactions in relation to teachers from other European countries from similar available measures.

The discussion chapter, Chap. 12 brings together major claims about pedagogical interactions in early childhood education produced from the book's body of research, including a brief discussion about methods of inquiry and research considerations. Through the holistic view of learning in early childhood education provided by interaction research presented in this book, it is possible to understand learning and development beyond the individual gaze and to appreciate how the learning of children is implicated with the learning of communities as a whole. In this way, early childhood education may be thought of as at the foreground of learning and development for all.

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Chapter 2
A Conceptual Framework for Early Education: What Micro-sociology Can Contribute to a Theoretically and Empirically Well-Founded Didactic in Early Education

Hans-Werner Klusemann

How do children and, more generally, all humans learn? Can we identify specific ways in which learning is more or less successful? I would like to start discussing these questions by shortly delineating two conceptions of learning that have strongly informed our understanding and practical modelling of learning processes. In this chapter I will spell out a new perspective on learning, which brings in a micro-sociological perspective, building on the work of Randall Collins (2004) and Thomas Scheff (1990).

Ingrid Pramling-Samuelsson (1990) and Pramling-Samuelsson and Asplnut Carson (2007) famously adopted a metacognitive approach to learning. They studied how children develop the ability to reflect their own learning processes and competencies. Pramling-Samuelssons empirical studies show that until the age of 4, children simply learn by actively engaging with objects and they cannot transfer their knowledge to new subjects yet. After the age of 4, however, children learn by understanding, i.e. by bringing together knowledge and active engagement. In other words, rather than just getting acquainted with a certain phenomenon, children start to learn to metacognitively reflect upon things. For example, when children observe sand running through their fingers, the point is not to learn that objects fall down but rather why the sand falls down.

The ideal learning environment, according to Pramling-Samuelsson, is one in which children are taught in such a way that they learn to learn, i.e. they learn skills of learning acquisition and the transfer of knowledge to new areas. The goal is to generate reflexivity, reflexivity beyond immediate subjects or phenomena.

Kristina Gisbert (2004), who worked for several years with Wassilios Fthenakis at the Bavarian State Institute of Early Childhood Research (IFP, Germany), has adopted Pramling-Samuelsson's didactical concept, focusing on the transfer of learning competencies. Gisbert has suggested along this line an educational concept

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at the pre-school level, which has as its goal to advance the understanding of children by engaging them to reflect upon what they have learned and upon the fact that they are learning as well as how they have learned.

However, if it is correct that children learn and that learning is an important element of education, we need to ask *how* children learn when they imitate, practice, reflect, or acquire learning competencies. Pramling-Samuelsson's theory (2007) focusses on the individual, but it does not explain what happens situationally when children learn, i.e. what happens in the interaction itself. The differentiated analysis of her case study of Anna overlooks that learning is not primarily an individual and cognitive process but has a central social-interactional (or rather situational-interactional) and emotional dimension.

Let me move to the second influential approach in the theory of learning, the theory of co-construction represented, for example, by the work of Fthenakis (e.g. Fthenakis 2005, 2009). There are some overlaps with Pramling-Samuelsson's approach: successful learning means for him not primarily the transfer of specific knowledgeable facts but – similar to Pramling-Samuelsson – the development of learning competencies that support one to succeed in situations with new intellectual challenges or to apply knowledge in other contexts and situations or to carry over knowledge to other topics.

However, while Pramling-Samuelsson focusses only on the child and learning appears as an achievement, quality, and competence of the individual subject itself, Fthenakis (similar to Vygotzky 1987) emphasizes that learning is *socially* created. While Pramling-Samuelsson is a cognitivist, Fthenakis focusses on the process of learning interactions as co-construction of the social world. The intended outcomes of learning, according to Fthenakis (2009), are the results of co-constructions between teacher and children in interactions.

My own position follows Fthenakis by adopting a processual perspective, i.e. it focusses on the processes of learning themselves. With Fthenakis, I agree that we cannot understand educational achievements adequately without first understanding learning processes and moving beyond a focus on the learning subject. However, we do not find in his work how interactions unfold or how interactional processes in early education should be set up.

The key is that Fthenakis puts the processual dimension of cognition into the focus of attention: Fthenakis conceives of learning as a chain of interlocked, reciprocal cognitive processes (internal dialogues), which shape each interactant's self-perception as well as the understanding of their social world. Prototypically, this looks something like this: "'*I think*', '*I think that you think*', '*I think that you think that I think*'", and so on. This is also linked to theories of metacognition in learning processes and influences the focus as well as the way of learning.

The acquisition of knowledge and social understanding, here, however ultimately remains within the realm of cognition and a pure cognitive achievement of the children. What this approach neglects is that interactions cannot be reduced to the cognitive level. The cognitive orientations of the people who are involved in interactional processes, for example, get shaped, if not determined by patterns and dynamics of interactions themselves, including, e.g. the emotional dynamics of an interaction.

Already, in the late 1970s and 1980s, Flavelle (Flavelle and Wellmann 1977; Flavelle 1979) and also Brown (1984) noted that cognitive capacities depend on the emotional constitution of a child and that trust between a teacher and a child positively influences learning.

In my own perspective, the involvement of emotions in the process of learning is very important. It is important to include an analysis of the influence of emotions on what learning interactions look like empirically. In other words, we need to get a better understanding of what learning looks like situationally by observing it as it occurs in the here and now of individuals interacting. In fact, there hardly is any empirical research on the way learning interactions shape learning in themselves; the interactional, situational dimension of learning requires more study. But fortunately, interactions are something we can observe: the vocal remarks, as well as the facial expressions, body language, and vocal cues of the interactions (their emotions) as well as the rhythm and flow and chain of actions and expressions during an interaction, can be recorded and analysed. And variation in these micro-patterns of interactions[1] can be used in order to develop a practical guide of what contributes to a successful or unsuccessful learning interaction.

In sum, I suggest that learning and learning success are determined by the local situational patterns of interaction. Even more pronouncedly, learning in this perspective resides in the structures of situational interactions, including their emotional structures. And hence we need to reconsider what we perceive as practical tools that help promote successful learning. This call for a switch in the analysis and understanding of learning builds upon Randall Collins' work, probably the most innovative and influential interactional theorist in sociological science. Collins' (2004) key argument is that rather than the individual the here and now (situations) of face-to-face interactions have to be the starting point and focus of sociological analysis.[2]

The key contribution that Collins' theory leads to an analysis of learning can be put as follows: we gain access to the phenomenon of learning by studying the micro-level structures of interactions and an adequate understanding of how children (and human beings more generally) learn and what causes successful or unsuccessful results of learning may be observed.[3]

What are the micro-level structures of situational interactions that Collins identifies? Furthermore, what can we learn from them for an understanding of what allows successful learning?

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[1] That is, the emotions, the rhythm of an interaction, the vocal expressions, body language, etc. of the interactors, as well as the relation between interactors.

[2] The following section provides a summary of Collins' main arguments. I rely on and draw from the arguments made in Collins (2004).

[3] From Collins' viewpoint, the weakness of traditional theories of learning is that they do not analyse learning situationally (as a situational process of interactions) but focus on the individual and/or the result of learning (Collins 2004, p. 3). And the approaches of Fthenakis or Pramling-Samuelsson do not focus on learning interactions themselves but instead transfer learning solely into individuals' heads.

Collins' starting point is Erving Goffman's argument that rituals are the basic pattern of all interactions (Goffman 1986). He provides a contrasting view to a traditional narrow understanding of the term ritual as formal, institutionalized rituals (such as birthday, Christmas, wedding, or graduation ceremonies). Goffman shows that all interactions are rituals, sometimes with high emotional intensity or outcomes of feelings of solidarity in case of successful rituals and sometimes flat, alienating, or silent when less so; interactions have positive rules of conduct much like formal rituals (e.g. with greetings, one's own ritualized interaction style needs to be changed in response to interactions with people from other cultural backgrounds or new contexts); and there are ritual taboos in interactions such as rules of courtesy in different subgroups, groups, as well as societies and cultures.

Collins has systematized Goffman's argument into a theory of "interaction ritual chains". A first key ingredient of his theory is the argument that successful interaction rituals are characterized by the following micro-level ingredients (see Collins 2004: p. 48):

(1) "Two or more people are physically assembled in the same place, so that they affect each other by their bodily presence (…).
(2) There are boundaries to outsiders so that participants have a sense of who is taking part and who is excluded.
(3) People focus their attention upon a common object or activity, and by communicating this focus to each other become mutually aware of each other's focus of attention.
(4) They share a common mood or emotional experience."

We can observe the success of rituals on the very micro-level according to Collins. Successful interaction rituals, he notes, are characterized, for example, by a micro-rhythm (Collins 2004, pp. 65–79), in which turns of speaking or acting follow smoothly the preceding one – without prolonged pauses or strong overlaps in speech (i.e. cutting off others or talking over one another), for example. Interactants are pulled into the interaction's rhythm. In some cultural societies, long pauses are experienced as alienating, lack of interest, or dominance. In other cultural backgrounds, a long pause is associated by respect or time of silent thinking. Also, strong overlap in talk (i.e. cutting off others or talking over one another) may be experienced as insulting or may create anger.

A similar logic applies, as Collins shows, also, for example, with regard to gaze: successful interaction rituals have a strong focus of attention. Protracted and/or pronounced gaze aversion on the other hand can disrupt the flow or mood of an interaction in Western societies. A shared common background of experiences, i.e. shared past interactions, promotes successful interactions according to Collins. The "reservoir" of shared experiences and cognitive cultural symbols promote a smooth flow of the interaction. We can observe the opposite phenomenon when interaction partners do not find something to talk about or shift to trivial themes (such as the weather) to avoid long pauses and hence uncomfortable emotions of shame or alienation[4].

[4] Note: the examples of Collins are based upon the analyses of interactions in Western cultures. Reference to the research of others, e.g. authors like Rogoff, Keller, and Ekmann, or even older work of cultural anthropologists such as from Eibl-Eibesfeldt focuses attention on cultural differences in communication. Please refer to Burke's chapter in this book for relevant contemporary discussion of issues.

The central characteristic of successful interactional rituals, Collins argues, is a shared mood and emotional entrainment (being pulled in and along by the interaction). The degree of emotional entrainment and emotional arousal varies between interactions, depending on the degree to which the first three elements are in place (Collins 2004). There are several outcomes of successful interactional rituals (see Collins 2004: p. 49):

(1) "Group solidarity, a feeling of membership."
(2) "Emotional energy (EE) in the individual: a feeling of confidence, elation, strength, enthusiasm, and initiative in taking action."
(3) "Symbols that represent the group: emblems or other representations (visual icons, words, gestures) that members feel (…) (attached to); (…) these are Durkheim's 'sacred objects' (…)."
(4) "Feelings of morality: the sense of rightness in adhering to the group, respecting its symbols, and defending both against transgressors."

We experience such outcomes in interactional rituals such as soccer games, birthday parties, or vibrant lectures and classes that we remember and that we leave with emotions of elation and that create initiative, motivation, ambition, and confidence (what Collins refers to as "emotional energy"). And we can also observe it empirically in the field of early education: videotape that I recorded as part of a separate research project shows how an emotionally warm, devoted, and appreciating pedagogy creates reciprocal elation, initiative (i.e. emotional energy), and strong emotional bonds.[5]

In sum, successful interactional rituals have a common focus of attention and emotional arousal and entrainment. People are pulled into the interactions and experience emotional excitement. The outcome of such processes is collective solidarity and the rise of sacred objects such as a soccer star, charismatic party leaders, intellectuals, teachers, or educators *and* also shared experiences, words, or slogans (such as "Yes, we can!") as well as ideas and topics (i.e. learning in a narrower sense). Finally, a long-term outcome of successful interactional rituals is high emotional energy, i.e. confidence, initiative, and passion.

Thus, our confidence, cultural symbols, and capital (i.e. our knowledge) in addition to our emotional attachments originate from chains of successful interaction rituals (within our families, with peers, and within a professional educational context such as ECEC centres).

Not all interaction rituals are successful; however, Collins argues that failed rituals generate alienation from an interaction or we feel indifference towards the interaction. Beyond the micro-rhythms of an interaction, this hinges upon interactional relations of (a) *status* and (b) *power* (the following summary draws from Collins 2004: pp. 111–118):

(a) To have a high *status* in interactions means, in Collins' terms, to be in or near the centre and focus of attention of a ritual. Those in the centre gain emotional energy, which gets

[5] A detailed analysis and presentation of these video recordings is envisioned; it requires the approval of the regional Ministry for Education in Mecklenburg-Vorpommern. For an example of a successful learning interaction, see also the video "Lisette and her children (Lisette und ihre Kinder)" that is accessible online.

reflected in their confidence, identification with an organization and its symbols or goals, as well as their commitment etc. Interactants "at the fringe" of interactions, in contrast, generate lower amounts of emotional energy, which translates for example into a lack of confidence and less emotional attachment with an organization or group at large or the tendency to create backstages – or withdrawal from interactions where possible. Think about yourself, how difficult it is in some cases to join a conversation or party where we do not know anyone and what kind of emotions we experience in turn.

(b) The structural element of *power* in interactional rituals refers to the phenomenon that some individuals are in a position to give out orders and/or to delegate tasks, while others cannot and at the same time receive orders themselves. Examples are relationships within hierarchical organizations or imperious relationships between child care workers or pre-school teachers and children. Prange's (2011) educational concept for example relies on moderate authoritarian interactional relations in kindergarten and schools: a presentation of the world to children by pointing at something to be learned.

Status and power relations determine, according to Collins, how successful or unsuccessful a ritual is for participants in an interaction. Those who delegate tasks are in the centre of a ritual, i.e. in the focus of attention, more so than those who are delegated. Their emotional energy differs accordingly, as does emotional attachment to group symbols and the group itself. Collins notes that we can observe this in the typical phenomenon that high-ranking officials in an organization tend to identify with the organization and have high amounts of emotional energy. Both are outcomes of the structural positions they have in interactions.

What practical implications do these arguments have for the practice in early childhood education? Learning is first and foremost interactions, and very generally we can state that learning success is the outcome of successful interaction rituals, i.e. of emotional entrainment of teachers and students. My cognitive representations, my ideas, are generated from successful interactions; my knowledge in this sense results from my interaction rituals chains. A common focus of attention and rhythmic, emotional entrainment is the foundations of (a) cognitive achievements and knowledge attainment, i.e. learning (since they create cognitive symbols – symbols with strong attachment or meaning similar to sacred objects of formal rituals), plus (b) emotional energy, i.e. the confidence to use knowledge, ambition, and initiative in using it, expanding it, defending it, transferring it to other areas, etc.

More generally speaking, we can infer from Collins' theory that learning success in interactions is based on enthusiasm, eagerness, and initiative for learning of both, teachers and children – and needs to be ignited among children. This implies that mere memorizing (i.e. mere cognitive learning) cannot be a successful form of learning. With Collins we see that memorizing such as in exam preparations does not generate emotional excitement, that is, it does not create ideas, which we positively embrace and which we thus tend to forget in the long run. Since emotions are a central dimension of interactions, knowledge is always imbued with emotions. Practically speaking, this means that cognitive representations, i.e. symbols such as those from courses in mathematics, biology, etc., or other cognitive representations are imbued with different emotions and have different degrees of emotional importance for individuals along a continuum from excitement and indifference to alienation or distancing. We attach different forms and intensities of emotions to cognitive

symbols (i.e. children, adults, or learning material). Also, memorizing does not create strong forms of emotional energy – i.e. confidence and initiative for learning and an active involvement with subjects.

Let us consider the relationship between cognitive achievements and emotions in learning interactions in some more detail since it is so central for the discussion with cognitivist authors: according to Collins, the central characteristic of successful rituals is mutual entrainment and excitement and being pulled in and along by the interaction. The implication for learning interactions is that successful cognitive learning is based on a smooth flow as well as emotional excitement. However, power and status (as micro-patterns of interactions) have a key influence on the emotional flow of interactions. Hence, we need to pay close attention to both structural elements and their effects upon the emotions of actors when it comes to the question of what promotes successful learning interactions.

Perhaps the most innovative work in this field has been done by the micro-sociologist Thomas Scheff (1990). Power and status, according to his work, have important repercussions for our emotions since they shape our perception of how others see and evaluate us. Scheff distinguishes between two secondary or culturally driven emotions that arise from these perceptions: (a) shame and (b) pride.

With the term shame, Scheff refers to a negative perception of how others perceive us. These are the result of power rituals (i.e. hierarchical or moderate authoritarian interaction) where one receives orders or of status rituals in which one is relegated to the fringes of an interaction. Shame leads to withdrawal or alienation from interactions, and these interactions lack emotional entrainment and excitement.

Pride on the other hand implies excitement and emotional energy – i.e. initiative and confidence in dealing with new material. And the absence of power rituals and/or marginalized learners (and instead, positive emotions and emotional entrainment) thus creates emotional confidence and leads to learning success. Thus, what happens in the here and now of learning interactions *emotionally* is the key to understand successful and unsuccessful learning (see also Scheff 1990, pp. 161–174). And further, what we need is learning interactions that limit power and marginalization in interactions.

We can sharpen this argument by bringing in Scheff's theory of what makes a genius (Scheff 1990). He notes that there is one area in which all humans are in some respect a genius: in their mother tongue. Scheff in turn asks how it is possible that children learn so successfully their mother tongue, while learning of other subjects is more difficult and often unsuccessful. Relatedly, the learning of two languages at an early age is often much more successful than the learning of a foreign language at school. Noteworthily, by the age of 5, Stern (1998; Stern and Guthke 2001; Stern and Schumacher 2005) reports children have acquired a practical knowledge of the basic rules of their mother tongue and the sentences of 5-year-old children are as grammatically accurate as those of first-year students at the university. Scheff argues that in order to understand why the learning of the mother tongue (as well as of a second language as an infant) is in many respects so much more successful and easier than other forms of learning, we need to study the situational, interactional structures of early language acquisition and compare it to later interactional forms of learning in kindergarten or at school.

He identifies four aspects that distinguish the learning of the mother tongue and that help explain its extraordinary comparative success (Scheff 1990, pp. 159–160):

(1) Children spend much more time with their parents and other care takers learning a language than in any other type of instruction.
(2) "Language instruction is supremely interactive (and supportive). (…) Long before any speech is acquired, parents and others speak directly to the infant, usually seeking (…) any response to their utterances" (Scheff 1990, p. 159). And there is "immediate rewarding of the infant's responses, often with boundless enthusiasm" (Scheff 1990, p. 159). Thus, these interactions are relatively free of shame.
(3) "Language instruction is built upon the infant's own spontaneous gestures and utterances. Virtually all other systems of instruction require the learner to conform to the conventions of the subject to be learned" (…) and require the learner to adopt to an alien system of conventions, (which) may cause small but cumulating deficits of self-esteem" (Scheff 1990, pp. 159–160).
(4) The teachers/tutors are highly competent in what they are teaching.

The practical implications of Scheff's observations are that we have to create an environment for learning music, mathematics, or any other subject that resembles the one of learning one's mother tongue. Scheff himself makes the following propositions (Scheff 1990, pp. 160–161):

A first central aspect of successful learning is an interactional situation that surrounds the spontaneous activities of children. Bringing in music lessons as an example, Scheff suggests that the teacher could begin by responding to the child's spontaneous rhythms and beats as if they were actual musical tones – similar to first utterances of infants or toddlers. Maria Montessori argued in a similar direction, Scheff notes, when she emphasized that learning interactions should be based on children's spontaneous behaviour. But Scheff goes beyond Montessori's arguments by noting that an ideal teacher for a genius would be someone who not only makes room for spontaneity of the child but also spends an extensive amount of time with a child and is highly accessible (similar to house teachers of great composers). Furthermore, the teacher should be him- or herself very familiar and highly educated in the field that he teaches as well as highly enthusiastic about the field of study which is central for igniting enthusiasm for a subject and its details within the child.

Here, Scheff is in line with Collins' arguments and tour de force through the history of philosophy in his book *Sociology of Philosophy* (Collins 1998). Collins shows here based on numerous examples that the central learning experiences of (successful) intellectuals – here leading philosophers – take place in immediate interactions and through long and frequent interactions between students and their mentors. In other words, intellectual resources and creativity, Collins argues, are not (primarily) acquired at the desk but in emotionally intense personal interactions with some people becoming *energy stars*[6] (i.e. teachers with high self-esteem, eagerness, initiative, and a strong focus on minutiaes) in which they transfer their

[6] Note: as Collins argued, some people have such a high reserve of emotional energy, from which they draw their self-confidence. Moreover, energy stars get their energy from successful interactions, whereas other people may experience the same situation as energy draining.

initiative and elation to the student (Collins 2004, p. 192). From Collins' viewpoint, these arguments are applicable to learning in all settings, including kindergartens, pre-schools, elementary schools, or high schools.

Another key characteristic of interactions in which human beings learn their mother tongue is that parents largely refrain from sanctioning mistakes but focus on rewards, using this as didactic tool (Scheff 1990, p. 161). Newly learned words are celebrated enthusiastically, while mistakes are generously overlooked. The absence of shame, according to Scheff, is the key reason for the success and effectiveness of learning a mother tongue and of the ineffectiveness and failure of other learning interactions (Scheff 1990, 161). Such interactions without shame provide emotional support. And they create emotional initiative and self-confidence (pride and emotional energy) that are prerequisites to engage with knowledge and hence also to discuss and to question knowledge adequately (Scheff 1990, pp. 71). And emotional energy in Collins' terms or pride in Scheff's terms provides belief/trust in one's own ideas and confidence in presenting one's ideas.[7]

It is important to consider that learning and exams often create fear of shame, humiliation, being ridiculed, or appearing dumb (more so than merely fear of bad grades). However, learning always and necessarily entails mistakes which students/children make and in fact are useful as learning steps because they are central in learning advances. If students find themselves in interaction rituals with teachers in which fear of shame is absent, they learn to defend, discuss, and adjust positions, and they acquire high emotional energy, i.e. confidence, and dedication to a topic, i.e. vigorous and meticulous studying, including outside learning interactions at school (Scheff 1990). To achieve this enthusiasm and devotion, we need a didactic that creates interaction rituals in which teachers and children share a strong common focus of attention and emotional entrainment, in which emotional energy is acquired and in which shame is absent (Scheff 1990, pp. 167–174). Prange (2011), for example, overlooks that his educational concept implies latent power relations that are not conducive to the kind of interactions suggested here. The main aim has to be the creation of a learning environment and interactions that approximate to what Scheff has identified as the main interactional structures in which we learn our mother tongue.

Concluding Discussion

Recent advances in micro-sociology by Collins and Scheff provide the basis for a gestalt switch in our discussion and analysis of learning and learning success. They reject epistemological approaches that start with or focus on the individual as well as individualistic concepts of learning, including the approaches of self-development/

[7] I am focussing here only on interactions between teachers and children. However, it goes without saying that the emotional dynamics originating from the fact that children learn and interact in a group among peers have to be taken into account as well.

self-creation. Learning, in Collins' and Scheff's view, is an interaction ritual, and thinking, knowledge, ideas, and creativity and practical knowledge are outcomes of interactions. For both authors, the relational patterns in interactions and their concomitant emotions are the key foundation for the success or failure of learning interactions. Successful learning interaction rituals are free of shame, have a high common focus of attention, are based on the spontaneous activities of children and adults, rely on teachers' enthusiasm for a subject and an effort to transfer this enthusiasm, and have – as a result – strong mutual entrainment, all of which generate high emotional energy and turn subjects taught into sacred objects that are endowed with positive emotions. Scheff and Collins show that these are the central characteristics of interactions of learning a mother tongue and of the personal experiences of successful philosophers. These structures of interactions create high enthusiasm for subjects (subjects taught in these kinds of interactions turn into sacred objects), eagerness to work with ideas, belief/trust in own ideas, and confidence in presenting one's ideas. These successful interaction rituals find their counterpart in power rituals or situations of marginalization in which students cannot gain emotional energy and where shame is a recurrent emotional experience.

I would like to end by considering two frequent misconceptions or misunderstandings of the relationship between cognition and emotions in learning processes:

(1) Where I stress the importance of emotions in learning processes, I am decidedly *not* referring to a superficial enjoyment. Collins refers the terms emotional energy and emotional entrainment to something else: confidence, an emotional devotion to subjects, being carried away by or highly focused upon a topic, or a melting together with a topic or perspective (see Collins 2004). Cognitive learning is determined by the varying degrees of the absence of shame in a learning interaction and its long-term outcome and emotional energy, i.e. emotional eagerness and confidence to learn and debate.
(2) It is without doubt central – including in early educational settings – to acquire knowledge, and it is true that, in part, learning success depends upon already existing knowledge of the individual, for example, in order to grasp new challenges and to master them. In this respect, I appreciate and follow Pramling-Samuelsson and Fthenakis' cognitive approach. However, knowledge is not centrally the result of a cognitive process but acquisition is centrally determined according to Collins and Scheff by the emotions and thus also the relational structures of the interactions in which knowledge is taught.

These arguments also have central practical implications: allegedly objective measures of learning success, such as exams or surveys of the knowledge of children, do not lead us to a reform of education or an understanding of the genius, learning deficits, etc. In fact, they are leading us astray from an understanding of how successful learning is achieved. Instead, we need to broaden practitioners' understanding of the interactional structures by which knowledge is acquired and taught and the emotional processes, which guarantee successful learning. Since successful learning is about mutual emotional entrainment and emotional energy, the

design of positive emotions in learning interactions must gain didactic priority. Successful learning and significant improvements in standardized tests can only be achieved in so far as educational programmes – whether cognitive, social, or bodily – put the emotional flow of learning interactions and emotional energy into the centre of attention. All considerations and programmes of, for example, quality assurance should be planned, put into place, and evaluated on the basis of emotional energy and emotional entrainment in learning interactions.

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Chapter 3
Sensitive Responsiveness: An Approach to the Analysis and Improvement of Teacher-Child Interactions in Early Childhood Settings

Regina Remsperger-Kehm

Introduction

In recent years, international psychological discourses have focussed increasingly on social interaction as a basis for learning processes in early childhood education. Social constructivist learning theories have gained more importance. Spontaneous reciprocal interactions and sensitive relationships between adults and children – and also among children – are seen as a key element of quality in ECE (Smith 2004). Nowadays creating interactions with children is a very important topic in German ECE centres and seen as a "didactic key" (Viernickel and Stenger 2010, p. 181).

In the past decades, different research disciplines have proven the positive impact of a sensitive pedagogical interaction style. Attachment theorists pointed out that a stable social development of children depends on a secure and sensitive relationship with at least one primary caregiver (Bowlby 1986). Based on an internal working model, children transfer their experiences from their relationships with family members to other attachment figures. Thus, early childhood teachers, who are deeply involved in interactions with children (Anderson et al. 1981), may become new attachment figures for children as well (Goossens and Van Ijzendoorn 1990). Studies show that quality in teacher-child relationships influences children's social and emotional development (Grossmann 2000; Oppenheim et al. 1988). Referring to Oppenheim et al. (1988), Howes et al. (1998) and her own studies (Ahnert et al. 2006), Ahnert (2007) draw attention to the correlation between secure teacher-child relationships in ECE centres and future success in school. According to these studies, children with secure attachment experiences in ECE centres were very motivated to learn at school entry. In addition, they had high expectations of their new relationships with their teachers at school and were more emphatic, cooperative, independent and goal oriented than peers with insecure attachment experiences.

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As German curricula for ECE are based on learning fields, their focus on interactions between teachers and children is less noticeable than in *Te Whariki* – the curriculum for early childhood in New Zealand. The holistic curriculum "emphasizes the critical role of socially and culturally mediated learning and of reciprocal and responsive relationships for children with people, places and things" (New Zealand Ministry of Education 1996, p. 9). Two approaches to assessment and evaluation – "Learning and Teaching Stories" – complement the New Zealand curriculum (Carr 2001; May et al. 2004). They refer to the sociocultural background of the curriculum and document complex, reciprocal and responsive relationships between competent learners and their environment.

In 2004, the "Learning and Teaching Stories" approach was adapted in a German project for early childhood education by the German Youth Institute (DJI) (Leu et al. 2007). Based on the assumption that responsive relationships between adults and children support children's learning (Carr 2001), the German "Learning Stories" approach specifically highlights the relationships between children and ECE teachers (Leu et al. 2007). Results of the project showed that teachers had problems with interacting spontaneously and sensitively with children, when there was no other teacher in the group (DJI 2007). As a member of the DJI project, I wanted to find out more about the qualitative structure of teacher-child interactions and began to explore the utility of the concept of sensitive responsiveness in German ECE centres.

Theoretical Background

In contrast to international research, there were only a few studies in Germany examining the quality in teacher-child relationships in ECE centres, when I started my study (Tietze 1998; Roux 2002; König 2006). Tietze (1998) translated the American measurement instrument ECERS to the German "Kindergarten-Einschätz-Skala (KES)" and adapted Arnett's "Caregiver Interaction Scale" (Arnett 1989) to determine the specific character of teacher-child interactions. Observing teachers' sensitivity, involvement and acceptance of children, the author came to the result that some of the teachers tended to leave the children to their own devices and resources, disregarded greetings and goodbyes, provided insufficient stimulation during activities and gave inadequate support to children during conflicts and emotional problems (Tietze 1998).

König (2006) took these results as a starting point and examined interactions between ECE teachers and children. Based on the assumption that "sustained shared thinking" supports children's learning (Siraj-Blatchford et al. 2003), König tried to identify interaction processes in everyday situations that were characterised by sustained shared thinking. The author showed that teachers seldom worked with children's experiences and knowledge, rarely picked up children's interests and ideas and used a positive and affirmative feedback only rarely (König 2006). When they had a long-lasting interaction with the children, teachers dominated the interaction process. In particular, teachers regulated problem-solving rather than supporting children to

solve problems themselves and to develop constructed ideas. König concluded that relationships between ECE teachers and children are often superficial. In her eyes, daily routines in ECE centres provide less than ideal conditions for a learning culture that is characterised by sustained shared thinking in teacher-child interactions.

Within the last 5 years, early childhood research in Germany has increased its focus on interactions between teachers and children (Fried 2013; Gutknecht 2012; Jooß-Weinbach 2012; Wadepohl and Mackowiak 2013; Weltzien 2013). Weltzien (2013) who developed a video-based instrument to observe and reflect on everyday teacher-child interactions in German ECE centres found out that ECE teachers still have difficulties beginning conversations with some children. In particular, it was difficult for ECE teachers to interact with children who showed an avoiding or provocative behaviour (p. 80). Observing ECE teachers who were forming relationships with children during free play, Wadepohl and Mackowiak (2013) found that teachers seldom responded to children's communications concerning learning. On the contrary, teachers more often responded to children's organisational questions (e.g. asking to stand up from the table). In addition, the authors observed that ECE teachers in their study seldom used impulses that reduce children's stress and support children's exploration (p. 109).

Taking up these results, I can conclude that ECE teachers still seem to be confronted with difficulties when they want to create interactions that support and stimulate children's learning. This reflects the findings of my study also, where teachers responded less sensitively and with less stimulation in situations that were – for example – characterised by noisiness (Remsperger 2011). In my study, I analysed the concept of sensitive responsiveness in its theoretical context and operationalised it on the basis of my empirical observations. To point out implicit moral concepts and normative perspectives regarding an *adequate* creation of interactions in pedagogical contexts, I will next give an insight into the theoretical background I used to describe sensitive responsiveness. Afterwards, sequences of transcriptions will be exposed to illustrate sensitive responsiveness within teacher-child interactions in my study.

The Concept of Sensitive Responsiveness

To explore the utility of the well-researched psychological concept of sensitive responsiveness (e.g. Schaffer and Emerson 1964) within German ECE – and especially within interactions between teachers and children aged from two to six, I first of all adapted Ainsworth's (1974/2003) concept of sensitivity. Therefore, I systematised and compared different definitions and operationalisations of sensitivity with Ainsworth's concept. Thompson (1997), for example, defines sensitivity as "a broad conceptual rubric encompassing a variety of interrelated affective and behavioural caregiving attributes" (Thompson 1997, p. 595). Van den Boom's (1997) meta-analysis shows "what a highly complex phenomenon sensitivity is. Numerous operationalizations exist" (Van den Boom 1997, p. 592). Van den Boom (1997) concludes that "sensitivity is basically a statement about the interaction and, hence, is meaningless without reference to both partners" (p. 593).

Based on Ainsworth's (1974/2003) sensitivity concept and focusing on the pedagogically responsive behaviour, I referred to the definitions of Van den Boom (1994) and Isabella (1993) to work with the concept of sensitive responsiveness. Van den Boom (1994) defines sensitive responsiveness as "the mother's ability to monitor infant signals attentively, perceive infant signals accurately, and respond appropriately and contingently" (p. 1458). Isabella (1993) draws attention to "the degree to which mothers were attentive, appropriate, and consistent in their interactions with infants" (p. 611).

Although it is difficult to make a clear-cut distinction between the concepts of sensitivity on the one side and responsivity on the other, there is a noticeable tendency to focus on reactions and responses when the term responsivity is used. Thus, the concept of sensitive responsiveness was most appropriate to analyse if teachers respond to children's signals at all (*responsiveness*) and, if they do so, how sensitive their response is (*sensitivity*). Based on Ainsworth's (1974/2003) concept of sensitivity, sensitive responsiveness in my study is described as the ECE teacher's ability to respond sensitively to children's signals, to be aware of these signals and to respond appropriately.

To analyse teacher-child interactions in different everyday situations in ECE centres, specified characteristics of sensitive responsiveness were necessary. In addition to Ainsworth's sensitivity scale (1974/2003), different definitions were part of my comparative text analysis. Table 3.1 illustrates the two categories and four behavioural marks of sensitive responsiveness which were already described in other research.

Table 3.1 Operationalisation of sensitive responsiveness

Awareness of signals
Accessibility, attentiveness
Ainsworth 1974; Isabella 1993; Van den Boom 1994; Arnett 1989; Simó et al. 2000
Appropriate response
Prompt response, accurate interpretation
Ainsworth 1974; Isabella 1993; Van den Boom 1994; De Wolff and Van Ijzendoorn 1997; Simó et al. 2000
Attitude (acceptance/appreciation, interest, respecting children's autonomy)
Pascal and Bertram 2003; Arnett 1989; Tietze 1998; Lay et al. 1989; Simó et al. 2000
Involvement
Anderson et al. 1981; De Wolff and Van Ijzendoorn 1997; Howes and Hamilton 1992
Emotional climate
De Wolff and Van Ijzendoorn 1997; Lay et al. 1989; Simó et al. 2000; Pascal and Bertram 2003; Arnett 1989
Stimulation
Ainsworth 1974; De Wolff and Van Ijzendoorn 1997; Pascal and Bertram 2003; Arnett 1989
Behavioural marks
Language, voice, facial expression, posture
Simó et al. 2000; De Wolff and Van Ijzendoorn 1997; Van den Boom 1994; Isabella 1993; Pascal and Bertram 2003

Research Methods

To analyse children's interaction signals and teacher's ways of responding to these in everyday interactions in German ECE centres, I undertook a focussed ethnographic field study (Oester 2008) of everyday interactions between teachers and children. I observed interactions in very different situations in eight German ECE centres. Five of these centres participated in the DJI project; three centres were located nearby the author's hometown. Knowing the author or the author's colleagues, teachers and parents quickly consented participating in the study. To find out more about the dynamic and complexity of (non)verbal communication, interaction and behaviour, I used video and observed face-to-face teacher-child interactions in the "natural setting" (Friebertshäuser 2008, p. 55). When children (aged from 2 to 6 years) sought the attention of their teacher, I started to videotape. To avoid a "falsification through the own perspective" and to keep distance from the objects of research (Girtler 2001), I standardised the video records in my study.[1] There were 39 – all female – teachers participating in this study. To prevent interruptions of the teacher-child interactions, the method of participant observation was used. Teachers and children knew that I visited them regularly to observe their interactions. Children looked through the camera, watched video sequences and were keen on talking about the recorded interactions. Teachers familiarised themselves with the video data in this manner as well. Gaining trust in this way, children and teachers accepted my role as a researcher. Thus, children and teachers soon got used to my presence, and I didn't interrupt their daily routines in the ECE centre.

Alongside my field study, I generated operationalisations for teacher's sensitive responsiveness and children's interaction behaviour on a theoretical basis. According to Carr's (2001) concept of learning dispositions, children's interaction behaviour was operationalised by three categories: "importance" (how urgently do children want to express themselves?), "involvement" (how deeply are children involved in actions and interactions?) and "content of signals" (what do children say or articulate?). Learning dispositions encompass children's motivation to learn, their skills and knowledge as well as their learning strategies. With the help of learning dispositions, children deal with new situations and challenges. Thus, the dispositions "taking an interest", "being involved", "persisting with difficulty or uncertainty", "communicating with others" and "taking responsibility" are fundamental for children's learning (Carr 2001). As I wanted to find out, how a sensitive and responsive teacher behaviour influences children's ways to interact and learn Carr's concept of learning dispositions seemed appropriate to analyse teacher-child interactions in my study.

In the context of triangulating methods, the operationalisations, which were initially generated on this theoretical basis (see Table 3.1), were complemented, corrected and validated in a multiple-step video analytic process. First of all, I categorised

[1] Start of recording when children are seeking for attention, focus on face-to-face interactions, selecting nonverbal signals, end of recording when interactions are finished by interaction partners or interrupted by disturbances.

the video gathered into different categories. The selected interactions represented multifaceted and typical everyday situations in German ECE centres. Fifteen categories were found: (1) looking at books, (2) reading books, (3) dispersing, (4) teacher is preparing something, (5) guided learning games, (6) teacher has time to spare, (7) mealtime, (8) circle time for talking, (9) circle time for playing, (10) talking about pictures, (11) talking while painting, (12) guided handicraft work, (13) role-play, (14) conflicts and (15) comforting. Then, out of 86 video scenes, 30 sequences were selected. Besides representativeness and relevance, a maximum contrastive comparison was criterion for selection. This means that I selected sequences, in which teachers seemed to interact either very sensitively or with an apparently low level of sensitivity.

For analysing data in my study, I adapted interaction analysis (IA; Jordan and Henderson 1995) and ethnomethodological conversation analysis (ECA; Sacks et al. 1974). In contrast to ethnomethodological studies, I used the operationalisations of sensitive responsiveness (see Table 3.1) and the codes for children's interaction behaviour (importance, involvement, content of signals) as predefined categories to explore my research questions. The operationalisations of sensitive responsiveness as well as the codes for children's interaction behaviour were verified and refined in a complex video analysis process. I focussed my attention on the micronuances of teachers' and children's interaction and behaviour as well as on the reciprocity, organisation and the development of purpose of their interactions. In addition, I considered the contexts of actions and, in particular, nonverbal communication. By analysing short sequences, it became apparent that even single turntakes are interactively generated: interaction partners showed attention through posture, eye contact or audible recipient signals (Eberle 1997). In very detailed transcripts, in which I also described eye contact and gesture, I focussed on every slight detail of the interaction. As Eberle (1997) points out, even a gentle coughing has to be regarded as a contribution to or as part of an order that shall be discovered. Thus, transcription in the context of video analysis was a very important step in the analytic process that helped me to develop a kind of sensitivity concerning the multifaceted details and their functions in interactions.

Detailed transcriptions of the 30 sequences allowed to visualise the nuances of teacher's and children's interaction behaviour. At the same time, the different components of sensitive responsiveness – the common performance of verbal and nonverbal communication and the reciprocity in interaction processes – became transparent. To meet the principles of hermeneutical interpretation (Bohnsack 2007), I discussed my own perspectives of interpretation with an expert who was not involved in the study. These discussions finally led to an extension of my own perspectives and helped to avoid one-sided observations. Finally, I revised the operationalisations of sensitive responsiveness and could differentiate them into eight categories (see Table 3.2): (1) promptness, (2) responding, (3) being involved, (4) handling emotions, (5) showing appreciation, (6) stimulation, (7) mirroring and (8) asking. These eight categories were operationalised as well which led to a total number of 63 different codes for teacher interaction behaviour.

Table 3.2 Categories and codes for sensitive responsiveness after video analysis (Remsperger 2013, p. 16)

Categories	Codes
(1) Promptness	1. Prompt non- and/or verbal reaction with eye contact
	2. Prompt non- and/or verbal reaction with eye contact
	3. Delayed reaction
	4. Interruption
	5. Very delayed reaction after child has turned away
	6. No reaction to child's signals
(2) Responding	1. Prompt, extensive response to child's signals
	2. Delayed response
	3. Very short response
	4. No response
(3) Involvement	1. Showing attention and interest
	2. Keeping in mind that children understand what the teacher is saying
	3. Sharing delight, enthusiasm
	4. Focussing the own interests while interacting
	5. Automated responding without involvement
	6. Not keeping in mind that children understand what the teacher is saying
	7. Being distracted
	8. Being impatient
	9. Appearing vacantly
	10. Appearing exhausted and stressed
	11. Turning away quickly
	12. Appearing disinterested, indifferent
(4) Handling emotions	1. Appropriate handling of emotions
	2. Inappropriate handling of emotions
	3. Unacceptable handling of emotions
(5) Showing appreciation	1. Explicit verbal praising
	2. Verbal praising and including other children
	3. Verbal praising and including other teacher
	4. Marginal praising
Showing appreciation – *dealing with correct answers*	1. Agree with children
	2. Focussing only one solution
	3. Agreeing with incongruent gesture
	4. Not showing appreciation
	5. Devaluate correct answer
	6. Expose child
Showing appreciation – *dealing with assumed mistakes*	1. Compensate mistakes
	2. Correct children with appreciation

(continued)

Table 3.2 (continued)

Categories	Codes
	3. Pointing out rules politely
	4. Correcting without explanation
	5. Correcting unemotionally
	6. Pointing out other children's skills
	7. Exposing children and their mistakes
	8. Letting children feel that they didn't understand s.th. correctly
	9. Exposing children who probably didn't pay attention
	10. Discipline children in front of others
Showing appreciation – *dealing with other signals*	1. Accepting children's thoughts, actions, phantasies
	2. Rating children's thoughts, actions, phantasies as wrong
	3. Quitting children's interactions
	4. Not appreciating children's questions
	5. Nonverbal quitting or devaluating
	6. Not responding to children's requests for held
	7. Disregarding children
	8. Exposing children
	9. Not believing in children
(6) Stimulation	1. High level of stimulation
	2. Low level of stimulation
	3. No stimulation
(7) Mirroring	1. Mirroring children's statements
(8) Asking questions	1. Asking questions

As well as the components of teacher's sensitive responsiveness, the nuances of children's interaction behaviour could be described within the multiple-step video analytic process. On the basis of three categories (1) importance, (2) involvement and (3) content of signals, 28 codes for children's behaviour repertoire were generated in the process of video analysis (see Table 3.3).

Results

The results of the text analysis on the one hand and of the video analysis on the other showed that a sensitive-responsive teacher behaviour in ECE centres implies the interrelation of different dimensions of sensitive responsiveness (Remsperger 2011). The codification of the video transcripts concluded that the observed teachers were never able to interact constantly in a sensitive-responsive way. However, even though I found codes representing low sensitive-responsive teacher behaviour in each of the 30 sequences, I also found examples of sensitive and responsive

Table 3.3 Categories and codes for children's behaviour repertoire after video analysis (Remsperger 2011, pp. 15–16)

Categories	Codes
(1) Importance	1. Addressing teacher spontaneously
	2. Asking directly
	3. Expressing oneself constantly
	4. Returning to the topic of interest
	5. Talking with other children
	6. Nonverbal seeking for attention
(2) Involvement	1. Showing attention and interest
	2. Showing delight, enthusiasm
	3. Showing excitement
	4. Showing satisfaction and pride
	5. Showing sorrow or anger
	6. Appearing agitated
	7. Appearing distracted
	8. Appearing vacantly
	9. Appearing disinterested, indifferent
	10. Turning away
(3) Content of signals	1. Statements concerning the own living context
	2. Conclusions
	3. Questions
	4. Proposals
	5. Commenting the own actions
	6. Showing something
	7. Requests
	8. Asking for help
	9. Justifications
	10. Comments during role-play
	11. Organising games
	12. Answers

teacher-child interactions. In some parts of the same interaction, teacher's reactions towards children's signals were both sensitive-responsive and not. Alongside instances of low sensitive-responsive teacher behaviour, I observed distractions, disturbances, simultaneous seeking for attention by a number of children, intensive interactions with a single child or interactions that were regulated by teachers. Furthermore, video sequences showed teachers at times as the only teacher in a classroom and who preferred organisational work, e.g. take a glance at the clock to be prepared to start the next activity, instead of interacting with the children. These factors also went along with a low sensitive-responsive interaction style. Analysing the 30 video sequences, it became apparent that there were interactions which were characterised by both a high level of sensitive responsiveness and structural quality as described above. This finding led to the result that the video sequences selected for the analysis could be distinguished into situations with a high level of sensitive

Table 3.4 Indicators for situations with a high and a low level of sensitive responsiveness

Indicators for situations with high level of sensitive responsiveness	Indicators for situations with low level of sensitive responsiveness
High level of accessibility, attentiveness	Interest/responding
High level of interest	Deferred/no reaction
Constant responding	Reduced/no responding
Involvement	Insufficient eye contact
Well understandable speaking and acting	Insufficient involvement
Constant eye contact	Insufficient understandable speaking and acting
Responding to emotions	Insufficient stimulation
Interactions dominated by children	Discontinuity/incongruity
Stimulation	Loudness
Calmness	Commotion

responsiveness and in situations with a low level of sensitive responsiveness. Table 3.4 illustrates the indicators for these situations.

As I sought to understand how the concept of sensitive responsiveness might be used to understand teacher-child interactions within early childhood education, I also examined the reciprocity in the videotaped teacher-child interactions. I found that teacher's sensitive responsiveness had an impact on children's interaction behaviour. In the following, I will illustrate how teacher's sensitive responsiveness is influencing children's behaviour by giving three examples of data. Specifically, I want to draw the attention to the finding that teaching that involves sensitive-responsive teacher reactions results in child responses characterised by continuity, interest and emotional involvement (1). Furthermore, I want to illustrate that children can influence teacher's interaction behaviour (2) and that a low level of sensitive responsiveness may turn children away (3).

Reciprocity of Teacher's Sensitive Responsiveness and Children's Involvement in Interactions

The findings of my video study show that a teacher's sensitive responsiveness results in child responses characterised by continuity, interest and emotional involvement. When children were stimulated by their teachers (as one dimension of sensitive responsiveness), they maintained their interests and extended their thoughts and actions. This continuous child interaction behaviour corresponds with teacher interaction behaviour that is marked by attentiveness, interest and involvement. Scene 1 documents the positive effects of a sensitive-responsive pedagogical interaction style (Table 3.5).

The teacher in scene 1 stops preparing the herbs for a soup and responds promptly to the boy's (J) signal (15). Subsequently, she is trying to leave J enough opportuni-

Table 3.5 Scene 1 – Category: teacher is preparing lunch; sequences 14–38

No.	Interaction
14	J: *Have a guess, what am I going to do today?*
15	Teacher: *What are you going to do today?* (looking to J)
16	J: (saying something not understandable, looking to teacher)
17	Teacher: *Playing football.* (looking to J)
18	J: *Yes.* (looking to teacher with eyes wide open)
19	Teacher: *Yes? Great.* (looking to J, smiles)
20	J: *League match.* (looking to teacher with bright eyes)
21	Teacher: *League match?* (looks at him inquiringly)
22	J: (looking to teacher with eyes wide open) *Yes.*
23	Teacher: *What's the league match about, tell me.* (looking to J)
24	J: *Look, it works like this, if you score a goal, you get 25 points…* (looking around while explaining)
25	Teacher: *Yes.* (looking to J)
26	J: … *and if the guys are not as strong as Bayern Munich.* (after a short look out of the window again looking to teacher)
27	Teacher: *Ah, yes.* (looking to J) *And have you ever won the match?*
28	J: (looking into the room and on his herbs, involved anyway) *No. We haven't ever …*
29	Teacher: *Not yet.* (looking to J)
30	J: (looking jerkily to teacher, glaring) *We have too!*
31	Teacher: (looking to J) *You have won once?*
32	J: *Yes!* (looking to teacher, glaring)
33	Teacher: (looking to J) *And? Did you get the cup?*
34	J: (looks out of the window, shakes his head) *No.*
35	Teacher: (looking to J) *No.*
36	J: (looking to teacher, eyes wide open, glaring) *I scored two goals.*
37	Teacher: (looking to J, smiles) *Oh, great! That's fantastic!*
38	J: (smiles, continues cutting herbs)

ties to express himself. The teacher consequently mirrors the boy's comments and keeps eye contact with the child (17, 19, 21). She is asking the boy in a staining manner (15, 27), invites him to express himself (23) and signals her attention constantly (25, 29, 35). In addition, she responds to the boy's delight and pride in a verbal and nonverbal way (19) and praises the child explicitly (37). The boy, on the other hand, is stimulated by the teacher's sensitive-responsive interaction behaviour and extends his initial short responses by adding explanations (24, 25, 26). During the whole interaction, J is emotionally involved and interested. And, with a smiling face, he is sharing his joy and pride with his teacher (20, 30, 32, 36, 38).

Children Can Influence Teacher's Interaction Behaviour

A second way I found the concept of sensitive responsiveness useful for analysing teacher-child interactions in ECE was for how it illustrated the ways children can influence teacher's interaction behaviour. Some of the children participating in the study were able to persist when they were confronted with unresponsive teacher behaviour. These very much interested children stayed involved in their own actions. Their intrinsic motivation seemed to be an essential impulse for coping with non-sensitive teacher responses. To get the attention of these less accessible teachers, children used different strategies. They constantly addressed teachers by asking them questions, calling their names and asking further questions. The children commented on their own actions, extended or repeated their own verbal signals, protested and sometimes persisted in their opinions. Some children interrupted their teachers or changed their intonation. Furthermore, the content of children's signals, like asking for help or asking to read a book, helped to better reach teacher's attention. In addition, children used nonverbal ways to show their need to express themselves. They pointed at things they were interested in, went in front of their teacher's eyes, tried to get eye contact, touched their teacher's arm and used gesture and facial expression to get their teacher's attention. In 15 out of 30 scenes, children – who are obviously equipped with an extensive repertoire of learning dispositions – influenced their teacher's behaviour in a positive way by using these specific strategies. Some of the ECE teachers indeed reacted in a more sensitive and responsive way – meaning they were more attentive, interested, accepting and stimulating. Whereas only further research can show whether changes in teacher behaviour are caused by children's strategies for gaining attention, the results of my video study at least illustrate that changes in teacher interaction behaviour go along with changes in children's interaction style.

Scene 2 (Table 3.6) illustrates how the girl A is getting her teacher's attention by telling her explicitly that she wants to say something (27). Therefore, she interrupts her teacher who is constantly checking her watch. Before that interruption, the teacher organised the circle time, initiated cleaning up and called children to order (26). Then the teacher listens to the girl A (28), repeats her signals and is interested in asking more questions (30, 32). Being aware of her teacher's attentiveness, the girl now explains what she is going to do on Halloween (29, 31, 33).

A Low Level of Sensitive Responsiveness May Turn Children Away

A third finding showed that a low level of sensitive responsiveness may turn children away from interaction. Some of the children I observed reacted in a passive way when they were confronted with a lower level of teacher's sensitive responsiveness. They reduced their involvement or even turned away. The turning away included

Table 3.6 Scene 2 – Category: circle time for talking; sequences 26–34

No.	Interaction
26	Teacher: *Children* (clapping once, checking her watch). *We still have a bit time for talking. But you have to promise to clean up tidily.* (To P) *P and R, may you change seats, please? R, would you please take P s seat? P is kidding around. R get up please and change seats with P. He cannot understand anything. And …*
27	A: (interrupts teacher, looking to teacher) *I want to say something.*
28	Teacher: … *listen.* (turns to A, eye-contact) *Yes.*
29	A: (intensive look to teacher) *Ah. – My sister and I are going on our own.*
30	Teacher: (intensive look to A) *Where are you going to go on your own?*
31	A: (intensive look to teacher) *To a Halloween party.*
32	Teacher: (intensive look to A) *You are going alone with your sister? But she is so small.* (Gesture for body height)
33	A: (intensive look to teacher) *I look after her.*
34	Teacher: (intensive look to A) *You are looking after her. This is great.*

Table 3.7 Scene 3 – Category: conflicts; sequences 7–13

No.	Interaction
7	M: (not to be seen) *Yes, but I wasn't allowed to get up.*
8	Teacher: (looking to T, who is standing next to her, after a short silence) *Did you block the way in front of M.?*
9	T: (looking to teacher, nods his head)
10	Teacher: (looking to T, nods her head) *Mh.* (nods her head) *This is not ok, isn't it?* (soft-spoken) *Or?* (long lasting eye-contact with T)
11	2nd. Teacher: (not to be seen) *What can we do, that it's going to be all right? Hey, T. What can we do?*
12	Teacher: (looking to T, doesn't wait for his answer, soft-spoken, looking to castle) *First of all, you should apologise, ok.*
13	T: (looking into the castle, climbs up)

moving away from the place of interaction as well as turning away the head, interrupting eye contact, turning away things they were showing and stopping a conversation. I assume that learning dispositions of these children are less developed than the dispositions of children who persist with a low sensitive teacher behaviour. One hypothesis is that some children with a lower level of language skills only try to get attention once. Other children are discouraged by an unresponsive teacher behaviour and consequently don't express themselves. Maybe these children don't have the strategies required to keep on interacting despite being confronted with a low level of teacher sensitive responsiveness. Scene 3 (Table 3.7) shows how the unresponsive teacher behaviour leads to a minimisation of children's signals.

The two teachers in scene 3 are dominating a problem-solving interaction. After M has commented the conflict (7), the teachers try to solve the conflict (8, 10, 11, 12). No child is speaking out his or her mind in this conflict. M does not express himself any longer, whereas T only nods his head (9) and accepts and follows his teacher's solution (13).

Implications for Early Childhood Education

Transferring the psychological concept of sensitive responsiveness to a pedagogical context, it became apparent in my study that sensitive responsiveness is an appropriate approach for analysing teacher-child interactions in German ECE centres. Whereas on the one hand the concept was suitable to observe how sensitive ECE teachers respond to children's signals, on the other hand, the concept of sensitive responsiveness was useful for analysing the reciprocity of interactions and especially children's interaction behaviour.

The results of the study show that the observed teachers were never able to interact constantly in a sensitive-responsive way. Distractions, disturbances or simultaneous seeking for attention by a number of children accompanied low sensitive-responsive teacher behaviour. In addition, I observed interactions that were regulated by teachers, characterised by teacher's time pressure or teacher's focus on organisational work. These factors also corresponded with a low sensitive-responsive interaction style. Even more important, I found that teacher's sensitive responsiveness had an impact on children's interaction behaviour. A low level of sensitive responsiveness, which was often accompanied by adverse conditions (e.g. loudness, being the only teacher in the class), might turn children away. On the contrary, a sensitive-responsive teacher behaviour resulted in child responses characterised by continuity, interest and emotional involvement. ECE teachers supported children's learning processes by a stimulating, sensitive-responsive interaction behaviour. Finally, it became apparent that children influenced teacher's interaction behaviour by using different strategies.

Summarising the results of my video study, I can conclude that the concept of sensitive responsiveness is worth being taken up as a pedagogical concept in German early childhood education. Considering the fact that nowadays creating responsive interactions is regarded as a didactic principle in German early childhood education, the concept of sensitive responsiveness is not only a suitable way to analyse teacher-child interactions, with its focus on a detailed observation of children's and teacher's interaction signals; the concept of sensitive responsiveness also has the potential to improve teacher-child interactions in German ECE centres. Taking into account that within the last 10 years German ECE curricula highlighted the need for observing and documenting children's learning processes, working with the concept of sensitive responsiveness and combining it with different methods of observation and documentation could be a useful way to find out more about children's learning.

As I have included Carr's (2001) concept of learning dispositions within the analysis of teacher-child interactions and as Carr's concept is already adapted in the German "Learning Stories" approach (Leu et al. 2007), I would finally like to recommend to keep the learning disposition approach in mind while working on the improvement of teacher's sensitive responsiveness in German ECE centres. Teachers should not only reflect on learning environments but also check if – and how – children can explore and express themselves. To interact in a sensitive-responsive way, teachers have to be aware of children's signals and should observe them precisely.

This is especially important when children with an emerging repertoire of learning dispositions do not have enough strategies to persist a non-sensitive-responsive teacher behaviour and tend to turn away of these unresponsive interactions. To avoid very young and calm children suffering disadvantages in their learning progress, ECE teachers have to focus on children's interaction signals and learning dispositions (Carr 2001). In particular, they have to pay attention to nonverbal children behaviour. By doing so, teachers might improve their own sensitive responsiveness and thus support children to learn in an unstressed, fearless and strength-based manner. The following questions help to reflect teacher's and children's interaction behaviour.

Questions for Reflection

- Is the child acting with interest, involvement, satisfaction, enthusiasm and pride?
- Does the teacher respond to the child's ideas and encourage the child's expressions, thoughts and actions?
- Does the child return to the topic of interest?
- How does the child express himself/herself – verbally and nonverbally?
- Is the teacher aware of the child's verbal and nonverbal signals?
- Does the teacher respond to the child's signals and does he/she listen to the child calmly and in an unhurried manner?
- How does the teacher talk to the child – verbally and nonverbally?
- Does the teacher keep eye contact with the child and treat her/him with openness, appreciation, respect and acceptance?
- Which strategies does the child use to persist with difficulties and uncertainties?
- How does the child react in the interaction? Does the way of expression change?
- Does the teacher share emotions and respond to the child's emotional expressions?

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Chapter 4
Children's Use of Objects in Their Storytelling

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Storytelling in the Early Years

Children's academic achievements are often measured by their levels of literacy and numeracy where a considerable amount of interest has been given to these specific learning domains. Narrative skills feature prominently in children's later literacy in American and New Zealand research (Griffin et al. 2004; Reese et al. 2010). For instance, Reese et al. (2010) demonstrated that the quality of children's oral narrative expression in the first 2 years of reading instruction uniquely predicted their later reading, over and above the role of their vocabulary knowledge and decoding skill. Stuart McNaughton's research in South Auckland (McNaughton 2002) has also emphasised the value of narrative competence for future literacy practice while illustrating the different styles of storytelling and reading across different cultural communities. When children narrate experiences and story-*tell*, they engage in cognitive, affective and social experiences and explorations that extend beyond simple conversation – opportunities to understand the social world – and one's place within it arises (Bruner 1991). Narratives are recognised as essential to both autobiographical memory and identity (Wertsch 2002; Bruner 2002; Szenberg et al. 2012). Classic studies remind us of the autonomy of children in developing their own cultural routines through mutual negotiations and storying (Sutton-Smith 1997 p. 171) and the powerful combination of adding affect to cognition using story (Egan 1997; Vivian Gussin Paley 2004). In short, narrative competence is a valuable outcome in its own right.

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Links to ECE Curriculum: Te Whāriki

The early childhood teachers in this project were guided by New Zealand's national early childhood curriculum, known as Te Whāriki (Ministry of Education [MOE] 1996). In the curriculum, there are five strands through which teachers are guided in the provision of curriculum in which children and families experience a sense of belonging and have their well-being supported, where children explore, contribute to and develop confidence to communicate about their experiences in the world. One of the goals of communication is 'children experience an environment where they experience the stories and symbols of their own and other cultures'. Learning outcomes for this goal include:

- Experience with creating stories and symbols
- An expectation that words and books can amuse, delight, comfort, illuminate, inform and excite

The curriculum adds that 'Adults should read and tell stories, provide books and story times to allow children to exchange and extend ideas …' (p.73). Given the importance of early narrative experiences, the way in which narrative might be encouraged or planned for is of interest to teachers and researchers in ECE and is an aim of the current research reported here. This chapter describes research that has explored what these 'story times' for formal and informal, planned and spontaneous storying look like in current practice in two early childhood centres and how they might be extended and enriched by teachers' paying attention to the mediation of children's learning by and with people and things (objects).

The Role of Objects in the Early Years

Prior research investigating children's social interactions in 4-year-old children found that everyday objects were used to initiate and maintain social interactions with new peers in the playground when the children first began attending primary school (Bateman and Church 2016). This research offered insights into children's competent, purposeful and social use of objects that contrast to the prevalence of developmental research concerning children's object use which often suggests an immature progression with a focus on individual children (e.g. Lockman 2000; Fagard and Lockman 2005). There is considerable theoretical discussion about and research on the perception and deployment of affordances of objects in an educational environment. Sasha Barab and Wolff-Michael Roth, for instance, refer to James Gibson (1986) and colleagues' work on perception as a property of an ecosystem and add (p. 4): 'Our goal here is to extend this perspective, providing a language for educators, who, while interested in perception, have an additional focus on supporting cognition, participation, and development, requiring the detection of,

and participation in, *extended* possibilities for action (affordance networks) that are both materially and socially distributed'.

A New Zealand example, researching the features of an affordance network for family engagement (Clarkin-Phillips and Carr 2012), included the affordances of assessment portfolios in a New Zealand kindergarten for increasing environmental demand: the resource or object is available, inviting and personalising. An ecological approach, in which opportunities for storying are materially and socially distributed, underpins all three analytical lenses in this chapter.

The Research

A mixed-method analysis is being used to analyse natural everyday storytelling in kindergartens and school settings as we follow our 12 case study children over 3 years. There are three layers of data analysis – conversation analysis, narrative analysis and materiality analysis (a focus on mediating resources) – that are used to answer the following research questions:

1. What storying opportunities exist in early year settings and what happens in them?
   (a) What contributions do story partners make to these storying events? With what effects?
   (b) How do mediating resources work to support children's storying?
2. How can these opportunities be strengthened?

Our research involves 12 participating children, six in the South Island site in Timaru and six in the North Island site in Auckland. The kindergartens were selected as the teachers shared an interest in children's storytelling and early literacy practices; the participating children were selected by birthdates where each child was transitioning from kindergarten to school between January and June 2015. The ethical process involved gaining approval for the research from each university researcher's institution, the kindergarten teachers, the children's parents and finally assent from the children. Once consent was achieved in 2014, the researchers collected video recordings of children's everyday free play (about an hour each child on three separate occasions) from which we identified storytelling events. Video recording was conducted at a time of day that most suited the early childhood teachers and children and so varied in each setting. Two additional sets of video data were collected in 2015, including the first set of video recordings of storytelling episodes in primary school for each child. A final video collection occurred in the first half of 2016 when our child participants had transitioned from kindergarten to school.

The selection of a 'storytelling episode' was central to this project. We initially drew from Bruner (2002) and the work of Labov and Waletsky (1967/1997) for both our working definition of story and analytical approach. Bruner (2002, p. 34) refers

to Burke's story pentad: 'at a minimum, a story (fictional or actual) requires an Agent who performs an Action to achieve a Goal in a recognizable Setting by the use of a certain Means'. From the perspective of Labov and Waletsky (1967/1997), we took story to be as a minimum, two clauses, joined by a temporal structure where fully formed stories contain several elements: a summary or abstract, an orientation, an action, an evaluation, a resolution and, to return the perspective to the present, a coda. Not all elements are evident in all stories nor do they necessarily flow in a sequence. How we constituted storytelling and storytelling events evolved to include group storytelling. The works of Sacks (1992), Goodwin (2015) and Mandelbaum (2013) are also influential within our analytic process: from a conversation analysis (CA) perspective, storytelling is perceived as a social activity involving people, places and things. Within a CA framework, the turn-by-turn conversational and gestural sequences that co-produce a storytelling are analysed to examine what the story participants choose to talk about at that place and at that time and how the story unfolds. The transcription conventions used in CA transcription (see appendix for a list of conventions used in this chapter) help to represent an as detailed as possible written representation of recorded interactions where specific features such as the length of pauses, prosody (pitch and tone of voice) and gesture are visible and so available for analysis. Within this chapter, CA transcription is used to offer a rich representation of the children's storytelling activities.

By taking a structural approach and evaluating children's storytelling in the context of people, places and things, we can observe how direct and indirect teaching affords opportunities for children's storying competence, as the 'curriculum is provided by the people, places, and things in the child's environment: the adults, the other children, the physical environment, and the resources' (MoE 1996, p.11). Our additional focus on children's uses of objects helps teachers to understand more fully how the setup of place and introduction of things may support children in their storytelling events. In taking this mixed-method and multilayered approach to the analysis of data, we expand the typical gaze of story analysts, interactions between people (tellers and audience), and consider the storytelling more holistically as we observe children telling stories with things, to teachers, peers and themselves. Within our video recordings, we have observed that opportunities for storytelling were made through provision of open-ended object resources such as puppets, play dough, book making resources and environmental spaces such as book corners, puppet theatres, etc. Selected observations are explored in more detail now using the three-layered analytic approach in order to provide a holistic understanding of storytelling through different perspectives.

Storytelling with Objects

Excerpt 4.1 Jacob and the ball

In the playground of an early childhood centre, three children are swinging on separate swings side by side. The closest of the three children to the camera is Jacob. He is wearing the microphone and sitting on a ball as he swings.

01 Adult:	>you wanna turn with the < ↑microphone
02	(1.8)
03 Adult:	okay when Jacob and h = when Jacob's had his turn
04	(1.3)
05	I'll let you have a ↑turn = how's that ball feeling
06	Jacob
07 Jacob:	good
08	(2.2)
09 Adult:	hhhh what made you put a ball in that swing
10 Jacob:	°y°es it does
11	(2.1)
12 Adult:	would you swing with a ball in your swing Lucy

13 Child: can I have a (1.0) can I have a ↑push
14 Adult: I wouldn't ↑either
15 Child: can ↑I have a ↑push
16 Adult: I'll come round the back and push you
17 Jacob: jus go in an ↑o::ut
18 (4.8) ((*swinging*))
19 Jacob: I'm really high
20 (2.2)
21 Adult: °learn° how to get yourself going kay
22 (6.9)
23 Jacob: I'm sitting on a ↑ba:ll
24 Adult: ↓wh::y
25 Jacob: ja get way hi:gher
26 Adult: ()
27 Jacob: >wee < (1.4) WEE:::::::: (0.8) it FU:::N
28 Adult: °it feel° ↓comfortable
29 Jacob: >yah<
30 Adult: ()
31 Jacob: >yah<
32 Adult: I bet it ()
33 Jacob: it's make it = the ball's making my bum warm
34 REEE:: ↑ree↓e:: hhhhh I'm sitting ON A ↑BA::LL I'm
35 sitting on a ↑nothing hh ↓ba- (0.9) a:ll:: look (0.7)
36 at me (0.6) and ha::r:: (1.2) HI MASON (.) I'm
37 sitting on a ↑ba:ll:
38 (5.5)
39 Jacob: I'm getting off this (1.0).hhh my ball is fall ↓off
40 (10.6) ((*gets off swing and moves around the*
41 *playground*))
42 Jacob: okay baby ((*to the ball*))
43 (1.1)
44 Jacob: ye:ah (0.8) ↓ye:ah run ba:by ↑ye:ah
45 (1.1)
46 Jacob: walk wa:::y
47 (14.6) ((*Jacob adjusts the microphone and picks up*
48 *the ball again*))
49 Jacob: ↑hm hm hm:::: hm hm h- ((*humming*))
50 (20.7) ((*Jacob puts the ball into the swing and*
51 *pushes it backwards and forwards. The ball shoots*
52 *out of the swing*))
53 Jacob: >arharharha<
54 (21.1) ((*Jacob picks up the ball and carries it to*
55 *the slide. He sits the ball next to him*))
56 Jacob: >°we°<

57		(1.3) ((*Jacob and the ball go down the slide side*
58		*by side*))
59	Jacob:	ball you're faster:: (0.6) you're fa:ster ball
60		(1.0) you're fa:ster ball
61		(17.7) ((*Jacob retrieves the ball which has rolled*
62		*off the slide and into the playground. Returning*
63		*to the slide Jacob drops the ball onto the slide*
64		*and kicks it up a ramp. The ball rolls back down*
65		*to him. He kicks the ball again and this*
66		*time it does not roll back. Jacob steps off the*
67		*slide, looks in the direction of where the ball was*
68		*kicked, turns the other way and wanders off looking*
69		*back over his shoulder twice*))

Jacob's first verbal interactions are responses to the adult's questions. These responses are brief, comprising only a few words (lines 07 and 10), and represent a minimal response to, and minimal interaction with, the adult. In his first response to the teacher, Jacob provides an assessment that the ball is 'good' (line 07); whether this is intended to relate to his haptic relationship with the ball through his touch or his perception of the ball's affective feelings, therefore giving the ball its own personality, is unclear at this point.

Although the affordance of a ball as accompanying (being sat on by) a person on the swing is questioned by the adult (line 09), Jacob does not explain his decision as to why he is sitting on the ball; rather, he announces his actions in a subsequent turn at talk (line 23) making it a noticeable activity that is talked into importance. Jacob then gives a second evaluation where he announces that 'it's fun' (line 27). The adult then returns to feelings of comfort, this time asking more specifically if the ball feels 'comfortable' (line 28) to which Jacob replies that it 'makes my bum warm' (line 33). Within these initial turns at talk, it is not clear yet (to the teacher, the researcher or, perhaps, to Jacob) that Jacob has a story design, but this attachment to a ball, plus the swing, invites the beginning of a narrative: the ball as a possible 'warm' companion. Indeed, Jacob's brief utterances in lines 19–25 could be indicative of a series of short story prefaces (Goodwin 2015; Mandelbaum 2013), possibly marking Jacob finding a place for his story. Jacob's possible brief story starts invite a response where a space is made available for the hearer to ask more about his story – which occurs with the question 'why' (line 24) – but does not support an expansion to the story beyond its present point (Jacob sitting on a ball, swinging).

The narrative analysis would interpret these early lines as 'orientation'; they tell us about the situation and participants. Jacob is swinging high (line 19); he is somewhat of an expert, instructing others in the skill, 'jus go in an out (line 17) to get to what looks to be the object of the narrative at that moment, to, 'ja, get way higher' (line 25). Jacob then complicates the action by declaring the effect of the ball on his body (line 33) and seeking to tell others in the vicinity by singing and chanting about the action (line 34–38).

Jacob engages in an extended multiunit telling (Sacks 1992; Goodwin 2015) including the ball as a character that plays a part in this commentary (lines 34–37). Jacob turns the story in a new direction by getting off the swing, which results in an unexpected complicating action (line 39) as the ball falls out of the swing and Jacob runs after it, addressing it as a character of the story, 'okay baby' (line 42), and himself in relation to it with his utterances, 'run baby' (line 44) and 'walk way' (line 46). His story is coupled with his physical actions as he runs and walks after the ball. The episode continues as Jacob places the ball back into the swing and swings the ball back and forth. Again, the ball responds unexpectedly as it shoots off into the playground; here, Jacob responds by developing the plot further. He heads to the slide and begins a sliding race, making an evaluative declaration to the ball protagonist, 'ball you're faster, you're faster ball, you're faster ball' (line 59–60).

The ball moves away from Jacob into the playground (line 61), another complicating action, and he retrieves it and kicks it up the ramp of the slide. The ball returns and Jacob kicks it again abruptly. On this occasion, the ball does not return to him; rather, it falls off the top of the slide and rolls away. Jacob's story comes to an end (line 66), and he wanders off with a transition out of the story (coda) as he glances back over his shoulder in the direction of whence the ball was kicked. The story has resolved through the unexpected and unplanned actions of the ball's movements and Jacob's responses to them.

With regard to the interactions of the narrative with people and things in Jacob's story, his early interactions with the adult are part of the story preface but were not integral to the story plot. It wasn't until the direct engagement of Jacob with the ball as a 'character' that a story intention appears. The ball can be interpreted as a play partner in the ongoing story, as Jacob pushes the ball on the swing and, when it shoots out of the swing, he takes it to the slide and sits it next to him – both of them go down the slide together. The non-verbal interactions between Jacob and the ball add to the unfolding storyline where Jacob and the ball character are both the protagonists, highlighting the importance of tangible objects in the process of storytelling. Furthermore, the ball has become personified; it has moved from being an object involved in play (being sat on) to the primary object of play (pushed in the swing and taken side by side down the slide) and into being a playmate and a genuine character mediating the storyline directly and addressed with the assigned name of 'ball'. A competition between Jacob sliding and 'ball' rolling down the slide appears to be both an exploration of rolling/sliding and a personalising of the ball's intent and prowess. 'Ball' continues to shape the story with Jacob as he kicks the ball up the slide (line 64). On the first occasion, the narrative is sustained by the ball's return to Jacob – the second kick results in the story's abrupt end.

Story Shells: Co-producing a Story with Objects as Support

This next storytelling excerpt describes a game, often instigated by the teacher and always including the teacher, in which shells have had small pictures of people, places or things glued onto them, to be used for the purposes of storytelling: the

activity is called 'Story Shells'. Each seashell in the collection has a picture of a character stuck to it such as a pirate, dragon or princess, and they are randomly placed on a low table so that the children can select the shells characters that they will create their story around, in a sequence determined by the storyteller. The storytelling shells immediately set up an opportunity that is inviting and personalising, where the shell objects provide affordances for storytelling – the random or deliberate selection of shells has the effect of determining characters, locations and significant items for the story. The storyteller considers these and determines the sequence of the story to be told. In Excerpt 4.2, we see how Alexander is just beginning to tell stories from the shells; he has watched other more experienced players on a number of occasions and observed how an innovative and lively story, in which the relationship between the objects and the storyline loops back and forth, might be told.

Excerpt 4.2 Using Story Shells to maintain and extend a story

122 Kim: H↑ow you gonna start↓-↑you start↓
123 (1.4)
124 Alex: One- (0.8) once upon a time there::: was ()
125 a::nd
126 (2.7)
127 Kim: $keep going$ ((*looks at Alexander and nods her*
128 *head*))
129 (1.8)
130 Alex: <Awww::> ((*looks at the dinosaur shell he selected in*
131 *front of him*)) and dinosaur comed and er::
132 (1.5)
133 Kim: a dinosaur came↑ ((*points to the dinosaur shell*))
134 Alex: ((*nods his head*))
135 Kim: So you're using this one t↑oo↓ ((*still pointing to*
136 *the dinosaur shell*))

137 Alex: ((*nods his head*))
138 Kim: <coo::l::> see Alexander's telling with <all:> the
139 shells so lets listen to what Alexander's got to say
140 coz I think he's got some ↓awesome ideas↑ .hhh keep
141 go:ing:↑
142 Alex: and there- and there was a (picture) of a pirate
143 and the- an the pirates found the (0.5) the sword
144 (0.6) and (0.8) and the pirate's gold and the ()
145 ((*holds the shells in his hands and moves them*
146 *around, looking at them while he tells the story*))
147 Kim: ((*looks at Alexander with mouth open looking*
148 *surprised*))

This extract demonstrates the ease at which the children start their story shells storytelling with 'once upon a time'; Alexander immediately begins with this opening (line 124); it establishes a linear trajectory to the story through which listeners can expect to develop a 'thematic pattern and a temporal and logical trajectory of events' (Ochs and Capps 2002, p. 61). Alexander's 'once upon a time a dinosaur comed' (lines 124 and 131) thus acts as both an abstract for the story and cue to its orientation. This is a past event story, of the fantasy type, whose character and plot will be shaped by the objects Alexander is holding at the table. However, once the opening is initiated and a possible (inaudible) character is introduced, there is a significant pause in Alexander's story that is responded to by the teacher Kim both verbally, with her prompt to 'keep going', and with gesture as she nods her head, smiles and looks at Alexander (line 127–128). Alexander responds by demonstrating the usefulness of the shell objects in assisting the storyline as he looks at the dinosaur shell that he has chosen in front of him (line 130) and continuing the story by describing the action of the character 'a dinosaur comed' (line 131). When bringing this character into the story with gaze and talk, Alexander also uses gesture as he marks the physical presence of the shell by pointing to it, drawing the attention of the audience to the item. Kim follows his gesture, acknowledging the physical presence of the shell by also pointing to it and confirming with Alexander that this is the shell and character that he is using to tell his story about (line 133), ensuring an intersubjective understanding has been met by all participants.

After a positive response from Alexander through his nodding gesture, Kim suspends the storyline to attend to the use of the shells, confirming that it is 'cool' to use all of the shells – the statement is a mark of acknowledgement to how important the shells are in supporting Alexander's storytelling. Kim further encourages Alexander to continue storying with her utterance, 'keep going' (lines 140 and 141). In this utterance, Kim simultaneously attends to the social organisation of the group, positioning her and the present children as 'listeners' inviting them into the collective activity of listening to Alexander's story, and reinforces Alexander's storyteller status, remarking that he has some 'awesome ideas' (line 140). Alexander's next turn then begins to look more like a multiunit telling where he includes pirate characters, objects of swords and gold and activities that tie these features of the story together (lines 142–146).

In relation to people, places and things here, the pictures on the shell objects are treated as a scaffold for the story plot and offer an opportunity to flesh out story details and characters. The activity has a purpose, telling a story, and the teacher prompts the teller with 'What next' and 'Keep going'. The linear narrative structure is scaffolded by the shells and Alexander's use of well-recognised story phrases 'once upon a time' and (not in this transcript) 'the end'. In between, the storyteller is in charge of the choice of characters and the action. Some of the pictures invite the children to introduce what Bruner (2002) termed *trouble* to the storyline: the pirate, for example (and perhaps the dinosaur). We do observe in this example that the dinosaur drops out of the storyline when Alexander sees/adds the pirate sword, and he then adds his own complexity and purpose to the story: the gold. This is a good example of how aspects of a story, scaffolded by objects (the characters and items pictured in the shells), suggest a storyline that can be personalised – as in this case, where the sword will be employed to protect the gold. It is important to note here that there was no 'gold' on a shell and so Alexander elaborates, beyond the invitations implicit in the pictures. We see here that the objects may support novel stories to develop but could also possibly constrain them if the array of pictures available on the shells encourages children to take up particularly dominant cultural tropes such as pirates and swords. In this centre, the shell pictures are frequently added to in response to children's current interests.

Technology Mediating Storytelling

In our final example of children storytelling with people and things, Isla is seated at a table and has an iPad mounted on a stand in front of her. The screen shows pictures of a scene, initially a house that she changes to a dining room. There are also characters visible on screen that can be manipulated by pinching them to make them smaller and widening them to make them larger. The characters can also be moved around by dragging from one place on the screen to another.

Excerpt 4.3 Isla and the iPad

077 (5.8) ((*moves characters including a large roast chicken around*
078 *in the* new scene window))
079 ↑I'm > tall↑ and < sma::ll::↓ (1.2) ((*character*
080 *voices*))
081 ((*Isla maximises the small scene window, and it*
082 *fills the screen*))
083 [↓it's alright I: will save ↑you (0.7)
084 [((*a finger on one hand moves one character, while*
085 *another finger on the other hand moves the chicken*
086 *character*))
087 ↑o:::h: but I where↓- = a ↑chi:cken a ↑chicke:n↓
088 (1.8) and [let's put = it on ° > the < ° ta:ble
089 [((*sits the chicken on a table*))
090 chwar chwar chwar .hhh = .hhh
091 ((*moves the small character towards the chicken and*
092 *makes breathing, panting sounds whilst moving the character*
093 *backwards and forwards in motion with these sounds*))
094 a-h = h = h = h = h = h um = um = um = um = um (1.5) (.hh) (2.3)
095 ((*Isla once again minimises the scene* window and selects a
096 *character who wears a pink dress from a wooden room scene.*
097 *She drags the new character into the scene window that she was*
098 *using before*))
099 I wanted to have a < chi↓:cken↑ > ((*character voice*))
100 (1.2) ((*drags a character down towards the bottom right of the*
101 *reception room window*))
102 aw::: I'm too:: li:ttle (1.2) I can't rea:ch
103 (1.3) [cham]
104 [((*makes her character jump up towards the chicken on the*
105 *table and take a bite*))
106 I:: want to re::ach
107 (1.3) ((*Selects another character, even smaller*
108 *than the previous one, and again makes it jump up*
109 *to try to reach the chicken*))
110 ~I want to reach ~ (0.6) ((*crying sound*)) (hh hh hh)
111 [cham]
112 [((*makes her character jump up towards the chicken*
113 *on the table and take a bite*)) (0.4) ah:: (0.7)
114 tha(t)´s better

Although we cannot make any assumptions about what Isla is thinking in regard to a storyline here, as we do not have access to her cognitive state and there is no story partner here for her to map out the story with, we can build an understanding of events through her ongoing dialogue and her gestural interaction with the iPad and characters. The objects of interest in the storytelling are the characters, Isla's

manipulation of them to make a story and also the iPad itself and the affordances it provides for this type of storytelling event.

Isla begins her story by setting up the story scene on the iPad. She chooses a scene and characters from those on offer by the application. Her initial utterances are a narration of the characters saying 'I'm tall and small' (lines 79) where she uses voice prosody to demonstrate that these voices belong to the characters. The character voices are concurrent with her manipulation of them on the iPad screen where she creates complicating actions in the story by manipulating the characters, changing them to be bigger or smaller as part of the story events unfolding on the iPad screen. She moves the characters into another screen, which is embedded in the larger iPad screen window, introducing another location to the plot (lines 81–82) simultaneously declaring one of the characters shall be saved (line 83). Isla is complicating action and moving the storyline on, illustrating Bruner's (2002) sense of *trouble* in a good story. One of the characters that she is orienting to here is a cooked chicken; she makes this character a significant protagonist as she moves it around (lines 85–86), talks it into significance (line 87) and puts it on the table (lines 88–89) where the other characters are made to feast on it (lines 90–93). The devouring of the chicken seems a pleasurable moment in the plot evaluation until Isla decides the eating is done.

Upon introducing a new character to the story, a further complicating action takes place. Isla's new characters are (possibly unexpectedly) too small in the scene to reach the cooked chicken atop the table. Recognising this, Isla quickly adapts the storyline to take account of the trouble that has ensued, turning it into a major story action. Isla, as the character, declares 'I wanted to have a chicken' (line 99). This new character is now made to jump towards the table (line 104–5) to take a bite. The enjoyment of this storyline is evident as a repetition of this action occurs with yet another character, even smaller, being introduced (line 107–109), who also has a problem with reaching the chicken. The story is then brought to a close with success for the characters, and an evaluation of the event (for the character) signals resolution with her utterance 'ah, that's better' (lines 113–114). The objects (moveable characters) available for the children in this iPad storytelling software clearly provide affordances for telling stories, as demonstrated by Isla. In this scenario, an iPad application invites the child to 'interact' with characters and provides different scenes that the children can choose, offering a selection of 'place' in the people, places and things affordances. From then on, it is open ended, reflexive and available to support an embodied (of a limited nature) storytelling that can quickly be elaborated, recorded on the iPad for future storytelling or erased.

Many children in this centre draw pictures and staple or bind them together to make a story. The material affordances, in that case, are a table with paper, pens and stapler (also a book binder nearby which the children use competently), inviting the children to write a 'book'. This is a common routine, and most children will do this at some point, and some of them every day. An object is created; the text is dictated to, and written by (usually), the teacher. The story is read to the children at 'mat time' and taken home to be read by the family.

Discussion

In this chapter, we have discussed some of the findings from the first year of our project where the 12 participating children were supported in their narrative and literacy learning kindergarten environment through:

1. People: the availability and levels of engagement from teachers and peers helped to co-produce storytelling and literacy practices in structured and informal ways.
2. Spaces: which provide and encourage opportunities for structured and informal narrative storytelling and literacy learning.
3. Objects: the availability of objects such as story shells, iPads, characters in iPad applications, swings and balls worked as physical props to support storytelling and narrative development in children's stories.

All three factors (people, spaces and objects) were centrally engaged in the storytelling extracts analysed here, but the emphasis in this chapter has been on the contribution of the objects to the children's storytelling.

In the first example, the ball was enlisted and personalised by Jacob as a companion; he and the ball became two characters in a 'warm' relationship who played together. The playground swing and the slide provided the context within which the relationship could flourish – the swing as an intimate semiprivate warm space and the slide as enabling the ball to take on some of the agency in the script. As the story moved from the swings to the slide, the child author/companion became an admiring onlooker of the ball – and a recipient of the ball's movement. Jacob had to think quickly and flexibly to accommodate the ball's unexpected action (you're faster ball, you're faster). However, Jacob was unable to, or perhaps not interested to, accommodate for what happened next, the ball not returning to him by rolling down the slide on Jacob's second kick. The object in this instance held agency within the narrative, bringing Jacob's story to an end.

In the second example, using the story shells, key elements of the structure of the story were constrained by the objects and the context rules – a range of characters for selection and (usually) a temporal story frame (provided by teacher prompts: 'Keep going') and the familiar story starter, 'once upon a time'. Alexander's story was delicately balanced between the objects, the cultural tropes attributed to the story shell activity in the kindergarten and Alexander's own imaginative sense. The first character was a dinosaur (determined by the picture on the inside of the shell Alexander selected for the beginning of his story); he then introduced a pirate (a second shell), a sword (a third shell) and some gold (Alexander's own imaginative addition). Alexander's narrative (the pirate(s) found the sword and the gold) connects these three things; the role of the dinosaur is either abandoned or retained as a (dangerous?) watcher without a central role in the evolving plot. The collecting together in the same place of 'characters' that are dangerous (dinosaur, pirate and sword) plus the addition of (desirable) gold provides ingredients of a possibly dramatic story of conflict and violence. The storyteller's narrative was scaffolded by the objects, his teacher and his prior knowledge.

In the third example, the object available for storytelling was an iPad application in which the setting could be altered, characters could be moved around the screen and extra characters introduced. Isla changes the house scene into a dining room and plays out a story in which small characters are enabled (by her manipulation) to reach – and eat – the roast chicken on the table. She is not telling the story in the third person; she constructs the scene (including finding a roast chicken to put on the table) and manipulates the characters, adding voice and sound, much like a puppeteer. The theme appears to be about 'being too little' (to reach the food), and the objects are manipulated on screen towards a story resolution.

In each of these examples, the child is using an object or objects to tell a story in a different way, as a companion to the author and as an accumulation of disparate characters for an audience (three children and a teacher), and to construct a storyline and a resolution about a disability (in this context, being too small). At the same time, they are calling on their capacities for imagination. These stories are not recounted; they are constructed and imagined – and the objects do some of this work.

Our analysis has shown how the sequences of action that are essential to building and telling story are observable through the children's use of objects where the participants orient to objects in such ways that each child has to respond to the prior talk or actions of their play partner, systematically building the storyline in order to co-produce a successful story episode. The story is never the child's alone and children's quick reading of the interactions between themselves, people and objects, in specific places combine to co-produce the story. Within these three excerpts of data, the chosen objects are sometimes uncontrollable and unexpected. As a consequence, we see evidence of children's flexibility in their storytelling to accommodate the spontaneous actions of their story partners. However, sometimes, the objects are totally predictable (e.g. the pirate in the story shells), and such objects support children's entry into storying as they take up cultural tropes which they may or may not bend to their own devices. The intelligent ways in which children use the objects in their immediate place have been observed in these storytelling events. The effect on narrative competence has been seen as we have observed children's complex, rapid and fluid decision-making as they respond to the unexpected ways the objects interact with them in the world.

By understanding further the affordances of objects to young children's storytelling in early childhood centres, we may appreciate how even so-thought inanimate objects may directly complicate and support children's storytelling. The collaborative nature of storytelling discussed in this chapter demonstrates how storytelling activities align with the sociocultural perspectives of teaching and learning in New Zealand.

Appendix: CA Transcription Conventions

The conversation analysis symbols used to transcribe the data are adapted from Jefferson's conventions described in Sacks et al. (1974).

[	The beginning of an overlap.
]	The end of an overlap.
=	The equals sign at the end of one utterance and the beginning of the next utterance marks the latching of speech between the speakers. When used in-between words, it marks the latching of the words spoken in an utterance with no break.
(0.4)	The time of a pause in seconds.
::	Lengthening of the prior sound. More or less colons are used to represent the longer or shorter lengthening.
↑	A rising intonation in speech.
↓	A falling intonation in speech.
-	Abrupt break from speech.
Underscore	Marks an emphasis placed on the underscored sound.
Bold	Underscored words in bold indicate heavy emphasis or shouting.
°degree sign°	Either side of a word indicates that it is spoken in a quiet, soft tone.
(brackets)	Utterance could not be deciphered.
((brackets))	Double brackets with words in italics indicate unspoken actions.
$dollar$	Dollar signs indicate the talk was in a smile voice.
creaky	Asterisks indicate the talk was in creaky voice.
~wavy line~	Wavy lines indicates a wobbly voice (as in crying).
>arrows<	Utterance spoken quickly.
<arrows>	Utterance lengthened.

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Chapter 5
Young Children's Participation in a New Language Context: A Synthesising Analysis for a Holistic Perspective

Anne Kultti, Niklas Pramling, and Ingrid Pramling Samuelsson

Introduction

This chapter investigates young children's participation in early childhood education (ECE) from a holistic perspective. Participation through non-verbal and verbal actions in interaction, with teachers[1] and other children, and/or in different activities, including toys and materials, is in focus. In participating in social practices, young children use their communicative experiences at the same time as they make new ones. This happens at times in a language context where communication is carried out in a, for them, new language. When we in this chapter write about communicative experiences used and made, we refer to speech as well as non-verbal communication: verbal and non-verbal actions that are expressed by young children and/or other participants in childcare activities. In the nature of our argument, we suggest that analysing young children's participation sheds light on their conditions for learning in ECE.

The chapter is structured in the following way. The topic of participation is introduced in relation to research of young children's experiences of, and in, ECE. Then follows a section of theorising participation. The analysis is based on three related explorations from which three different situations take one of Rogoff's analytical lenses: the individual, the interactional and the institutional, respectively (2003). In this chapter, we work, metaphorically speaking, vertically through these separate

[1] In Swedish early childhood education, context teacher and preschool are the terms used. Preschool is for children from 1 to 5 years.

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explorations to yield a more holistic picture of the relations between these three planes of analysis. The 'Findings' section is based on the three related explorations and provides a synthesising analysis of them. With the oxymoron of 'synthesising analysis' – synthesising denoting a unifying practice while analysis literally denotes separating – we intend to conceptualise the analytical work of the present chapter, that is, to see how the results of separate analyses can be mutually illuminative to yield a more global understanding of the investigated phenomenon. With this intention in mind, it should be recognised that while there is no such thing as a complete record of complex phenomena such as participation and learning, different theoretical frameworks imply more or less different interpretations of the research objects. In this chapter, we take a more global perspective than in the previous three explorations. The chapter is concluded by discussing language-learning opportunities in ECE for children seen from this more holistic perspective.

Young Children's Participation in ECE

Understanding participation in a new setting at an early age and without sharing the language spoken is rather under-researched. However, a related thematic is research on settling in to a new practice, for example, when young children start attending ECE. According to Dalli (1999), studies on the process of settling into an ECE for a young child have mainly been seen in terms of psychological aspects, with attachment theories and conceptions of separation anxiety, or the psychological view of overcoming dependence and achieving autonomy as essential for a healthy development. Dalli's (1999) analysis of settling in shows that toddlers (above the age of 1.6 years) try to adjust to the group of children already in attendance at childcare and that the children welcomed those already settled in as well as included newcomer children in their play. Dalli also shows how the newcomer child would try to establish a place in the hierarchy of children by learning the rules of the setting and elaborating ownership of rules and turn taking. The children were seen to want to fit in with the other children's play and preschool activities. Dalli concludes:

> Indeed the notion of 'fitting in' emerged as the overarching theme in all aspects of the children's experiences of starting childcare. This suggests that the traditional research focus on starting childcare as an emotional experience of adjustment to separation from the mother is an incomplete one. (Dalli 1999, p. 381)

In order to get insight into what it means to a child to enter a new environment with particular organisational framing, support structure and expectations, a different and broader approach is required. Lindahl (1996) shows that taking the child's perspective is an important factor in teachers' support of 1- to 3-year-old children in their process of settling in in the ECE context. In her study, she followed ten children between 1 and 2 years of age. The children were observed during 3 months. The processes of settling in were video recorded and reported as ten case studies. There was a great variation both in parent-child, staff-child and child-child

interaction, as well as in what children were focused on. Some children got into play right away, while others spent a long time observing before they even tried to enter play. When it comes to materials, the slide was of interest for many of the children; they were also interested in bikes, doll prams and cars. Similarly, many of the children were eager to participate in music activities organised by the teachers. Similar results have been reported by Kalliala in recent research (2014). In other words, both the ways and the time needed for settling into the new context varied between individuals. The study questions the fact that the childcare practice had the same kind of introduction to parents and children, despite the guidelines stating that this process should be adapted to each child's individual needs.

Participation of children is, as Johansson (2011) shows in her study, also a question of what she refers to as the atmosphere in the group and of teachers' views on children and their learning. Hence, she argues that teachers' views of young children are crucial for what happens in ECE practices. Another study shedding light on young children's participation in early childhood context is Eide et al.'s (2012), focusing on toddlers' participation in circle time in ECE. Collected video observation was analysed through Shier's (2001) five steps to participation and influence, reflecting a hierarchy from being listened to towards being part of sharing power and decisions with adults. The results show how four out of the five steps were visible in the studied toddler groups: (1) how toddlers are listened to, (2) how individual children get support to express themselves, (3) how children's perspectives are taken into consideration and (4) how children participate in decisions of importance for them. However, the results did not show evidence of (5) share power and responsibilities (interpretation of this fifth level in Shier's model will be discussed later in this chapter).

Giving children possibilities to practise agency is a key concept in contemporary societies (Ärlemalm-Hagsér 2013; Pramling Samuelsson 2016). However, to become a participant is not only a question of the relationship between the children and the adults but also one of being welcomed into the peer group by other children. Based on a case study of two toddlers settling in, Dalli (2003) argues for peer interaction as a powerful mechanism through which new children learn about life in the childcare centre. This includes learning about rules of interactions in the group, rules about physical expressions and how to take one's place in the existing group. The study also shows how the social context of childcare was implicated in the physical elements of the centre environments (cf. Kultti and Pramling 2014).

Becoming a participant in a new practice poses additional difficulties to children who do not speak the majority language. Wong-Fillmore (1979) observed how second-language speakers came to grip with becoming a friend without knowing the language. She found three strategies: (1) children attach themselves to a group and behave as though they understood what was going on, (2) children acted as if they understood the language by picking up and using a few words and (3) they relied on their friend's help.

In these studies, cultural contexts, childcare settings and pedagogical approaches are not primarily analysed. In the present chapter, participation is seen as a socialisation process in terms of what is possible for and expected of young children in the

particular cultural context. It is worth noticing that some of the children in ECE in contemporary societies participate and/or are expected to do so without being familiar with the dominant language in the ECE setting. Therefore, in this study, we analyse socialisation processes in this kind of language context.

Theorising Participation and Learning

From a sociocultural perspective, a child's learning and development are related to collective and social processes, as well as to individual preconditions (Hedegaard 2009; Rogoff 2003; Vygotsky 1978). Meaning making takes place in interaction between the child and his or her environment (Hundeide 2006; Vygotsky 1987). Through participating in a sociohistorically mediated world, the child develops an understanding of the self, others and the world around them. Culture is not understood as an entity that influences individuals. Rather, people contribute to the creation of cultural processes, and cultural processes contribute to the creation of identities (Rogoff 2003). Children's ways of expressing their cultural existence become visible in their interactions. Rogoff claims that learning understood from a sociocultural perspective can be analysed through three lenses: the cultural (incl. institutional), the interpersonal and the individual. Taken together, this holistic analysis offers the possibility to understand complex processes of learning and development. In this chapter, we intend to provide a synthesising analysis, relating these three lenses.

Building on a sociocultural perspective, the development of psychological processes is understood as culturally mediated by existing ways of thinking and learning (Wertsch 1998). This relates, for example, to young children's opportunities to express themselves and take part in activities and share experiences and knowledge in the ECE context. A premise for the analysis in the present chapter is that common ground for communication is important for engaging in and being able to change one's participation, that is, learning (Rogoff 2003). How such common ground is established by and with children who do not speak the majority language is particularly pressing to investigate.

Empirical Investigation

The present chapter is based on a research study aimed at understanding communicative experience of young children with a first language other than English in an Australian childcare centre (Kultti 2015, in press; Kultti and Pramling 2014). Participation of five two-year-old children during and between the activities in which they were involved was video observed once a week during 6 weeks. Conditions for participation and learning understood theoretically from a sociocultural perspective were investigated: firstly, looked at through an institutional lens,

analysing the pedagogical structuring of the programme (Kultti in press); secondly, focusing on interaction (interactional lens) through analysing how the children are socialised in an early childhood education practice in activities with and around toys (Kultti and Pramling 2014); and, thirdly, from the perspective of individual children (individual lens), with an analytical focus on modes and trajectories of participation (Kultti 2015). Ethical issues were considered throughout the study. The study was approved by a university ethics committee. The teacher and parents were provided written information about the study and gave consent for participation. Pseudonyms are used when reporting the study. The results from the three separate explorations within the overarching study are briefly presented in the 'Findings' section.

Synthesising Analysis

The aim of the present investigation is to work, metaphorically speaking, vertically through a study of children's communicative experiences in an Australian ECE setting, to look at the holistic picture and the relations between the three planes of analysis made available by Rogoff's (2003) approach. What we here refer to as a synthesising analysis is expected to provide a more holistic picture of what it might mean for young children to participate in a preschool/an ECE environment where he or she does not speak the majority language. Research is by nature a reductive practice where a particular perspective is taken in order to systematically discern and understand phenomena. Arguably, children's changed participation (see Kultti 2015) needs to be investigated separately for analytical reasons. However, the modes and trajectories of participation are related to the interpersonal and institutional frames they occur within and contribute to maintaining. Hence, there is also a need to try to synthesise or recontextualise investigated phenomena and processes. Therefore, in this chapter, we use the three related explorations of communicative action from one study to investigate and illuminate the co-constitutive nature of participation in the light of the three analytical perspectives. From a socioculturally informed understanding of development and learning through interaction, how children are scaffolded in joint activities is taken as a starting point. In addition, children's agency and negotiations are recognised and highlighted. The analytical focus is on the complex play of parts and whole in the interaction between people in a cultural context and how this can be investigated. The following features of participation are analytically attended to in this synthesising analysis:

- Possibilities for children to participate in different ways, with different means
- Possibilities for children to hear the majority language in meaningful activities
- Possibilities for children to express their wishes even if they do not manage the majority language

The meta-issue of how to represent participation from children's perspective, including, importantly, how to document participation involving behaviour and action other than verbal speech, remains.

Aksel and Edvin are at the play area for cars. There are two toy parking lots next to each other. The children are driving a car each on one of the parking lots.	*Aksel loses his car and looks around.*  *Edvin notices Aksel´s actions. He also starts looking around and sees the car.*	*Edvin picks up the car and gives it to Aksel.* 

Fig. 5.1 An example of the children's non-verbal participation and how they initiate a play activity (Adapted from Kultti and Pramling 2014, p. 373)

Findings

The findings relate to and the presentation of the results of the analysis is presented in terms of (1) scaffolding that facilitates *and challenges* children's participation non-verbally and verbally and (2) the methodological issue of how to represent non-verbal participation and communication in the text-based practice of research.

1. Scaffolding that facilitates and challenges young children's participation

   The first exploration (Kultti 2015, in press; Kultti and Pramling 2014) shows that non-verbal actions characterise the children's participation, for example, how being silent as an aspect of the young children's participation is shown (Kultti 2015). However, the exploration also shows that, regardless of the non-verbal participation, the children can become engaged in different activities through using the institutional tools offered in the form of (1) teacher-organised activities and optional participation in these (Kultti in press), (2) materials in the setting (Kultti 2015; Kultti and Pramling 2014) and (iii) a teacher being physically close to the children in the activities (Kultti 2015, in press). The analysis therefore also shows how participation as an interactional phenomenon cannot be ascribed to the abilities of either the child or the teacher exclusively. Figure 5.1 gives an illustration of this through a play activity between 2-year-old Aksel and Edvin. These children, who do not have a common language, initiate and maintain play by sharing toys and interpreting each other's non-verbal actions (for a detailed analysis of this activity, see Kultti and Pramling (2014)).

A synthesising analysis points out that scaffolding in teaching is crucial for the relation between the children's actions (individual lens) and interactional and institutional aspects (lenses). This kind of scaffolding encompasses three important features: (a) listening and interpreting children's non-verbal actions, (b) using the majority language to explain the actions and activities (and in this way introduce

There is a swing (made of an open-ended plastic tub) in a tree. A teacher (on the left) is sitting next to it. Charles (on the right) is climbing into the swing. The teacher: *Okay Charles, get on board.* Edvin (on the left) comes over. The teacher: *You're getting on board, Edvin? On board, that's it. Watch out. Remember, you're shipmates together. Okay, shipmates, are you ready? In you go, Charles. Come on, Charles. You can do it! In, in. We're all on board, on board, ready?* When the children sit inside the swing (the tub), the teacher rocks the swing and sings a song.

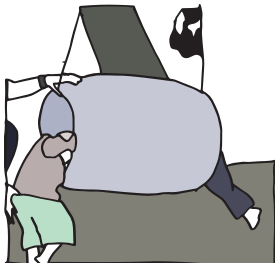

Fig. 5.2 The teacher facilitates and challenges the children's participation by using the majority language (Adapted from Kultti in press)

children to new resources for participating and communicating and also to hear meta-accounts) and (c) including the children in decision-making, that is, to express their wishes and ideas (and, thus, make these visible to themselves and each other, i.e. conscious and shared).

(a) Scaffolding through listening and interpreting children's non-verbal actions

Through the synthesising analysis, expression of *engagement* seems to make a crucial difference to the participation of the children (Fig. 5.1; Kultti 2015). On the one hand, observing (being silent) as a legitimate way to participate in ECE can be argued by theories of learning to be a social process. On the other hand, pointing out so-called active participation as opposite to observing or being silent implies that such participation might also be regarded as 'passive' or participation from 'a look-out post' in terms of Lave and Wenger (1991, p. 95). In other words, if there is a more 'accurate' or expected way of participating in ECE, the reason for this should be discussed.

The first feature, to listen and interpret children's actions, points out a distinction between children's right to participate (see Fig. 5.1 for an example) in ECE activities and children's right to receive support for their participation (see Fig. 5.2 for an example) as crucial for their learning opportunities. Nuancing the concept of participation in this way can be discussed in relation to Shier's (2001) steps of participation and particularly to the first and second steps which concern how children are listened to and how they are supported to express themselves. The right to receive support refers to each and every child as a competent participant who has agency and learns in interaction with *competent* teachers taking the responsibility for

teaching, that is, pointing out the critical aspects of activities and phenomena children encounter, without losing the children's perspectives on evolving activity.

(b) Scaffolding through using the majority language to explain actions and activities

Kultti (in press; see also, 2015, Kultti and Pramling 2015, for further elaborations) shows how a teacher can facilitate children's participation through verbally describing, giving suggestions, explaining, asking questions and commenting on activities and actions in shared activities. An example of this is shown in Fig. 5.2 (adapted from Kultti in press), where Edvin (2 years old) is scaffolded through verbal actions in the majority language, in an activity with a child whom he does not have a common language.

The teacher could communicate in many different ways in this kind of activity, which is a new activity for the children. He could support the child (Charles) who first shows an interest in the swing (made of an open-ended plastic tub) without noticing the other child, Edvin, observing the activity. He could also ask Edvin to wait for his turn. Instead, the teacher focuses on both children as new participants in this evolving activity and how they can participate in it with his verbal support. He takes responsibility for introducing the activity in English in terms of something the children may do together, but also by including imaginary aspects when explaining how to participate in it: the swing becomes a ship and the children shipmates who need to get on board. The children are encouraged to leave space for each other within the imaginary framing: *Watch out. Remember, you're shipmates together*.

In other words, the scaffolding offered is characterised by an extended language use including dimensions of imagination. The fantasy framing and the words used extend the verbal communication in the activity the children are participating in. This kind of teaching creates opportunities for children to participate in communicative activities before having well-developed language skills. In Vygotsky's (1978) terms, a zone of proximal development is created.

(c) Including the children in decision-making through scaffolding

How a teacher includes the children in decision-making is the third feature of scaffolding shown through the synthesising analysis. If seen in relation to Shier's (2001) model, this relates to steps three to five: how children's perspectives and participating in decisions of importance for them are taken into consideration and how they empowered to share power and responsibilities with the adults.

There are situations where the children are expected to have a say. However, what does decision-making look like in situations in which they are not necessarily expected to have a say? To illustrate scaffolding in relation to this question, an excerpt of a play activity (analysed in Kultti in press) is used here. In this play activity, with and around a railroad track, the participating teacher makes the children pay attention to the number of engines they are playing with. Two of the children, Edvin and Emma, have several engines, while one child, Aksel, does not have any. In this situation, the teacher has several possible alternatives for action: (1) he could disregard paying attention to Aksel who is next to the play area, (2) he could tell

Emma or Edvin that they need to share the toys, (3) he could find another engine for Aksel to play with or (4) he could give him a carriage without an engine pointing out a way to differentiate between the objects and words (i.e. train alternatively engines and carriages). However, the teacher makes the *ownership* of toys, *sharing* and agency in decision-making visible to the children verbally and by deictic gestures (pointing with his finger) and in speech (that, there), and the children are encouraged to share the engines so that Aksel will also have one and thus can become a participant in the activity.

The teacher's approach offers an opportunity for the children to share power and responsibility for decision-making in the activities in their everyday life, through giving them access to toys to play with but also an opportunity to hear how sharing can be expressed in the language they are learning. Similar to the example of communicating an imaginary joint activity (see Fig. 5.2), the teacher coordinates the perspectives between the participants. These kinds of experiences of verbal expressions are an important condition for giving children agency in decision-making. That is, they are supported in making conscious and share their intentions.

In other words, the teacher supports joint decision-making, regardless the children's skills in using the majority language. This requires listening and interpreting the non-verbal actions the children use (see the first feature of scaffolding discussed above). *Seeing* the children and their actions is introduced as a condition for participation and an important competence for professionals working with children who do not use verbal language in the setting (Kultti in press; Kultti and Pramling 2015). Shier's model (2001) is used as a tool for analytically attending the *seeing* by Kultti (in press), that is, to analyse conditions for participation through non-verbal communication. The use of the model contributes to a discussion of nuancing communication within ECE and offering an alternative way of interpreting decision-making: from the perspective of children communicating non-verbally but also from the institutional perspective, the conditions for decision-making in the particular setting with teachers attempting to open up for and supporting joint decision-making in matters the children are engaging in are crucial.

2. The methodological issue of representing non-verbal communication

   Video recordings can be used to produce empirical data that captures details of communication but also its context. It is not uncommon that the produced data, available for analysis, are more detailed than what is needed. Similarly, videoed observations as data may include aspects outside the analytical focus. Therefore, video recordings are commonly used in studies with an interest in details such as conversation analysis, as well as in interaction analysis studies with a broad analytical interest in the phenomena studied; the latter approach is used in the research here discussed (Kultti 2015, in press; Kultti and Pramling 2014).

   The analytical principles of interaction analysis (Jordan and Henderson 1995) open up for varied focus on communication, such as an institutional, interpersonal and/or individual. The level of detail can be chosen accordingly. However, a challenge faced is how to communicate the empirical ground for the analysis

Table 5.1 An overview illustrating the difference of the empirical base for and details in the analyses of the three explorations

	Institutional focus (Kultti in press)	Interpersonal focus (Kultti and Pramling 2014)	Individual focus (Kultti 2015)
Number of activities presented	7	2	12
Number of excerpts for representing the activities	7	28	12
Number of images in the excerpts	2	15	12

when it is (also) based on visual data. When the analytical interest is on non-verbal communication, such as gestures and movement in the space provided, it becomes unsatisfactory representing the data only in words. We therefore argue that describing non-verbal actions through words and/or images is an important transduction to recognise in studies of communication.

The synthesising analysis opens up for discussion the representation of non-verbal communication in research. The transcriptions made from the recordings include written descriptions and images in order to follow the activities as they unfold. The actions and materials used in communication are included in the text and/or in the drawings (Table 5.1). In Kultti (in press), with the institutional interest, focusing on pedagogical structuring of the setting, in total two images in the seven excerpts of activities are used. The images are used to describe specific materials the activities occur with and around, such as an open-ended plastic tube used as a swing (see Fig. 5.2). In the exploration with the interpersonal focus (Kultti and Pramling 2014), the images used are intended to represent the mediated nature of the actions between the young children and toys, in a similar vein to the written descriptions. In total 15 images were used in the 28 parts of the seven excerpts (see Fig. 5.1). The seven excerpts illustrate two play activities. This expresses the nuanced character of the analysis conducted. In the third exploration (Kultti 2015), a series of images were used. Each part (12 in total) of the eight excerpts and activities was illustrated with an image.

Table 5.1 illustrates how different analytical focuses may require different distribution between images and text; when only children participating non-verbally are in focus, a greater need for images is created, whereas an institutional focus does not necessitate the same.

Discussion and Conclusion

The findings of this synthesising analysis show the teachers' verbal language use as a tool to facilitate *and challenge* children's participation. The findings are important against the background of contemporary research showing a need for further

knowledge of how to interpret non-verbal actions in research and practice (cf. Degotardi and Davis 2008; Kalliala 2014; Venninen et al. 2014). In addition, the findings emphasise a methodological question of how to represent non-verbal communication in research, which is important if we are to more fully understand young children's participation. Recognising non-verbal actions as a focus for analysing participation is one important step, including visual representations in the reporting, and analysing of data is another.

The analysis shows how illuminating the relations between the three perspectives stated by Rogoff (2003) is of importance for understanding young children's participation in ECE in a more holistic, integrative way. We cannot only focus on the child without including the interaction he or she is involved in. The synthesis highlights support for non-verbal and verbal participation. Children are here theoretically understood as competent participants, with agency, learning in interaction with others in a context where teachers take the responsibility for teaching in response to children's perspectives and experiences.

A nuanced discussion of non-verbal communication, participation and teaching mediates our understanding of silence as a legitimate way of participating in ECE practices as well as experiences of how to communicate challenging contents such as decision-making and verbally sharing. This reasoning also implies the importance of teachers appropriating tools of the trade that will mediate how they perceive and respond to children's actions (cf. the concept of professional vision, Goodwin 1994; see also Hasselgren 1981). Based on the synthesised findings, we argue that metacommunication of language use is important – regardless of children's skills in communicating in the majority language – for creating equal language-learning practices from the perspective of second-language learners.

We argue that an analytical focus on the relations between the three perspectives (Rogoff 2003) offers a nuanced understanding of both young children and second-language users and the socialisation processes they are part of in ECE. According to Singer and de Haan (2007), settling in is a process of initially being an outsider to becoming a member of the club, as it were, arguing that:

> When teachers and children give concrete form to their 'being-together', they do this by observing each other well, by doing things together, by playing and talking together – in short, by being with each other in *particular* ways. They construct a way of being together that one could call the group's *culture*. Each child and also the teacher, makes his or her own contribution. Everyone gives form to certain patterns of mixing with each other. Many of these things are so self-evident that they are never given a moment's thought. (Singer and de Haan 2007, p. 53)

It is quite demanding for a newcomer in ECE to discover what works in the setting and group. There are many unspoken rules to discover and relate to. Children gradually understand the rules and contribute to the development of new rules. The teacher has the responsibility of making sure that all children become included, especially during the settling-in process, including children who cannot participate through speaking the majority language. To make friends is even harder since language is such a central tool for becoming included in play activities (cf. Kultti and Pramling Samuelsson 2016b).

To conclude, the situated character of verbal communication – how language is used in ongoing activities – may put forward a restricted view of a preschool child as one with competence or lack of competence in the majority language, if one is not systematically documenting the processes of participation and learning together. Knowledge of each child, of their interactions in play and of the institutional frames for participation can be created through collaboration between the children's teachers and caregivers (cf. Kultti and Pramling Samuelsson 2016a) and through practitioners observing and reflecting on their own practice.

Finally, it needs to be recognised that while there is a theoretical interest in studying young children's participation and therefore learning, in more holistic ways, research by necessity presumes reducing complexity. This is the nature of science and of knowledge more generally – to know something, we have to single out some feature(s) to focus on while other aspects fall into the background. In addition, publication fora such as scholarly articles require shorter accounts than what allows us to expand in holistic descriptions. Despite these challenges, attempting to get at the relations between different analytical lenses, to use Rogoff's metaphor, is of considerable theoretical interest since children's participation and learning in ECE is situated in particular institutional arrangements and framings. The present analysis is an attempt to contribute to this end.

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Chapter 6
Shaping Gender Relations in Early Childhood Education: Children's Interactions and Learning About Gender

Alexandra C. Gunn

Introduction

There are many theories about how one *gets* their gender and what this may mean for how people live their lives. Developmental texts typically present a range of psychological theories for sex differences, gender, or sex stereotyping and are replete with explanations for why children do the gendered things they do. In the West and until the late twentieth century and the rise of feminism, psychologists regarded the development of quite strictly governed gender roles and beliefs in children as a healthy expression of so-called normal gender development. With renewed interest in the study of genders however and an increased awareness that in fact, at the extremes of continua of so-called normal gender development, social expectations are not necessarily healthy and supportive of an individual's wellbeing, views on concepts of gender roles and gender development have begun to change. A diversity of explanations for why children do their gender the ways they do now sits alongside each other and give rise to people's different conceptions of gender and its development in early childhood.

In this chapter, I revisit several influential notions of gender development that have held sway in modern Western thinking around childhood and early childhood education (including in New Zealand). Then, I discuss data from a current study of children's storytelling to illustrate how within the collective co-production of a gender story at kindergarten, children's learning about gender can be understood, as Paechter (2003, 2007) argues, from a community of practice (CoP) perspective (Lave and Wenger 1991; Wenger 2000). This view reveals the power of social interactions in learning in the early years and raises questions for how teachers may intervene in this. My analysis shows how children co-produce a narrative about

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gender and gender relations that draws upon entrenched cultural tropes that some children take up and others seem ambivalent to or refuse.

For me, the notion that gender is an outcome of reflexive relationships between complex cultural, physiological, and psychological processes, situated in a place and time, is a given. In engaging with the CoP view of gender as I do later in this chapter, I reify arguments that suggest gender is indeed performative, relational, and fluid. My analysis borrows from feminist poststructuralist thinking (Butler 1999; Davies 1989, 1994; Weedon 1987) and a community of practice theory of learning (Lave and Wenger 1991; Wenger 2000). The CoP view is kin to cultural theories of human development (e.g. see Bronfenbrenner 1993; Rogoff 2003), which have held sway in policy and scholarly thinking about early childhood education in New Zealand since the mid-1970s. An aim of developing this chapter is to engage in new thinking about the impact of interactions as a basis for learning about gender in the early childhood education using CoP as a tool.

Traditional Gender Theories and Early Childhood Education

Up until the late twentieth century, it was common sense to hold quite fixed notions of the concepts of male and female.[1] Everyday thinking about gender became stereotypical in nature, supported by science – especially biology – and, for its coherence, fixed to a stable gender binary. Common sense conflated gender with sex and reduced the legitimate human expression of one's gendered self to a simple dualistic configuration of male/female, applicable to all and stable across the lifespan. Gender science abounded in the twentieth century. We were given explanations of how one came to be girl or boy, rooted in biological determinism and, later, social learning theory. The inevitability of the so-called normal gender development, sedimented in age-and-stage theories of human development, provided neat and predictable sequences of how *normal* boys and girls would be.

I am confronted with such thinking regularly in my current work within early childhood education. This is despite the late twentieth-century rise of feminism and the offering up of various different explanations for gender and gender development (e.g. feminist poststructuralist positions, queer theory views, and the CoP approach to gender). Stereotypical thinking about gender rests on a dualism or binary. It is infused with power of the kind feminist scholars and activists have long sought to expose and disrupt. From a stereotypical point of view, some kinds of gendered behaviours are thought to be representative of the masculine or feminine sex and are therefore considered normal and desirable. Variations are typically not desirable (nor considered

[1] In this discussion of genders, binaries, and stereotypes, I draw the reader's attention to the fact that there are many experiences and expressions of gender outside of these traditionally constituted categories of male/female. Nevertheless, this structure is what children are typically born into in NZ and other world countries, what adults work to reinforce, and what children rely upon to build a sense of gender in their early years, hence my uses of it in this chapter.

normal). Binary or dualistic thinking is fundamental to creating and maintaining meaning (Davies 1994), especially for young children who rely upon the very visible extremes of stereotypes to inform their conceptions of what it means to be *girl* or *boy*. Binaries also reflect and uphold asymmetrical power relationships in society more generally. In a binary formation, the first term represents a standard against which the second or subordinate term is measured or understood (Burr 1995). The second term is conceptualised as troubling because it represents a deviation from the norm (MacNaughton 2005). Hence, stereotypes are so difficult to exceed and disrupt. Gender stereotypical thinking is rooted in deep historical investments in the categorisation, description, production, and management of the gender binary. Adults have been found to vigorously apply stereotypes to children (Witt 1997) and children too impose them upon themselves and others (Chapman 2016), in doing so, assist the cultural production of gender along strict lines. The cultural value ascribed to certain expressions of male and female may come to govern what we do with the body as we strive to meet our own and others' expectations about how bodies of a certain type will act, dress, move, and be interpretable as one or other of the identifiable categories. As mentioned, children in their early childhood years draw upon the visible signs for what is taken to mark one as boy/girl and man/woman and as a cue for their own performances of their gendered selves: hair length, facial hair, and dress, for instance, are all markers that young children rely upon to understand themselves and others. However, accounts of gender as purely biologically or culturally produced in themselves go only part way to accounting for how one becomes gendered. A more likely account of the process inheres in the reflexive relationship between biology and culture and in how we, as interpretive beings, make sense of gender in our world. In thinking as such, it becomes possible to understand that one's gender is part of a lifelong process of critical examination of the self in relation to beliefs, society, and culture. Gender can change dramatically over time and with context and as one interacts with the world.

A theory of gender that can accommodate this more situated and reflexive view emerges from feminist poststructuralist (FPS) thinking. Regularly attributed to the work of Judith Butler, in a book with the short title *Gender Trouble* (1999), the FPS view rubs up against traditional accounts of gender to argue that gender isn't simply a biological part of who we are (although FPS doesn't discount the influence of genetics or hormones in the body, e.g. see Davies 1989) but that gender inheres more in what we do – in a performance of gender that over time may emerge to appear relatively stable and recognisable to others and ourselves. FPS works to uncouple biological sex and gender and to acknowledge that gender is in a constant state of flux – continually performed and constructed as people interpret themselves in the world in particular times and places. Therefore, there can be no one fixed gender identity to be learned; gender is constructed within a discursive framework, historically and materially reified through what people say and do. Gender, when thought of in this way, can be seen as an element of the social structure and part of the individual at the same time. The individual is evidenced in what FPS would refer to as the subject (see, for instance, Davies 2006), a *person* constituted in time and place within discourse. Within this, language becomes key to how we understand gender and ourselves relative to it. Importantly, and with gender in mind,

the means by which social structures are historically polarised and gendered have an impact on what it's possible to know, say, and do.

Paechter (2003, 2007) takes up some of these ideas as she explores the production of gender within localised communities of practice (CoP). A CoP, at its basic level, can be described as a community engaging in a shared practice (Wenger 2000), for example, groups of girls and boys at kindergarten negotiating over and performing what it means to them to be girl or boy *at kindergarten*. Novices to a CoP learn practices through what Lave and Wenger (1991) call 'legitimate peripheral participation' – whereby a newcomer to a community takes part in peripheral aspects of the practice of the community and is recognised to be doing so while gradually being inducted into more central and often more complex practices.

It is *practice* that brings the community together. The sense of community depends upon factors of mutual engagement, joint activity, and a shared repertoire of action. These factors bring the community together, reify it, and demonstrate to others that it exists. A CoP is thus a location in and through which individuals develop a sense of the self in relation to both other members of the community and to members of other communities. As Paetcher (2003) argues, the theory 'should help us to understand not only how different masculinities and femininities are performed in different social situations, but in relation to this, how communities of masculine and feminine practices are established, perpetuated, and changed' (p.71).

Children are novices to adult COPs but importantly, in a place like kindergarten, to localised child COPs as well – especially when they are first beginning to attend. Newcomer children to kindergarten observe their more experienced peers and teachers – figuring, for instance, how they should interact as a boy or girl in this place. I think that if teachers begin to recognise how children learn gender through their interactions with each other and with us, we can make decisions as teachers about whether the forms of masculinity or femininity being taught and learned with environments we are supposed to have a hand in designing, are defensible. In the following section, I turn to an examination of such processes in action. I return to the theory later to explain how children may be being observed, learning about and performing certain forms of gender in their daily kindergarten lives. The remainder of this chapter will focus on an event at kindergarten one Tuesday morning and illuminate how the interactions between people in localised communities of practice provide much opportunity for children to learn about gender and gender relations in that place and in relation to others.

The Research Project

The paper emerges from a study of children's narrative competence in the early years (Bateman et al. 2014; see also Chap. 4, this volume). The study follows a number of case-study children ($n = 12$) in two city locations in New Zealand (six in each city), as they participate in everyday teaching and learning events within their early childhood education and primary school settings. Our sites were purposively

selected based on factors of cultural variation (we sought early childhood education settings where the family and child population was diverse and contained a diversity of home language expertise, in particular Māori and Pacific languages), and where, in recognition of current government policy initiatives, the settings were located in lower decile areas[2] of the cities in which we were to work. The researchers also had prior working relationships with teachers in each of the early childhood education settings, and they, the teachers, were keen to collaborate with the research team on the project. An acknowledged outcome of the project is a proposed teacher professional learning and development resource about storytelling; this may have positively disposed the teachers towards working on the project as well.

Kindergarten teacher recruitment was secured in the process of negotiating access to the sites in which we worked and informed consent for participation was sought and granted. The teachers then recruited case-study children and families to the project on our behalf, using criteria of age (we wanted children who would be turning 5 years old between June 2014 and June 2015) and likely school choice. We aimed to recruit families who were likely to send their child to one or two local (to the kindergarten) schools. Once participants had been recruited, and after the project had begun and the children transitioned to school, we sought access to school sites. Thereafter we sought and gained informed consent from school-teacher participants as required. All non-case-study children and families who were in the kindergarten and classroom settings of the children who participated in our study were informed of the study and given the opportunity to have their children withdrawn from any data-gathering situations. Case-study children have been given the opportunity to assent and dissent to participation in any data gathering on every occasion. This has been by way of discussing the video recording with the researchers and having control over whether they will wear the microphone (for a fuller explanation of the means by which we have been striving to work ethically with children in the study, refer to Gunn 2015). In some instances where children have been happy to be videoed but did not want to wear the microphone, the teacher nearby will have worn or held the microphone themselves, so the interactions between children and others have still been recorded.

We are researching narrative by observing children's expertise as storytellers. We have used video observation and the analysis of video and conversations as the principle data sources. The project has thus far (up until December 2015) gathered data on five of six planned occasions (within the 3-year timeframe for the work). Up to 1 hour of 'free play' video (raw video footage) of each case-study child on each visit to their kindergarten or school setting has been collected. From the gathered raw video footage, episodes of storytelling have been identified; these sections of

[2] In New Zealand, the *decile* is a widely used measure of socioeconomic status. It is used by the NZ Ministry of Education (MoE) and other government departments to differentiate communities according to relative (financial) wealth. Decile's fall along a 10-point scale, with decile 1 representing the most impoverished and decile 10 the most wealthy. The data is derived from 6 yearly census data and rankings used by policymakers to differentiate funding and resource allocation.

video have been edited out of the raw video footage and constituted as data for analysis. We initially constituted story as a minimum of two clauses, joined by a temporal structure (Labov and Waletsky 1967/1997), and recognise that stories are produced in a place, relative to things and people therein. Bruner's description of story (2002, p. 34) has also been informative to our work, 'a story … requires an Agent who performs an Action to achieve a Goal in a recognisable Setting by the use of a certain Means' (formatting as per the original). Our analytic approach combines two forms of narrative analysis (sociologically informed, after Labov and Waletsky 1967/1997, and psychologically informed, after Reese et al. 2012), conversational analysis (after Goodwin 2015; Mandelbaum 2013; Sacks 1992) and an analysis of mediating tools to understand how children's storytelling is being supported by people, places, and things within early learning settings.

The story that this chapter discusses has been subject to a form of narrative analysis in order to both observe the story form and to show how children's narratives are bound to wider negotiated social worlds and roles. It is the second aspect of this analysis that is discussed in this chapter because this is what illustrates how interactions between peers can influence learning, in this case, learning about gender. What follows is an example of children co-producing together a story about 'counting boys and girls'. The analysis will focus on the interactions between children as they learn about culturally valued ways to be girl or boy at kindergarten.

Counting Boys and Girls

The story I represent here is not a typical narrative account by a single storyteller directed at a listener audience. The story's representation in this chapter is as a second-order story (Elliot 2005), told in the written form, descriptively, by myself as observer/researcher/writer. It is structured with a sequential beginning, middle, and end and is inclusive of temporal aspects, complicating actions, and resolution. The actual story, as it was lived by children and teachers one morning at the end of a busy kindergarten day, took quite a different form. For children, the story was collaborative and embodied, its beginning arising from a teacher's decision to respond to a comment from a child about there being many more girls than boys that day on the mat. It is unlikely the children went into the experience with storytelling in mind, and in fact, they may not have left the experience with such a notion either. Nevertheless, the experience was replete with storytelling features, and its narrative quickly recognised and embodied by those who were there.

This story is bound to children's wider social worlds of family life, community life, etc. It is also tied to children's local interpretation of what it means to be part of communities of femininity and masculinity at kindergarten. As a performed collaborative narrative, the logic and meaning of the story are sometimes shared and sometimes not by the participants. Rooted in cultural tropes about gender relations, 'counting boys and girls' simultaneously teaches and represents children's local knowledge about gender and gender relations to those involved and observing from the periphery.

Eight boys stand shoulder to shoulder at the front of the mat. Their teachers, myself, and their girl peers sit on the mat opposite looking on as one girl Lucy, who has been invited to come and count her peers, reaches to touch the shoulder of the boy at the start of the line. 'Starting there Lucy' says the teacher. Lucy begins. 'One, two, three…'. As Lucy touches boy number one on the right shoulder he stands straight and square to her and watches as she walks by. Lucy moves on to boy number two and repeats her action. He makes eye contact with Lucy, smiles at her, rocks his head from right to left, and shrugs his left shoulder as she passes. Boy number three steps back on his right foot as Lucy goes to touch him on the shoulder. When she makes contact he speaks an audible 'argh' and shrugs both of his shoulders in an exaggerated upward movement. Boy four makes the same sound and shrug, accompanied by boy three, who watching on, repeats the same. As Lucy continues down the line the other boys shrug and utter similarly, as boys further back along the line, as far as number three, chorus the same 'argh', exaggeratedly and rhythmically, together. Boys one and two watch. Boy number eight who has been observing the approach of Lucy, allows himself to be touched on the shoulder and counted. There is no visible bodily response (other than to watch her), nor any repetition of his peers 'argh'. Lucy turns to the right and quickly sits back on the mat with her girl peers who, along with their teachers and me, have been watching on.

The boys and girls are invited by a teacher to change places. Eighteen girls stand shoulder to shoulder at the front of the mat. Artie is invited to come and count. Artie touches the first girl on the right shoulder as the counting begins. Along with most everyone else on the mat, Artie says, 'One…' the girl makes no visible response other than to watch Artie pass by. 'Two…' the second girl giggles as Artie reaches for her right shoulder. The girl next in line watches, and as Artie's arm stretches out towards her, 'three…' she smiles and shrugs her shoulders slightly upwards. Girls four and five have been observing Artie's approach. They make no visible or audible response to Artie as he passes by touching their shoulders and, in turn, counting. Girl number six on the other hand squeals, giggles, smiles broadly, and gives a large shoulder shrug; actions the next six girls along the line repeat to varying degrees. Lucy is next. She accepts

46. Artie's shoulder touch and watches him pass by counting.
47. Girl number 14 squeals loudly, shrugs, steps back, and
48. giggles as Artie reaches for her; it takes a while for her
49. composure to be restored. The end of the line is
50. eventually reached with the remaining four girls to varying
51. degrees, smiling, giggling, moving and shrugging in
52. response to Artie's approach, touch, and the act of
53. counting the girls.

Analysis

The storytellers (each collective girl/boy subject who is interacting from within localised CoPs of boys and girls at kindergarten) are teaching the audience, the other girl/boy CoPs, their teachers, and myself, about gender relations at kindergarten. In doing so, each CoP both reifies and distinguishes itself – reflecting tropes about gender relations rooted in historical cultural practice: boys and girls don't easily mix; when they do, it is with reluctance and encumbered by rules of interaction that govern what it is possible to say and do. The analysis that follows demonstrates how this occurred.

Nothing remarkable, in the interaction between Lucy and boy no.1, happens (l.7–9), but that interaction is noticeably different to those that follow, and so in hindsight, boy no.1's response stands apart from the dominant practice within the boys' CoP. Boy no.2 moves his body in response to Lucy's touch (l.10–12). The next person in line repeats an augmented version of the movement, accompanied by a step backwards – in retreat – and with an audible exclamation (l.13–16). The following boys have understood the requisite performance, and each does his own version of the same, enthusiastically encouraged by almost all of those back along the line (not boys 1 and 2), who chorus rhythmically and with increasing volume and vigour, counting, in time with Lucy's approach (l.19–21), until boy no.8.

Despite having observed the movements, sounds, and patterning of his peers, this boy breaks momentum and, like boy no.1 at the beginning, does little in response to Lucy's touch (l.24–28). He is clearly not central to the current instantiations of localised practice within the boy's CoP and the form of accepted masculine response to a girl's approach being performed therein – not that it seems to bother anybody. Boy no.8 is neither mutually engaged nor participating in the joint enterprise. He, as was the first boy in line, seems peripheral to this localised expression of masculine and feminine relations. His refusal to take up the loud, rambunctious, and demonstrative subject position on offer resists the practice. It is not possible to say definitively why his response was such, but the CoP view allows us to theorise that he may have been acting as a novice to the CoP and therefore not fully immersed in its practice but, alternatively, that he contested the practice that he and we (the audience) observed, and that he was in fact acting to expand the repertoire of practices available to the CoP.

By the time Artie is invited to come and count his girl peers, there is a well-established collective narrative about how boys and girls in the story relate and

about how these localised CoPs performances of gender will be. Despite this, girl no.1 makes no move to repeat the central action of retreat, shoulder shrug, and utterance (l.34–35) and neither does girl no.2, although she does have a bodily response to Artie's approach, she giggles (l.36). Rather than exclaiming loudly an 'argh', her giggle is altogether much more demure. Girl no.3 repeats an action from the earlier boys' repertoire, a shoulder shrug (l.38–39); her next two peers do not share the same. Then comes a period of clear mutual engagement, joint enterprise, and common action as girls 6–12 perform a stylised sequence of actions involving stepping backwards away from Artie, smiling, having fleeting eye contact with him, giggling, squealing, and shoulder shrugging (l.43–45). Lucy does not repeat this (l.46). Perhaps she, as recipient of the boys' version of the same interaction, is not prepared to sustain the practice when it comes to her. Again the CoP theory allows us to consider Lucy as a CoP participant who may be working to expand the community's practice or who is on the periphery to it. However, the rest of the girls after Lucy come back into line and repeat the collective endeavour (l.46–53) of how to relate as girls to the boys in this story of 'counting'. In doing so, they are reifying the gender practice to themselves and us the audience. They are also demarcating their localised CoP and its difference to the boys' COP at the same time.

Discussion

Paetcher (2003) argues that learning to be 'male or female within a social configuration results in shared practices in pursuit of the common goal of sustaining particular localised masculine and feminine identities' (p. 71). We have observed this in the collective enterprise of 'counting boys and girls' as children, through the co-production of a narrative which was observed by onlooker teachers and myself, worked to make visible an accepted pattern of interactions (to themselves and each other) between localised girl and boy CoPs at kindergarten. The collective action of the majority of the children demonstrated these CoPs understandings of acceptable performances of girl and boy and relations between the two (the girls retreated, giggled, shrugged their shoulders in response to Artie's advance and the boys shouted 'argh', retreated, and shoulder shrugged away Lucy's touch). For Wenger, CoPs engage in practices that emerge from shared histories of learning which provide for the constant fine-tuning and representation of recognisable forms of competence – 'knowing… is a matter of displaying competences defined in social communities' (2000, p. 226) – practice is key. The majority of children in 'counting boys and girls' know a way to *be* boy or girl at kindergarten, but neither the localised CoPs nor the identities formed within them have occurred in isolation. The emphasised coyness of the girls accompanied by the bullishness of the boys may reflect local instantiations of a particular phenomenon, but practices are always related to more generalised phenomena. The pattern observed in 'counting boys and girls' reflects a configuration of gender relations that stretches to extreme opposite ends of a continuum of interaction possibilities – reflecting traditional oppositional and stereotypical configurations of gender which themselves may be found in

collective practices of the wider CoPs of which these children are part (families, communities, historical scientific notions of gender, etc.). Neither the children's teachers nor me intervened in 'counting boys and girls' to disrupt the interaction – we understood it and were therefore complicit in the reification of the performances of gender relations we observed.

However, some of the children, boys no.1, 2, and 8 and girls no.1, 4, and 5 with Lucy, had different responses to the approach of their opposite gender peers. Their actions can be explained within a CoP view as either them, the children being onlookers to the CoP of which they are not yet a central part, or acting as dissidents to the collective practice – persons with other knowledge about how girls and boys might relate. A perfect talking point for teachers and children at the conclusion of the story event that morning would have been to have discussed with the children the stories about gender that had been told that day and observed. Such a timely intervention by the adults' who were audience to the story (and gender practice embedded within it) may have worked to expand the repertoire of acceptable practices within these localised CoPs.

Children remember the manner in which they have been constituted and also how they constitute themselves as subjects of a particular kind. This is particularly so when performances of gender have been so dramatically embodied and reified in story as they were in 'counting boys and girls'. By *doing*, we stitch together memory, action, affect, and sense. For a moment, actions provide us with an illusion of a stable, coherent gendered self to be learned and performed. Practice is key. Teachers who carefully observe and analyse children's interactions in localised CoPs, as in the example shared here, can intervene to add their own expertise and different knowledge about how the world works. In doing so, they may expand everybody's learning in the process – participants and onlookers alike. Timely and sensitive questioning, pointing out when not everybody shares the same view or understanding, and bringing to the discussion alternative points of view, these are all ways teachers can help shape interactions for learning about gender in the early years.

Conclusion

The storytelling research is ongoing. This paper emerges out of the analysis of co-produced story, amongst a group of 4-year-old girls and boys, and about gender relations which were provoked by a deliberate teaching act. While the children's learning about gender comprises an important element of the work, the chapter aims to help teachers understand the many means by which children learn about and perform their gender in the early years. Studying peer interactions provides new insights for teachers into how the children they work with understand this important element of one's personhood – their gender. It provides a means by which teachers can consider how their provision of quality learning environments supports children to learn particular things.

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Chapter 7
A Dialogic Approach to Understanding Infant Interactions

E. Jayne White and Bridgette Redder

Introduction

Quality infant interactions with teachers and peers are now considered to be central to infant learning in early childhood education and care (ECEC) settings (see Dalli et al. 2011; Delafield-Butt and Trevarthen 2013; Mathers et al. 2014). Although this imperative is a fairly new development arising from an increase in infant attendance in ECEC across many parts of the globe (Dalli and White 2016; Degotardi and Pearson 2014; García-Carrión and Villardón-Gallego 2016), the importance of infant interactions with 'significant others' has long been highlighted in psychology research (see, e.g. Reddy and Trevarthen 2004). The significance of adult-infant interactions is consistently echoed in recent policy documents articulating the foundations for infant learning, development and emotional well-being (see, e.g. Dalli et al. 2011; Mathers et al. 2014).

While a great deal might now be asserted about the importance of infant interactions for learning, these claims are largely extrapolated from observations undertaken by researchers outside of the field (e.g. in laboratories where a focus on mother-infant dyads is evident) and not in the locale of ECEC settings. Associated insights are therefore seldom interpreted from the point of view of nonfamilial adults who work with infants (e.g. ECEC teachers) or from the visual perspectives of infants themselves and their peers. In contrast, our investigation took place in a high-quality infant education and care setting in New Zealand which catered for a maximum of 9 under 2-year-old infants at any one time. The service's most recent external review specifically acknowledged the high-quality nature of teacher-infant interactions. We considered that this was a rich and relevant context for understanding infant interactions in ECEC.

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Understanding Interaction as a Dialogic Event

Almost a century ago, Mikhail Bakhtin claimed that infant engagement with others was a means of understanding the self through meaningful interactions that are imbued with value-laden language: 'The plastic value of my outer body has been as it were sculpted for me by the manifold acts of other people in relation to me, acts performed intermittently throughout my life: acts of concern for me, acts of love, acts that recognise my value' (Bakhtin 1990, pp. 49–50).

In establishing this proposition, Bakhtin promoted the idea that interactions lie at the centre of early learning and set a course in the lifelong journey of 'ideological becoming' (Medvedev 1978). From a dialogic standpoint, identity is not fixed; rather it becomes a form shaping route to lifelong becoming. From this perspective, the term 'interaction' is better portrayed as a series of reciprocal dialogues that take place in the 'in-betweenness' of social discourse events. According to this view, the nature of 'being' is essentially intersubjective (i.e. 'co-being') because it always involves an 'other' (Steinby and Klapuri 2013). This means that communication exchanges are no longer considered to be comprised of isolated individual words or phrases, but are instead created by partners in dialogue sequences where meaning is generated as an effect of this interaction (Clark and Holquist 1984).

Mikhail Bakhtin's (1986) concept of interaction as an event-of-co-being provides a way of contemplating the relationships between both the language forms – verbal and non-verbal styles of communication – and their meanings. Bakhtin describes this combination as orienting genre (Bakhtin 1986) that marks not only their use but the ways in which language forms combine to create meaning. When an event-of-co-being is identified, it means that a degree of intersubjectivity has occurred and interactions become interconnected events of significance. According to Volosinov (1986), meaning is therefore conceptualised as 'an electric spark … which occurs only when two terminals are hooked together' (p. 102). Without this connection, there is no genuine interaction according to this view.

Language forms and their connecting links to meaning can be mapped out as a series of utterance chains. Utterance 'exists in a very complexly organised chain of other utterances' (Bakhtin 1986, p. 69). From a dialogic stance, utterance can therefore be understood as combinations of (verbal and non-verbal; spoken and unspoken) language forms that anticipate a response. Utterance chains can be as simple as a combination of a sound (e.g. 'aaahhh') combined with an action (e.g. raised arms), but when joined with a response (e.g. the teacher picks up the infant and says 'are you OK?') shared meaning is made possible. When an utterance chain sparks meaning – a response – it has the potential to become an event-of-co-being because it generates an intersubjective interaction of mutual significance.[1]

[1] Elsewhere the first author has argued that when shared meaning is not established, a metaphoric opportunity arises (White 2009) which may eventually become an event-of-co-being where the adult makes the effort to try to understand that provocation that arises from difference (alterity).

In this view of interaction, language forms do not belong solely to individuals; they are given life only in the context of social encounter as it unfolds between partners in dialogue. In this social space, language is infused with shared thoughts, feelings and points of view which determine its meaning(s). As a consequence, meanings that are generated in these interactions are not fixed but are instead continuously created and re-created in this space of in-betweenness (White 2016a). In this dialogic view, interactions are understood not only in terms of the language that is spoken but by their tone, their context and – of most importance – their interpreted meanings and associated responses. The event-of-co-being thus becomes a value relationship rather than merely a rational response that might be theorised through discrete observation. Those who attempt to understand interactions from a dialogic standpoint are therefore called upon to immerse themselves in the heaviness of social relationships and the communicative links that grant meaning to all interactions. We consider this to be an important consideration for early years teachers and researchers alike – not only in the moment-by-moment encounters that make up social interaction in the ECEC setting but also in the conclusions that are drawn from such insights.

The following model highlights the communicative link between utterance chains that make up an event-of-co-being (see Fig. 7.1). Here the interconnected event of interaction is illustrated when two discrete utterance chains, each comprised of language forms, combine to generate a spark of meaning between social partners.

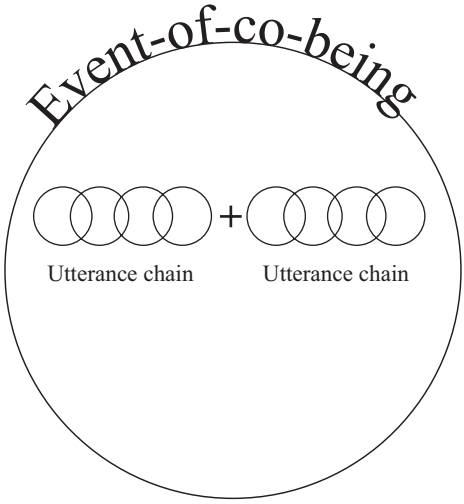

Fig. 7.1 The event-of-co-being

In the sections that follow, we map out our methodological route to the contemplation of interactions as a series of connected utterance chains within the event-of-co-being by summoning Bakhtin's notion of visual surplus to our quest (White 2016b). Bakhtin offers a visual route to understanding relationships between language and its interpreted meanings through this concept.

Visual surplus as a route to 'seeing' interaction: "... each of us occupies a situation in existence ... what I see is not the same as what anyone else sees ... "excess of seeing" [visual surplus] insofar as it is defined by the ability I have to see things others do not" (Bakhtin 1990, p. xxv).

Bakhtin viewed the work of the eye as central to interpretation (White 2016c). His emphasis was not simply on what could be 'seen' by the naked eye, but how it might be aesthetically 'seen' in terms of the values and ideologies that are brought to the experience by another in the social encounter itself. For Bakhtin, this combination takes precedence over any analysis that claims certainty since such interpretation is aloof from the event itself and loses its creative capacity for alteration, insight and transgression in social contexts.

Seeing of this nature poses an immediate problem for the researcher who seeks to understand interactions from an isolated outsider perspective alone or by applying predefined categories to their seeing. In our study an alternative approach to 'seeing' infant interactions was introduced using polyphonic approaches to exploit the visual fields and perspectives of participants themselves in understanding the significance of utterance chains in contemplating the event-of-co-being as interaction.

In keeping with this proposition, utterance chains and their interpreted meanings were derived from two sources: (1) through the employment of polyphonic video and (2) through re-probing interviews. Both approaches draw from Bakhtin's notion of visual surplus by offering an expanded point of view on the event itself. Through such means we were able to highlight the way seeing takes place for each person within the event-of-co-being.

Polyphonic video method

In a study of infant and teacher dialogue led by the first author, the polyphonic video approach was used to capture four-time synchronised different visual perspectives of the one moment in time – the visual fields of the two primary infants, the teacher and the researcher. Three hours of video footage were captured over a period of 2 days through a small recording device inserted into the headband worn by each participant. While the researchers did not have access to the retinal movement of each participant's eye on the screen, we were able to see their visual field based on

the direction of their head and the scene that this gave access to. This technology allowed sufficient visual access to ascertain orientation of the head and, through the other cameras, the eye itself (see Fig. 7.2).

Here video footage was filmed via small cameras inserted into headbands worn on the head of a 4-month-old male (Harrison) and a 10-month-old female infant (Lola), while one (or other) of the key teachers also wore a camera. A fourth camera held by the first author recorded the researcher's visual perspective (see Fig. 7.2).

The beauty of a polyphonic video approach is that it has the capacity to capture the visual fields of all partners in dialogue. Figure 7.3 illustrates how the researcher's visual field does not capture the dialogue of the two primary infants as an older peer is obstructing the researcher's view. However, the dialogue taking place between infants and teacher is captured through their camera lenses (see Fig. 7.3).

Having access to the visual field was especially important due to the age of the infants involved as it provided access to visual orientations that have previously

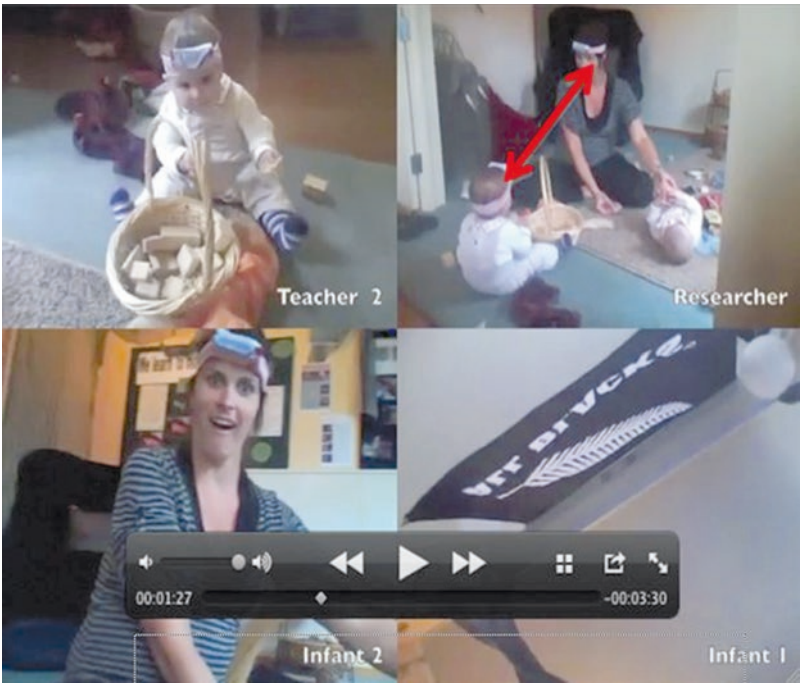

Fig. 7.2 Visual fields of the teacher, researcher, 10-month-old Lola and 4-month-old Harrison

Fig. 7.3 The beauty of polyphonic video

been outside of the reach of researchers in natural settings. In the absence of other ways of involving infants in their own research, we also considered that the inclusion of their visual field offered one way in which their voice(s[2]) might play a part in data generation and, in doing so, provide an important additional means of visual surplus. Due to the deeply ethical nature of such an act, Caryl Emerson (in Bakhtin 1984) cautions us not to interpret visual surplus as a way of exploiting others in research by speaking on their behalf. While we concede that the infants do not have the opportunity to provide commentary on their own experience, we consider the inclusion of their visual field to be an important source of insight. As Bakhtin (1990) explains no one can pull themselves up 'by [their] own hair' (p. 55), which means we each rely on others to give value to our utterances and, by association, ourselves. The polyphonic video screens enabled us to analyse what is offered to social part-

[2] For Bakhtin voice is a plural construct and should not be oversimplified. We use it here with caution.

ners through the visual surplus of each social partner and, by association, how different language forms are granted significance – for example, through the intonation of voice or smile – and, in doing so, alter the meanings that might be ascribed to their existence in the social world.

Re-probing Interviews

Once synchronised, the split-screen polyphonic footage formed the catalyst for a teacher re-probing interview with the first author. Prior to the re-probing interview, teacher participants were each asked to view the polyphonic footage and select 30 min of video footage that they considered illustrated events of pedagogical significance. Subsequently, these pedagogically significant events were explored in the 1-h re-probing interview. The polyphonic video footage was uploaded to a video analysis software programme called Studiocode (n.d.) where it was coded as explained in the following section.

Re-probing interviews provide participants with the opportunity to offer new insights on events. In this case, teachers offered contextual information which enabled the first author, as the lead researcher, to gain further understanding of the meaning of pedagogically significant events. Exploring events after they have occurred with the assistance of video and probing questions can invoke different ways of looking at interactions that are unfolding in an ECE setting.

The following extract from a re-probing interview between the first author and the teacher highlights the important visual surplus that was offered using this method. It provides evidence of how the teacher's insights, as she watched the polyphonic video, enabled additional understanding in relation to different language forms and their meanings – in this case in relation to a mutual gaze that took place between herself and 4-month-old Harrison at bedtime (see Box 7.1).

The above extract demonstrates how the concept of a re-probing interview goes beyond simply seeking to stimulate memory but rather summons an expanded interpretation of the significance of language within the event. What was 'noticed' by the teacher – i.e. the pedagogical importance of the lingering gaze – provided important clues regarding their ideologic orientation and the associated nature of their response. For this teacher it signified an intimate care relationship that underpinned the significance of this responsive interaction. Since a dialogic emphasis claims that interaction cannot truly happen unless one is 'seen and heard', such interpreted meanings lie at the heart of the infant educational experience. As Reddy (2012) explains: Bakhtin speaks of the centrality of 'response': 'for the word (and consequently for a human being) there is nothing more terrible than a lack of response' (Bakhtin 1986, p. 187)…[it is] only possible if there is some kind of

Box 7.1: Example from a re-probing interview
Jayne: ... So just going back to that, you know, you said about the trust and gaze where you do, kind of do your 'last farewell' … you chose this because you said it was a social experience between the two of you.

Teacher: Yeah, what I notice between this and the other interactions is that we were much more engaged with each other than any other times. Like, I wasn't distracted by anything else going on around the space; I was totally focussed on him, and the way he was responding to me was engaging that response from me as well. And, you know, basically initiating a lot of that interaction, I think. Yeah, so that's why I chose it, because it's quite significant, and it's … about the care moments being how relationships are built with children, particularly young infants.

openness in the other towards oneself (in order for the other to see, notice, acknowledge, confirm, recognise, accept etc., whatever aspect of us is relevant in a particular situation) – an openness which allows a real 'seeing' of the self and genuine dialogue rather than its scripted appearance (140–141, our emphasis).

Insights that were gleaned from our study, such as these, would not have been possible without the availability of the visual surplus of infants in tandem with multiple 'others' in polyphonic video AND the re-probing interviews with teachers who know the infant far better than any visiting researcher ever will.

Coding and Interpreting Interactions

While Bakhtin offered a serious critique of purely linguistic forms of analysis because of their tendency to dismiss individual creativity or account for changes over time and space, he did not dismiss the importance of fine-grained analysis of language forms and their interpreted meanings. We considered this to mean that it was appropriate to summon interpretive methods to our analysis while also providing opportunities for descriptive validity (Maxwell 1992). In doing so, we adopted a mixed-method approach to this study – both coding language and interpreting its meaning:

1. *Coding language*

Coding definitions of language forms and their meanings (based on visual surplus) were generated in Studiocode (n.d.) based on (1) multiple viewings of the polyphonic footage and (2) access to interview data from re-probing dialogues with teachers. Since understanding utterance chains as interactive events-of-co-being is determined not only by the forms of language that are employed but also by their response in the social event, language forms were classified in terms of their social orientation (for Bakhtin (1986) social orientation is central to an understanding of

Table 7.1 Categories, language forms, their sources and definitions (White et al. 2015a)

Categories	Language forms	Source	Definition
Verbal			
	Sounds	Infants and teachers	Non-linguistic noises, excluding cries (e.g. high-pitched /æ/)
	Other vocalisations	Infants and teachers	Words and sounds as in singing crying or laughing
	Verbalises	Teachers	Utterances of more than one word
Non-verbal			
	Emotional gesture	Teachers	Body or facial movements conveying emotion (e.g. hugs, smiles)
	Touches body of other	Infants and teachers	Using hands or body to make contact
	Extremities movement	Infants and teachers	Movement that involves the head, hands, legs or arms (e.g. reaching, nodding)
	Gaze	Infants and teachers	Extended 'look' into the eyes of other
	Use of object	Infants and teachers	Offers or receives food item or object
	Puts down	Teachers	Infant is placed on the floor, in bed or in a chair
	Picks up	Teachers	Infant is picked up off the floor, out of bed or out of a chair
	Whole body movement	Infants	Rolls or shuffles body

dialogue and its meanings because it provides important clues to its interpretation). These were visible in terms of the visual fields of the participants but also the insights offered through teacher interviews. Categories were created for language codes in terms of teacher-infant interaction initiations and responses, as well as their interpreted significance. Due to the low counts of some of these initial codes, they were compressed into 11 codes for quantitative data analysis (see Table 7.1, from White et al. 2015a) to ensure even the subtlest forms of language were included in the categorisation of their social orientation. Table 7.1 presents the resulting categories, codes and associated definitions.

By coding language forms as they occurred in dialogue between infants and teachers, it was possible to establish events where either a response was generated or where it was not. Analysis of response events highlighted the importance of the combined nature of verbal and non-verbal forms of language in responsive dialogue (see Tables 7.2 and 7.3). Dialogue can thus be conceptualised as a series of communicative exchanges that are much broader than merely words alone when the significance of combined types of responses to combined types of initiations is recognised. Tables 7.2 and 7.3 (from White et al. 2015a) present (1) infant's verbal and non-verbal combined responses and (2) teacher's verbal and non-verbal combined responses. Combinations of language forms – verbal and non-verbal – on these tables highlighted the importance of interactions with infants that draw upon 'spo-

Table 7.2 Infant's verbal and non-verbal combined responses (White et al. 2015a)

	Infant's non-verbal language form					
Infant's verbal language form	Use of object	Touches body of other	Whole body movement	Extremities movement	Gaze	Total
Sounds	15	4	8	13	2	42
Other vocalisations	2	1	2	2	0	7
Total	17	5	10	15	2	49

Table 7.3 Teacher's verbal and non-verbal combined responses (White et al. 2015a)

	Teacher's non-verbal language form					
Teacher's verbal language form	Use of object	Touches body of other	Extremities movement	Gaze	Emotional gesture	Total
Verbalises	7	4	4	1	3	19
Sounds		4	1	2	1	8
Other vocalisations	2	1		1	3	7
Total	9	9	5	4	7	34

ken' and 'unspoken' language to generate a response in an 'other'. However, it was not until these utterance chains were given life in the perspectives of participants that their fuller meanings could be appreciated.

2. *Interpreting meaning*

Being able to interpret from the point of view of teachers (drawing from the re-probing interviews) in tandem with the visual perspectives of infants, adults and peers in the interactions themselves provided a way to understand the imbued meanings of these utterances and their significance to the event-of-co-being. Insights were gained from initially sharing the footage as re-probing interviews with teachers. Subsequently, further insight was gained by sharing researcher coding and categorisation with participants at various stages of the analysis process. This included attendance at staff meetings as well as numerous email exchanges as additional forms of visual surplus. These insights required us to return to the footage over and over again. One example of the impact of the teachers' visual surplus that became evident during re-probing interviews was where the teachers noticed their physical proximity through the visual field of the infant. Here the teacher is speaking about the polyphonic video footage from Fig.7.2:

> I think I was nearby all the time because I'm aware that Lola is um, interested in Harrison … So I'm close enough to intervene … but not getting in the way of their interaction [teacher re-probing interview].

Furthermore, this insight subsequently prompted us to explore teacher closeness and its impact on infant interactions (see White and Redder 2015). During the process of analysing this data, it became apparent that these infants were relating intersubjectively with their peers (Redder 2014) as well as teachers, an interpretation

that would have passed by unnoticed without the polyphonic visual surplus of all participants (teacher visual surplus, infant visual surplus, researcher visual surplus plus teacher and researcher interpretations of the significance of these).

Bringing together the fine-tuned analysis of language forms with the interpreted meanings granted to these by participants made it possible to contemplate language forms as utterance chains within events-of-co-being. In the section that follows, we present an event-of-co-being that took place between infants, peers and their teachers that was derived through an analysis of utterance chains and their communicative links.

An Example of Interaction as an Event-of-Co-Being

While it is possible for an event-of-co-being to exist within one utterance chain – where interlocutors share the same language meanings (e.g. they understand that 'ahhh' and raised hands means 'I want to be picked up') – a more complex sequence was often called for in the ECEC setting due to the multiple communicative partners involved and their varying degrees of intimacy with the infants. In this social context, communicative links were often derived out of a series of seemingly discrete utterance chains over a period of days. Teachers in their re-probing interview considered these links – over time – to be of pedagogical significance since, together, they generated shared meaning. Importantly, when utterance chains were understood as sequences within the event-of-co-being, they placed the teacher as a pivotal figure in infant interactions because the significance of language combinations to learning could only be identified out of the connections teachers made. As a pedagogical partner in the utterance chain below, Rachel, the teacher, plays a key role in the dialogic event by making such connecting, communicative links (see Figs. 7.4 and 7.5).

The teacher's engagement in the peek-a-boo scarf play with Lola was not merely a spontaneous exchange. The engagement that occurs between Lola and her teacher here represents an utterance chain made up of combinations of verbal and non-verbal language forms. In her re-probing interview, Rachel explained how this interaction was significant to her and had become one that she had identified as having

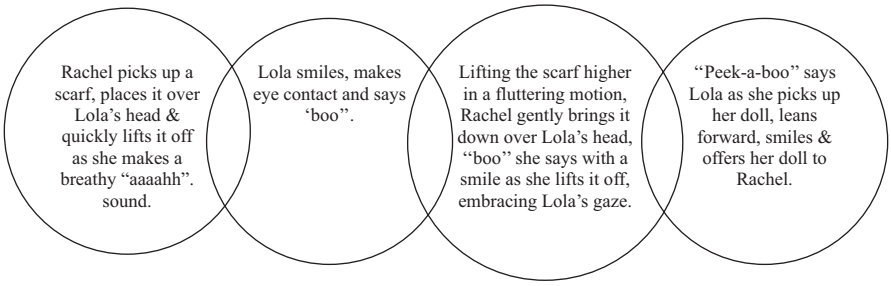

Fig. 7.4 Language forms comprising the Lola and Rachel utterance chain

Fig. 7.5 An utterance chain

Box 7.2: Second Utterance Chain
… the day before she did the boo with Lynette [another teacher]. So we did boo this day. Lots of talking and I′m responding – saying baby when she says it, ….and she's looking at me and Harri when Harri joins in … I talked to mum and I know that Lola enjoys engaging in this game through talking to mum …..….This is what I call totally in the moment, like totally engaged in what we are doing.

pedagogical significance. In doing so, she summoned a second utterance chain that gave increased meaning to the first based on a previous conversation with Lola's mother (see Box 7.2).

With this additional insight (or visual surplus) offered by Lola's mother, Rachel's subsequent exchange with Lola could now be seen as a communicative link to a previous utterance chain. With the knowledge that peek-a-boo was a game enjoyed by Lola at home, Rachel employed the first utterance chain as a way of sustaining future interactions – thus affirming Lola as an intersubjective partner in this event-of-being. Yet, making meaningful connections between utterance chains enabled Rachel to engage intentionally with Lola in a spontaneous moment of learning which also provided opportunities for Lola to build a relationship with her peer.

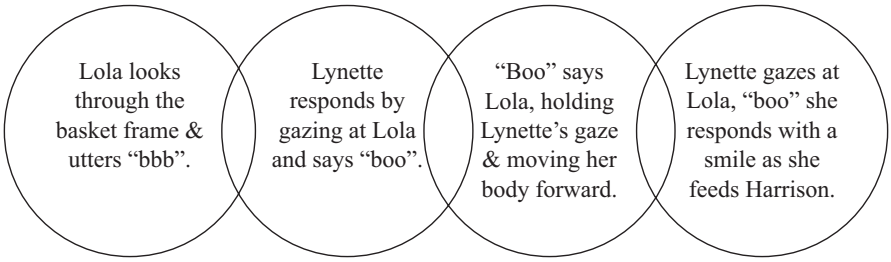

Fig. 7.6 Language forms comprising the Lola and Lynette utterance chain

Fig. 7.7 An utterance chain from the previous day (White 2016a; White et al. 2015b)

Returning to the footage with this visual surplus also gave meaning to a third utterance chain that had taken place between Lola and another teacher [Lynette] the previous day. The utterance chain interaction which occurred the 'the day before' (teacher re-probing interview) between Lynette and Lola took place when Lola was sitting on the floor opposite her buddy teacher who was seated nearby feeding 4-month-old Harrison, they gazed at one another and Lola initiated a game of boo (see Figs. 7.6 and 7.7).

In her re-probing interview, Lynette explained this utterance chain '… was significant to me because things like that must happen all the time and you don't notice …'.

Utterance chains – made visible through additional visual surplus – thus increased complexity when meaningfully and contextually connected to preceding and subse-

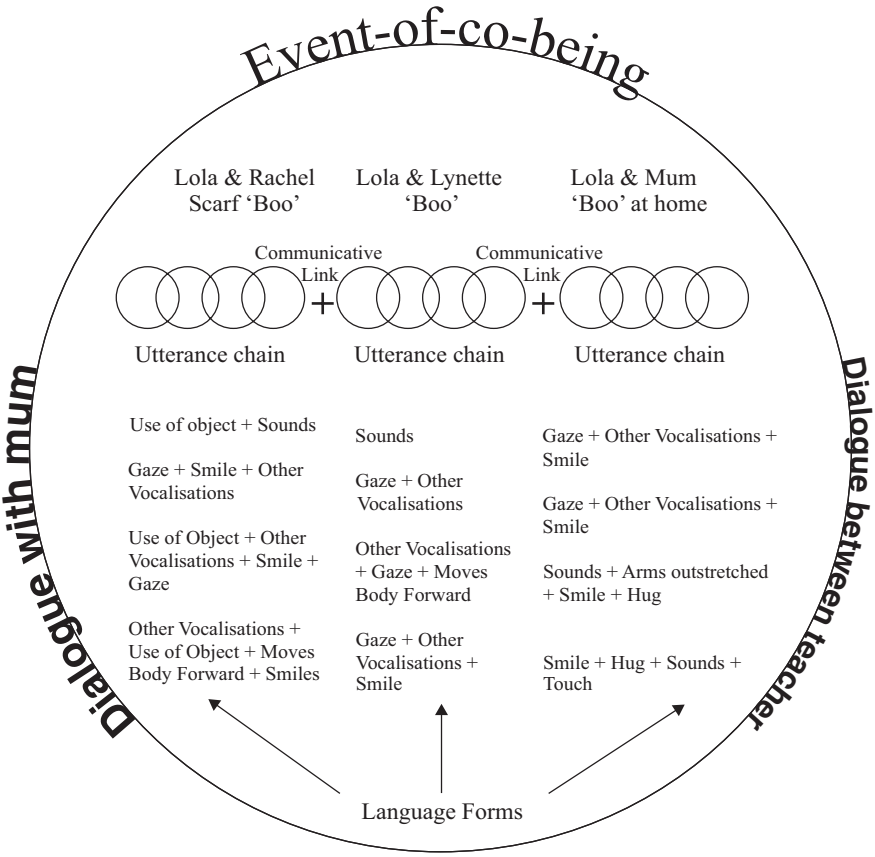

Fig. 7.8 An event-of-co-being with Lola

quent chains. This earlier utterance chain between Lola and Lynette further demonstrates the potential for understanding infant learning. Lola's peek-a-boo game with Rachel and the scarf took place after this 'boo' game with Lynette and was subsequent to the peek-a-boo games Lola had experienced at home.

When interaction was viewed as an event-of co-being, learning became visible through the communicative links which connected a series of utterance chains and their overall significance. The dialogue that took place between Rachel and Lola's mother helped Rachel make sense of the event-of-co-being that was unfolding. It created a communicative link between an existing utterance chain at home and the utterance chains that occurred between Lola and her teachers at the centre. If not viewed as an event-of-co-being, these interactions might have been seen as discrete and unrelated occurrences at best (or not noticed at all), but when connected in this way, they comprised an appreciation of the shared understanding of what was happening for Lola in this intersubjective language encounter. The following model portrays this complexity (see Fig. 7.8).

Insight gained from each teacher's visual surplus led to the interpretation of these utterance chains. The 'chaining' of preceding and subsequent utterance chains made it possible to recognise the contributions that Lola was bringing to her social encounters and the meaning that was being generated in these interactions with her peers, teachers and family. Paying attention to these links and their overall meanings was seen as the primary pedagogical responsibility of these teachers in supporting infant learning. Not only did they offer clues into the meaning of discrete utterance chains, but their combinations offered important ways of understanding learning within the event-of-co-being and responding accordingly.

Within this event-of-co-being, Lola is learning about herself as a language partner. For Lola knowing that her language use with teachers and family elicited a response meant that she knew she could apply this genre later in time with others. Since peek-a-boo utterance chains are important re-cursors to verbal turn-taking (Rochat et al. 1999), she is establishing important foundations for later language development and social engagement. Moreover, through shared dialogue Lola is likely to be learning that her thoughts, ideas, feelings and perspectives are valued. By linking the three utterance chain experiences as an event-of-co-being, it is likely that Lola's agency was re-enforced because her teacher was able to respond thoughtfully by interpreting Lola's invitation to engage in a game of peek-a-boo. Through such interactions Lola is not only learning how to invite others into play, but she is also learning how to engage in sustained dialogue with others.

When infant needs are responded to in the context of a relationship, they are more likely to understand the experiences of others and interact in socially positive ways (Murray 2014). Making these vital connections comprised a great deal of the teacher's pedagogical practice and its relationship to interactions as central to learning. These teachers saw the importance of sharing these utterance chains as central to locating quality interactions with infants as an event-of-co-being. Becoming aware of the forms of language employed in utterance chains with infants meant making visible learning that is often otherwise unseen – as Lynette reiterated when discussing her interaction with Lola:

'It's a moment that can be missed in a busy place like an early childhood setting …it sort of builds on what we had been doing' [Teacher re-probing interview].

The infant teacher's capacity to make these communicative connections is vital to pedagogy because it is the connected nature of utterance chains that is the key to engaging with infant learning as an intersubjective event-of-co-being. We interpret this to lie at the knub of intentional teaching (Degotardi 2010; Goouch and Powell 2012) through dialogic attunement to infants that has the potential to benefit infants' language, social and cognitive development (García-Carrión and Villardón-Gallego 2016).

Implications for Infant Interactions in ECEC

A Bakhtinian approach to language in social contexts provided a way to explore infant interactions with others in an ECEC setting. Conceptualising language as a series of utterance chains which together comprise an event-of-co-being meant that attention was given to the communicative links between interactions and their capacity to generate intersubjective meanings. Meanings were generated through connecting sequences of language forms and their connected meanings over time that could be contemplated through multiple visual fields and associated interpretations by teachers and researchers alike. A key insight from this approach was that language use and its associated interpretation as an event-of-co-being in the learning environment draws heavily upon previous utterance chains and the connections between these. In this dialogic space, the teacher is heavily implicated as a pedagogical partner. When her interpretations are informed by prior utterance chains and alternative visual perspectives, future interactions can make important connections to these. In doing so, the event-of-co-being can be established – thus granting greater significance to language encounters that may previously have been viewed discretely and, as a consequence, granted less significance.

Noticing the connected nature of interactions for infants is a particularly important insight for ECEC teachers, since a shared language cannot be assumed between home and centre. The primacy of visual surplus in gaining insights into utterance chains and their meanings by paying attention to the visual fields of infants as well as teachers cannot be underestimated. While the use of polyphonic footage fully operationalises this concept, it is through the effort of trying to 'see' through different eyes that its intentions are realised. Once established it is imperative that teachers continue to engage in everyday dialogues with infants and their families concerning utterance chains that contribute richly to the event-of-co-being as an intersubjective route to meaning.

We conclude this chapter by reiterating the point that infant learning – when conceived of as an utterance chain within an event-of-co-being – extends well beyond traditional claims of dialogue as a one-to-one, sender-receiver event. When this much broader social conceptualisation of learning within an infant ECEC context is considered, there are increased opportunities to appreciate the connections that exist between discrete interactions and their wider significance in the lifelong 'becoming' of learners. On this basis, we make the claim that regardless of whether or not the teacher engages directly or indirectly in interactions with infants in ECEC, she or he is always implicated as a result of being part of the dialogic space of an early years context.

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Glossary

Communicative link The link that connects utterance chains.
Event-of-co-being A series of utterance chains connected by communicative links comprise an event-of-co-being.
Genre Language form combinations and their meanings in dialogue.
Utterance chains Verbal and non-verbal sequences of language, which when imbued with meaning make up the event-of-co-being.
Visual surplus What can be 'seen' from the perspective of the 'other' (see White 2016a, b).

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Chapter 8
Enhancing Interactions: Understanding Family Pedagogy and Funds of Knowledge "on Their Turf"

Daniel Lovatt, Maria Cooper, and Helen Hedges

Introduction

Establishing partnerships with families that go beyond casual social interactions is an important goal for early childhood teachers. International evidence highlights the positive link between strong teacher-family partnerships and children's learning (Organisation for Economic Cooperation and Development [OECD] 2012). However, developing and sustaining strong partnerships with families can be challenging. This chapter is guided by a view of families as people with expertise. We discuss the value of home visits to gain insights into families' pedagogy and funds of knowledge. Visiting families "on their turf" (Allen and Tracy 2004, p. 198) is a powerful method for understanding family pedagogy through the interactions that occur within families. We argue that understanding family pedagogy enhances teachers' pedagogy, deepening learning interactions that occur within early childhood settings. We illustrate in this chapter the transformative power of visiting families to gain enhanced insights into family interactions for subsequent improved pedagogical interactions in an early childhood setting.

In the chapter, we first explain the importance of family and community as a key curriculum principle in Aotearoa, New Zealand (NZ). We then introduce family pedagogy and funds of knowledge as concepts consistent with enacting this principle. Next, we discuss the historical use of home visits in early childhood education (ECE) and our contemporary use of these as a tool for enhancing teaching and learning interactions. We present and analyse a home visit in relation to what was learned about one child and her family. This illustrates the potential value of respectful teacher-parent interactions "on their turf" in order to enhance teacher-child interactions within early childhood settings.

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Family and Community as a Key Curriculum Principle

A specific outcome of teacher-family partnerships is to enhance teachers' knowledge about children in the early childhood setting. The same positive focus on interacting with families is echoed in many early childhood curricula documents internationally. For example, the NZ curriculum *Te Whāriki* (Ministry of Education [MoE] 1996) foregrounds the integrated notions of family and community as a key principle. It emphasises that "the wider world of family and community is an integral part of the early childhood curriculum" (MoE 1996, p. 14). This idea calls for teachers to learn more about children's families and communities and to consider how families' expertise might be acknowledged and drawn upon to enhance teacher-child interactions in the early childhood setting.

Evidence highlights however that establishing authentic partnerships with families in ECE is not easy. Encouraging family involvement can be challenging due to cultural, attitudinal, and linguistic barriers (Hujala et al. 2009; OECD 2012) and economic pressures that families might experience. In NZ ECE, implementing the curriculum principle of family and community has been challenging. For example, concerns about how teachers in 627 early childhood services were implementing *Te Whāriki* were raised in an Education Review Office (ERO) report (ERO 2013). The ERO found consistent and explicit links to the principle of family and community in a broad range of documentation across many services. However, evidence of how the principle was enacted in practice was reported as variable and, at times, minimal. The ERO recommended that the MoE give consideration to areas where teachers need additional guidance and support, so that curriculum can reflect the practices and aspirations of families. We suggest that the use of home visits described in this chapter is one tool teachers might adapt and utilise to develop meaningful partnerships with families and children, in order to recognise the ways that children learn in their families and, therefore, to enhance their learning interactions with children in early childhood settings.

Paradise and Rogoff (2009) have argued that children's "intent participation" (p. 104) in experiences of interest in their families, early childhood centres, communities, and cultures is a powerful form of informal, everyday learning and motivates ongoing learning. Hence, our use of the term pedagogy in this chapter encompasses informal participatory approaches to teaching and learning that occur in both family and early childhood centre settings.

Family Pedagogy

The term "family pedagogy" first appeared in the family studies literature to refer to teaching and learning about the family institution and its changes over time (Allen and Crosbie-Burnett 1992). European educator Catarsi (2012) later used the term to refer to the conditions and culture of parenting. Recently, it has been used more

broadly to refer to key aspects of family life: the cultural and social processes, or ways of life, experienced within families, including "the space, time, culture and opportunities a family provides to support its children to flourish" (Murray 2015, p. 1721), what children learn "within their home and within their culture" (Lawrence et al. 2015, p. 1980), and the interactions between parents and children that support children's learning and development (Li and Fleer 2015). Common to Murray, Lawrence et al., and Li and Fleer's descriptions is the view that families foster their children's learning informally in the home through the nuanced social and cultural ways in which they interact with their children.

We define family pedagogy in this chapter as the learning interactions and cultural practices that occur within families. We argue that understanding family pedagogy can broaden teachers' awareness of children's learning opportunities within families and enhance both teacher-parent and teacher-child interactions in and beyond the early childhood setting. These insights can lead to enhanced teacher-child interactions in the early childhood setting. In short, we propose that interactions are multilayered and that contemporary approaches to home visits can enable teachers to build deeper relationships with parents and to observe and gain insight about parent-child interactions.

The ability to recognise and appreciate family pedagogy requires teachers to see themselves as learners and families as experts about their own children, an approach used through a funds of knowledge methodology (Gonzalez et al. 2005), that is, teachers visiting family homes in the role of learner. Engaging with families can open up opportunities to learn about families' aspirations for, and expectations of, their children. These aspirations and expectations are often revealed in the ways families support their children to participate in, and learn through, everyday experiences and interactions. Understanding family pedagogy is therefore also likely to raise teachers' awareness of families' and children's funds of knowledge.

Funds of Knowledge

The concept of informal learning occurring through everyday interactions draws attention to the contribution that experiences in children's families, communities, and cultures make to their learning in various ways. Within these interactions, knowledgeable peers and adults support children to explore and construct new understandings, knowledge, and skills. We argue that the better these knowledgeable others know the child's current understandings and approaches to learning, the more likely it is that the child's learning might continue to grow in subsequent interactions.

"The concept of *funds of knowledge* … is based on a simple premise: People are competent, they have knowledge, and their life experiences have given them that knowledge" (Gonzalez et al. 2005, p. ix). Funds of knowledge incorporates the bodies of knowledge, including information, skills, and strategies, which underlie household functioning, development, and well-being. For example, children might observe a parent writing a shopping list or reading a recipe. Through this, children gradually develop early knowledge of literacy embedded in specific household

functioning. Subsequent research has also considered wider influences of family and community members, such as siblings, friends, grandparents, and teachers. Funds of knowledge encompass knowledge of content and culture and also include "learning practices" (Andrews and Yee 2006, p. 447), that is, interactions that involve regular routines and lead to knowledge creation and sharing in families, communities, and cultures.

Thus, we argue that funds of knowledge as a concept is powerful and transformative. Firstly it encompasses the content and processes of learning within families and communities; secondly as a methodology, it enables teachers to gain insight into these learning interactions; and thirdly as a pedagogical imperative, it requires teachers to make use of what they have learned during the visit, within educational settings (Gonzalez et al. 2005). The concepts of family pedagogy and funds of knowledge therefore intersect through their shared emphasis on the importance of relationships, learning interactions, processes, and cultural practices. Funds of knowledge also emphasises content and knowledge. We argue that both family pedagogy and funds of knowledge can be illuminated through visits to family homes.

Home Visits in Early Childhood Education

Home visits have had multiple purposes in the history of ECE. In the United States, visits to family homes were traditionally used to impose a school agenda onto children and families, an approach that obscured exploring the strengths of the family (Whyte and Karabon 2016). In the United Kingdom, ECE pioneer Margaret McMillan, was carrying out home visits from around 1919 to educate families and their children about improving their personal circumstances (Greenfield 2012). Greenfield clarified that McMillan's home visits were initiated in the midst of wider concerns in society of high infant mortality rates, which may explain the sense of home visitor as expert and the family as requiring support and education.

Writing in the context of NZ ECE, May (2013) noted that home visits were, at one point, "an essential task" (p. 306) of kindergarten[1] teachers,[2] particularly in the first half of the twentieth century when a focus on child health and development was important. May argued that while the approach to visiting family homes may appear patronising now "or in the mode of doing good works with the poor" (p. 306), many kindergarten teachers learned a great deal about the situation of families through the home visiting practice and were therefore able to offer a range of support to those families. These home visits however appear to have been made early in the teacher-parent relationship. Moreover, there were no details reported of any learn-

[1] Kindergarten then was a publically funded sessional service for 3- and 4-year-old children.

[2] By design, public kindergartens in NZ operate with fully qualified teachers who hold a nationally recognised teaching qualification for the early childhood sector. Not all ECE settings operate with a fully qualified teacher workforce.

ing about families and children that were being drawn on to inform interactions in the kindergarten setting.

Home visiting remained common practice for many kindergarten teachers until the latter part of the twentieth century, mainly to assist with transitioning new children into the setting early on in the relationship (Cooper et al. 2014). The increasing diversity of children and their families around this time introduced the need for teachers to develop their awareness of cultural differences across families. Writing about teacher-family relationships in NZ kindergartens, Renwick (1989) reported that due to increasing language and cultural diversity, teachers were finding it difficult to communicate their intentions for visits to all families. This perceived barrier, alongside high turnovers of children, eventually led to fewer home visits being carried out.

However, the introduction of *Te Whāriki* (MoE 1996) to the sector in the early 1990s encouraged teachers to view families and children as competent and as people with expertise of value to ECE. This alternative view challenged teachers to interact differently with children and families. While the established practice of home visits offered one potential way to locate family expertise, changing responsibilities and demands on teachers' time (e.g. increased accountability requirements) made it difficult to maintain home visits as regular practice. Furthermore, it is unclear how widely the practice of home visiting may have been across the sector, beyond kindergartens, since the phenomenon appears to remain largely undocumented. Hence, we believe there is a need to clarify the value of home visiting as a contemporary phenomenon for enhanced interactions rather than merely children's health or transition considerations. Instead, we suggest visits could be approached with a view towards strengthening reciprocal partnerships with families, in response to the curriculum's image of children and families as having valued prior knowledge and expertise.

A funds of knowledge approach to home visiting (Hensley 2005) positions families as knowledgeable experts and teachers as learners. This shift in power has the potential to transform interactions and deepen teachers' knowledge about children's learning (Cooper et al. 2014; Hensley 2005; Whyte and Karabon, 2016). Further, we argue that undertaking home visits, once time has been spent establishing relationships, offers an inclusive and powerful method for enhancing interactions with families. Visiting individual families on their turf offers teachers opportunities to strengthen their work with families through partnerships based on mutual trust and evolving understandings of children's life with their families (Tenery 2005). We argue that home visiting holds potential for deepening teachers' understandings of family pedagogy and children's funds of knowledge as a basis for responsive pedagogical interactions. Thoughtfully undertaken home visits might make positive contributions to teaching and learning within ECE when they involve respect for families' expertise, strengthen relationships, and support dialogue between ECE and the home. The process, topics, and practical and ethical considerations of the home visit approach described in this chapter are reported in Cooper et al. (2014).

Research Design and the Home Visit to Zoe's Family

This chapter draws from two studies guided by the concepts described earlier: family pedagogy and funds of knowledge (see Cooper et al. 2014; Lovatt 2014). Daniel, then a teacher at Small Kauri Early Childhood Education Centre (Small Kauri), first carried out a home visit to Zoe and her family as part of a postgraduate course he was studying on child development. Daniel was Zoe's teacher. The home visit involved Daniel interviewing Zoe's parents about family pedagogy and funds of knowledge, using a series of open-ended questions. The interactions and conversations during the visit were audiorecorded and transcribed, and field notes were also written.

Daniel drew on his recollections of this visit later at Small Kauri, in the context of a Teaching and Learning Research Initiative (TLRI) project where Maria and Helen, as university-based co-researchers, partnered with teachers to study natural everyday practices and problems of early childhood teaching and learning interactions, including those related to teacher-family partnerships (Hedges and Cooper 2014). The TLRI study followed an interpretivist methodology and used qualitative methods in its design and implementation because of their potential to generate rich data and to acknowledge the direct involvement of researchers, teachers, families, and children in the study.

In both the postgraduate project and the TLRI, Daniel as a teacher-researcher was able to build on established positive and respectful relationships with children and families. He was able to invite their participation and generate with them data about authentic everyday early childhood teaching and learning. Ethical principles of voluntary participation, informed consent, social and cultural sensitivity, and minimising harm were paramount. Both studies drawn on in this chapter were reviewed and approved by the University of Auckland Human Participants Ethics Committee.

Zoe attended Small Kauri situated in Mangere Bridge Village in South Auckland. She was 3 years and nine months at the time of the first visit. She lived with her mother (Tamar), father (Paul), and their cat (Harry). A strong relationship had been developed between the teachers and Zoe's family before the home visit occurred. The family agreed to be visited at home, a place they were comfortable, where everyone was familiar with each other and where Zoe and her family were likely to feel more at ease during the recorded discussion. Daniel's intent was to investigate family/home influences on Zoe's learning and development, including the ways that Zoe and her parents interacted. When Daniel approached Tamar about the visit, she responded positively but indicated that it was important to involve Paul in the home visit too. To accommodate family commitments, the visit took place on a weekend morning. During the visit, Zoe, Tamar, Paul, and the family cat, Harry, were present.

The centre interactions drawn on in this chapter were data from a wider TLRI project that explored children's interest, inquiries, and working theories in two early childhood centres in Auckland (Small Kauri was one of the two centres). Up to 80 children and families and 15 teachers participated in the overall project. Children and families

in both settings were from a diverse range of cultural backgrounds (please see the TLRI summary report, Hedges and Cooper 2014, for further information). Acting on the belief that families have expertise, amongst the data generation methods, the teacher-researchers undertook 18 home visits and interviews of children and families to gain deeper insights into the family, community, and cultural funds of knowledge (see Cooper et al. 2014; Hedges and Cooper 2014, 2015 for the practical and ethical considerations of these visits).

Findings About Family Pedagogy and Funds of Knowledge

We note that all parties enacted a strong partnership relationship before the visits. However, following the first home visit, Daniel noted how much deeper his awareness of Zoe's family had become. He also described ways that interpretations based on the concept of funds of knowledge led to strengthened understandings of Zoe's interests which he could draw on in teaching and learning interactions in the centre. The home visit interactions between Tamar, Paul, and Zoe (and Harry the cat) shaped Daniel's learning about family pedagogy and funds of knowledge. The information that was shared ranged from parental aspirations and expectations for Zoe to the resources and daily experiences provided by the family and included the ways that Zoe and her parents interacted. With regard to parental aspirations for Zoe, Tamar shared the following: "My main aspiration for her is to have self-esteem. Because I think if you have that you have the basis for exploring the world and growing confidence". Parental aspirations regarding her self-esteem were reinforced during the home visit discussion where Zoe sat at the table, listened, and actively contributed to the conversation by sharing her thoughts: "That was fun mum" referring to Tamar's comments about a car trip undertaken by Tamar and Zoe.

With regard to family pedagogy, from Paul and Tamar's comments, and ways that they interacted with Zoe during the visit, Daniel realised that Zoe was positioned as a trusted member of the family who participated in everyday discussions, sharing her thoughts and opinions, as indicated by Tamar: "I always try to give Zoe reasons so that she knows and that's quite interesting when she gives me reasons back. She'll tell me things, give me her reasons why". Zoe was active at the visit and a clearly valued member and part of family life. Paul and Tamar supported Zoe's expectation that she would be an active and valid part of the discussion by looking at her, directing their comments towards her, and waiting for her responses. For instance, when the conversation turned to Zoe's use of the family laptop, Zoe found the laptop and brought it back to the table. Tamar suggested that Zoe would need to plug the laptop into the nearby power point. Zoe's response was negative prompting Paul to reinforce that "the battery will go otherwise". Zoe then brought the necessary cord over and plugged it in.

With regard to funds of knowledge, the visit to Zoe's family home provided insights into some of Zoe's early biological concepts related to the family cat Harry and the family's flexibility regarding Zoe's use of resources. During the visit, Harry appeared and was embraced by Zoe. Tamar indicated that Zoe and Harry's relation-

ship might be fraught at times: “You’re a bit bossy with Harry” [looking at Zoe]. Paul shared that Zoe knew how to care for cats, that Harry slept in Zoe’s bedroom, and that, for example, Zoe “knows the cat shouldn’t scratch the furniture”. Tamar later shared that Zoe had freedom to explore and use household resources: “having resources that are just available, and she can go and choose what she wants”, including the use of personal items: “I’m really happy for her to use my clothes and accessories” for play purposes.

Overall, Daniel’s home visit revealed strong aspects of family pedagogy and funds of knowledge. Zoe’s parents supported her learning, enabled her to play with resources and ideas, and valued her sharing her opinions and thoughts in authentic conversations and dialogue. Harry also seemed to be a valued part of the family.

After the Home Visit: Enhancing Teacher-Child Interactions at Small Kauri

Four months after the home visit, during the TLRI project, Zoe’s knowledge about cats became an integral part of a group of children’s thinking about animals and blood. Inspired by the introduction of a real stethoscope at the centre, a small group of children had undertaken a spontaneous trip to a neighbouring medical centre with Daniel. This inspired a deep interest about animal and human functioning, specifically about the heart, blood, and skin.

On this occasion, the group was debating whether animals have blood. As the discussion had turned to household pets and Daniel recalled Zoe’s relationship with Harry, he invited Zoe to share her opinions and expertise. Zoe’s response was straightforward: “Cats do have blood”. Her thinking was conceptually accurate. It was also opposed to the group view that animals did not have blood. Daniel acknowledged Zoe’s contribution and continued to facilitate the group thinking and discussion around the concept, fully expecting that Zoe would continue to reflect and share the reasons for her thinking as she did at home with her parents. He shared where the group thinking was at the time, and some children clearly restated that animals do not have blood. Zoe confidently added “Animals have blood. Everybody has blood … And kids have blood and cats and dogs have blood … And actually dogs and cats, all of the animals have blood”. Daniel facilitated the ongoing discussion as the children negotiated and put forward their points of view. After a child shared an experience about a dog which had been scratched and bled, Zoe went quiet. Daniel watched her carefully and interpreted her body language and facial expression as indicating that her thinking had become conflicted. He asked for her point of view:

Zoe:	“Actually…Harry scratches, but when he scratches blood doesn’t come out of [him]”.
Daniel:	“Oh, so does Harry have blood?”

Zoe: "No, Harry scratches, blood don't come out".
Daniel: "I thought all animals have blood".
Zoe: "But when Harry scratches blood don't come out".

Zoe's tone in saying "no" indicated that she appeared to have changed her mind, but remained puzzled. Daniel continued to support her thinking to become more conceptually complex, having seen her reflective and critical thinking promoted at home. He expected that she might continue pondering on this puzzle.

Two days later, after Daniel and three of the children who had been involved in the discussion over pets and blood had walked to the nearby shops to look for animal and fish hearts, the group conversation about hearts and blood continued. Zoe shared "My mum said Harry does have blood you know". Daniel realised that Zoe had taken her uncertainty back home for further discussion. The conversation continued to reveal that Zoe's thinking, now revised, incorporated the previous notion of Harry's scratch which had not bled. Zoe explained "If I scratch like this you can actually see the white line, that where I had the sharp thing and I go like that and you can see the white bit".

Zoe's thinking about scratches, blood, and Harry had been further refined through discussions at home and perhaps through Zoe's own critical thinking and reflection. Zoe understood that scratches can be shallow or deep. Furthermore, she understood that deep scratches result in blood, whereas shallow scratches result in "the white bit" showing on your skin. Her understanding had deepened as a result of her interactions with others. Because of the home visit, Daniel had a good understanding of how her thinking might have been developed at home and reciprocated by supporting similar interactions with peers in the early childhood setting.

The Value of Visiting Families "on Their Turf"

Daniel's home visit experience revealed that gaining insights into Zoe's family pedagogy and her funds of knowledge broadened and deepened his understandings of her. These insights then enhanced his pedagogy and the subsequent interactions with Zoe and involving other children in the centre. In this section, we discuss the findings to highlight three key benefits resulting from Daniel's home visit: enhanced insights into family pedagogy and funds of knowledge, enhanced pedagogical interactions and responses, and realising the transformative power of visiting children and families on their turf.

Enhanced Insights into Family Pedagogy and Funds of Knowledge

We argue that the concepts of funds of knowledge and family pedagogy intersect. From our perspective, family pedagogy foregrounds social and cultural processes and interactions in the home, and family-based funds of knowledge foregrounds social and cultural content and knowledge created in the home.

Firstly, the home visit afforded insights into Zoe's family pedagogy and the reasons underpinning their family pedagogy. By sharing their aspirations for Zoe, Paul and Tamar provided insights into their own thinking and the reasons behind their learning interactions in the home. Zoe's position in the family as a valued co-constructor of rules and boundaries was also underpinned by family aspirations. Zoe and her parents would discuss family rules together and, furthermore, debate the reasons for the rules. Therefore, Paul and Tamar were fostering Zoe's confidence and empowering her to be involved in metacognition, thinking, constructing knowledge, and exploring thinking through critical debate.

In addition, there appeared to be an expectation that Zoe would participate in everyday adult conversations at home and perhaps that she could bring something unique to the home visit discussion about herself. Zoe seemed to firmly hold an expectation that she would be part of the meeting, indicated by her choice to sit at the table, listen, and contribute. Again, this was affirmed by her parents trusting Zoe to be involved sensibly, included meaningfully in the conversations, and listened to respectfully. Daniel viewed Paul and Tamar's aspirations as reinforced in their expectations and trust in Zoe to be an active participator in and contributor to Daniel's learning about the family.

Secondly, the home visit provided an insight into some of Zoe's funds of knowledge and particularly small insights into her knowledge about Harry the family cat. Zoe displayed her fondness for Harry, and Paul shared that Zoe was aware of typical characteristics and behaviours of cats, such as Harry scratching the furniture, and knowing that some behaviours were not permissible. Daniel therefore deepened his understandings about Zoe's interest in cats and learned she had an understanding of the rules in place for the family cat. Perhaps Zoe was also the enforcer of those rules at times as Tamar described Zoe as being "bossy" with Harry.

Improved Pedagogical Interactions and Responses

Although the family pedagogy in this instance closely aligned with Daniel's pedagogy, the learning gained from visiting Zoe's family at home improved Daniel's pedagogy in subtle but significant ways. The home visit afforded him a privileged position to learn about the family pedagogy and to gain an insight into Zoe's funds of knowledge. Together these aspects enabled Daniel's interactions with Zoe and the group to be even more meaningful than previously. When Daniel invited Zoe into the group discussion, he called upon Zoe's expertise; he also recognised her way of learning as a reflective and critical thinker. Prior to the home visit, Daniel viewed Zoe as an articulate thinker and speaker. The home visit affirmed this view and furthermore highlighted the negotiation and critical thinking that she was

involved in at home. Aware of the ways Zoe's parents expected her to listen and contribute, Daniel was now able to invite her to participate in the group with similar expectations: that she would participate by listening and contributing critically to the group's thinking. Daniel knew Zoe's opinions were valued by her parents at home; he echoed those expectations in the early childhood setting, confident that Zoe would likely respond. However, Zoe's initial conclusions, in the face of the conversation with others, became tentative and then changed. Just as Tamar supported Zoe to explore ideas at home, Daniel chose to do the same, providing time, space, and prompts for her to engage in discussions with the other children. At the end of the first discussion, Daniel elected to neither challenge nor correct Zoe's conceptually inaccurate thinking about Harry not having blood. Zoe herself took this idea at home and revised her thinking there. Daniel understood that Zoe and her parents valued the process of knowledge construction. He therefore encouraged Zoe to continue to be a thinker and a questioner of herself and with him during their pedagogical interactions.

The Transformative Power of Visiting Children and Families on Their Turf

It was clear to Daniel that the home visit and the interactions he had observed between Zoe, her parents, and her cat were integral to enhancing his responsive interactions as a teacher. Firstly, the home visit offered Daniel a valuable opportunity to learn about the ways that the family interacted with Zoe. These kinds of family approaches to teaching and learning were not often visible at Small Kauri, given the short time most families spent in the setting. Despite the best intentions of teachers, conversations with parents that occur at the beginning and end of the day are largely on teachers' terms and on the teachers' turf. The home visit put Daniel in the role of learner and provided ability to have a 1:1 interaction with the family on their turf. The resultant learning was invaluable.

For example, the home visit deepened Daniel's understanding about Harry and of Zoe's relationship with Harry. Further, Zoe knew that Daniel had actually met Harry. This meant that when in the course of the conversation about pets, hearts, and blood, Daniel mentioned Harry, and Zoe understood that he was asking her a genuine question, inviting her to share her expertise. We argue that meeting together and sharing and experiencing an item, place, event, and family member—or pet—together afford deep connections from which understandings can be formed. Daniel believed that Zoe would appreciate being recognised as the expert during the group discussion of animals and blood because he had seen as much in Zoe's interactions with her parents at home.

The view Daniel held about Zoe's family being experts in their own right reflected the emphasis in the literature assigning families an important role in their children's early childhood education (e.g. Hujala et al. 2009; OECD 2012). The view was evident in the respectful way Daniel worked with Zoe's parents and the insights Daniel learned and put to use after visiting Zoe and her family at their home. The thoughtfully planned home visit provided insights into Zoe's intent participation (Paradise and Rogoff 2009) in experiences of interest—such as her cat Harry—the

family pedagogy, and Zoe's funds of knowledge. These insights afforded Daniel a choice of pedagogical responses to Zoe in the early childhood setting that might otherwise have been unknown. Furthermore the visit helped to foster continuity in Zoe's learning interactions across home and centre and potentially deepened Zoe's knowledge about ways in which the world works, in particular about the living world, animal blood, and scratches.

A funds of knowledge approach enhanced Daniel's view of Zoe's family as people with goals, aspirations, and expertise. This idea resonates with Hensley's (2005) emphasis on the importance of viewing families as comprising caring, knowledgeable people with expertise but with multiple roles and competing demands: "These are people with skills to offer, with successes and struggles, and with goals and dreams" (p. 147). As a rider, in this case, family pedagogy happened to align with centre pedagogy, and Daniel's values about children, teaching, and learning were similar to those of Zoe's family. However, families' and teachers' pedagogy will not always align. It is therefore important to understand family pedagogy and children's funds of knowledge in a range of children's homes, acknowledging that valuable learning experiences can result for teachers from home visits (Cooper et al. 2014).

We recommend that teachers might consider, adapt, or revise our approach to home visits for their own practices, to access similar transformative insights into their families. The power of home visiting, as in this case once relationships had been established and where families were positioned as experts, was affirmed. Gaining insight into family pedagogy, particularly the ways children's inquiries and curiosities are supported and fostered in the home, is invaluable. Being able to recognise and draw upon children's funds of knowledge can broaden teachers' understandings about the children they teach, leading to responses that are more relevant to children and more closely aligned with family aspirations and expectations.

Home visits such as those undertaken in Daniel's initial project (Lovatt 2014) and the TLRI study (Cooper et al. 2014) provided a window into family pedagogy and funds of knowledge revealing important ways children learn in naturally occurring contexts. This work has crystallised for us the value of home visiting as a contemporary phenomenon if approached in the ways described in this chapter.

As Hensley (2005) pointed out, teachers do not need to visit all families for many children—and we would add teachers and families—to benefit: "Once a teacher has spent time in a child's home, the teacher can, to some degree, have a better feel for the home lives of all students. … connecting with just one family creates an awareness of parents as people. … Teachers take more interest when children discuss happenings in the home and ask more questions" (p. 147).

Conclusion

In this chapter, we have discussed a contemporary approach to home visits focussing on families as experts and teachers as learners. This form of home visiting offers teachers transformative insights into children's lives and enhances relationships for all involved. For this to happen, home visits need to be approached in inclusive ways to

challenge the traditional approach of visiting families at the beginning of a relationship and with a deficit view of families as needing to be educated. Thoughtfully planned home visits that respect families as caring and knowledgeable people and that seek to draw on their expertise can help teachers move beyond more casual interactions with families and towards authentic partnerships, as per the expectations of many early childhood curricula. Such visits might also enable teachers to draw on family pedagogy and children's funds of knowledge to enhance pedagogical interactions. Through revitalising home visiting in the early childhood sector, multiple relationships and interactions might be transformed to benefit children, teachers, and families.

Epilogue

After Tamar read a draft of this chapter, she responded: "Your documentation of the interview and reflections on our family interactions have given me valuable insights and affirmations. So to me it's not simply a case of parents as experts and teachers as learners—it's a two way, reciprocal process in which all parties learn and benefit from the relationship; an example of how learning and teaching are intertwined" (ako).

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Chapter 9
"That's Not Fair!": Concepts of Fairness in New Zealand and Japanese Early Childhood Education

Rachael S. Burke

Introduction

In both New Zealand and Japan, developments in early childhood education have drawn attention to the value of quality interactions in early childhood education (Mori et al. 2009; White et al. 2009). However, as Canella (2002) has argued, it is important to remember that pedagogy and practice are products of diverse cultures and contexts, each with their own values and biases. What may be appropriate in one particular cultural context may not be seen as valid in another.

Based on ethnographic research conducted at Kaimai Kindergarten,[1] an education and care centre in New Zealand, and Oka Kindergarten[2] in Japan,[3] this paper uses the lens of "fairness" to interrogate how interactions are cultural acts. Data is drawn from an innovative video-based method that utilised film to present comparative views of early childhood education through the eyes of teachers (Tobin et al. 1989, 2009, 2013). Teachers[4] in both contexts found their ideas around interactions were challenged and disrupted after viewing the video of "the other".

[1] In New Zealand, all centre-based services (except for play centres, *kōhanga reo* and kindergartens) are known as education and care centres. Kaimai Kindergarten has a morning and afternoon session and caters for children aged between 2.5 and 5 years. All teachers at Kaimai are qualified and registered.

[2] In Japan, kindergartens (*yōchien*) are administered by the Ministry of Education, Science, Sports and Culture, as opposed to childcare centres (*hoikuen*) which come under the auspices of the Ministry of Health, Labour and Welfare. Children attend Oka Kindergarten from approximately 9 am until 2 pm each day, and the centre caters for children aged between 3 and 6 years. Like Kaimai, all teachers are qualified and registered.

[3] Fictitious names have been given for the two centres in the study.

[4] The author acknowledges that term "teacher" can be problematic in the New Zealand early childhood context. However, in the case of Japan, the "teacher" must be addressed as such (*sensei*), and

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Foucault (1991) has shown how normalising discourses inform how individuals are classified and judged according to fluid constructs such as "fairness" and "justice". This means that an interaction that is considered normal and fair in New Zealand early childhood education may be interpreted as an injustice in the Japanese context and vice versa. Drawing on vignettes from fieldwork, this paper argues that both contexts demonstrate cultural notions around ensuring children's experiences are fair for all but that interactions between teacher, child, family and centre are culturally constructed and normalised according to dominant discourses in each society.

Methodology

Data is drawn from ethnographic research carried out at Kaimai Kindergarten, an early childhood centre in suburban New Zealand, and Oka Kindergarten in rural Hokkaido, Japan (Burke 2013; Burke and Duncan 2015). The study draws on Joseph Tobin's *Preschool in Three Cultures* methodology (Tobin et al. 1989, 2009, 2013) which utilised film to present comparative views of early childhood education through the eyes of teachers.

I grew up in New Zealand, but this chapter is also informed by the 6 years I spent living and working in rural Hokkaido, Japan. During these years, my three children were born and attended kindergarten in our village, while I worked in early childhood centres in a nearby city. During this time, I not only became proficient in Japanese but also gained some inside status (Beckerleg and Hundt 2004) from my roles in the community as both teacher and parent. On our return to New Zealand, two of my sons attended Kaimai Kindergarten.

My choice of field sites for this research was influenced by several key factors. I wanted to find two kindergartens in suburban towns of similar sizes, and it was important the centres be considered as being of good quality by both the local community and education authorities. Neither of the centres had features which marked them as unusual, and both were relatively representative of communities across New Zealand and Japan. Another important issue was the level of trust inherent in my relationship with the teachers at each centre. I did not feel it would be either possible or desirable to identify a centre with which I had no prior connections and ask the staff there to take part in a process which required their practice to be critically examined by their domestic and international peers. At both Kaimai and Oka, most of the staff (and some families) were known to me. In contrast, the majority of the focus group participants were found using the "snowball sampling" technique (Vogt 1999). In this technique, one participant gives the researcher the name of another person, who in turn provides the name of third and so on.

The research was approved by the Massey University Human Ethics Committee (Northern). In the case of New Zealand, Kaimai staff and parents, and focus group

children are grouped into classes. For the purpose of this chapter, "teacher" refers to the staff of Kaimai and Oka Kindergartens and to early childhood teachers who took part in the focus groups.

participants, were given an information sheet to read and a consent form to sign if they were happy to take part in the research. In Japan, consent at Oka was obtained through a top-down process through the principal, and in the case of focus groups, permission was obtained through the "personal guarantee" system which is common in Japan (Bestor et al. 2003). While this method may be unusual in a New Zealand context, it is culturally appropriate in Japan where relationships and introductions are respected more than written documents. As a guide to conducting fieldwork in Japan explains: "In a society where the careful cultivation of interpersonal trust is given far greater weight than formal contracts and where written contracts often are viewed with distrust, there are many research situations in which American-style legalistic consent requirements would not only be culturally unfamiliar, but would call into question the researcher's cultural understanding and trustworthiness" (Bestor et al. 2003, p. 14).

Fieldwork consisted of 1 month spent filming and observing in each centre and concentrated on the experiences of 4-year-old children in each setting. In New Zealand, a maximum of 30 children attended Kaimai Kindergarten during each session with four teachers present. In Japan, children are separated into classes, and I concentrated on the 4-year-old class with one teacher in charge of 33 children. From the hours of film shot at each centre, a 45-min edited video was made. The video followed a chronological day [5] at each centre and focussed on routines found in both countries such as arrivals, greetings, sharing food, play time, group games, farewells, etc. Key issues in the centre were also identified for filming. These included scenes of conflict between children, of children playing in groups and alone, of teacher-directed and child-led activities and of intimacy between teachers and children. Finally, provocative issues or scenes with dramatic tension were included. For example, in the New Zealand video, one child has a minor accident, and in another scene, a group of children exclude a child in sandpit play. In the Japanese video, children play naked next to a public road, and later, a child refuses to participate in a class drawing activity. It was important to keep the video visually appealing, so any scenes with poor-quality sound or vision were cut.

The edited videos were first screened to teachers of the "insider" culture and then, after subtitling, to teachers of the "outsider" culture. This means that Kaimai teachers first viewed "their own" video, then the Oka video and vice versa. The purpose of the screening was to confirm that the video was a good representation of the centre and to give teachers the opportunity to analyse their own practice. Finally, to address issues of typicality, the videos were shown to focus groups of early childhood teachers and academics in both countries. Seven focus group sessions were held in New Zealand (74 participants in total) and nine in Japan (75 participants in total).[6] All of these discussions were filmed and formed the basis for analysis, using a "classic analysis strategy" (Krueger and Casey 2009, p. 118). Through these lay-

[5] It should be noted that while the video shows a "typical" day, the footage was actually taken over a number of different days.

[6] In New Zealand, two focus group sessions were held in Christchurch and one each in Dunedin, Nelson, Wellington, Napier and New Plymouth. In Japan, sessions were held in Tokyo, Saitama, Osaka, Eniwa and three in Kutchan. Two sessions were conducted in Christchurch with groups from Hiroshima and Nara.

ers of dialogue, the body emerged as a focal point for analysis and as a lens through which to examine cultural constructions and interactions (Burke and Duncan 2015). The data also revealed the contrasting ways fairness was conceptualised in each of the two contexts.

What Is Fairness?

Foucault (1998) argues that power is not controlled by certain people but is omnipresent and dispersed. Power becomes a regime of truth that permeates society, reproducing accepted forms of knowledge and understanding. Foucault's (1991) analysis of power leads to a rejection of universal truths which in turn dismisses the notion of fairness or morality as universally accepted. Rawl's (1971) concept of justice as fairness also allows for cultural and social variation in constructions of fairness.

Selznick (1969) found that fairness could mean quite different things according to the structure of a society. Fairness as equality may be seen as desirable in an ascriptive system[7] with little chance of personal promotion, whereas in a society with opportunities for advancement, fairness is linked to recognition of individual ability or merit. Hayashi and Sekiguchi (2006) have proposed the concept of collective justice perception, which is often associated with group-oriented cultures such as Japan. In such cultures, people consider whether their group as a whole is treated fairly within an organisation. This contrasts with a society like New Zealand, where justice is more often concerned with the fair treatment of individuals (individual-level justice).

Finally, Tansey and O'Riordan (1999) claim that fairness emerges from empowerment, respect and the realisation that the interests of others can benefit the self. To achieve fairness, therefore, "there needs to be agreement about what principles underlie justice and appropriate treatment amongst the various social groupings involved" (Tansey and O'Riordan 1999, p. 85). Drawing predominately on Foucault's theories (1991, 1998), this chapter interrogates how notions of fairness in early childhood education are constructed according to discourses of power/knowledge in two specific cultural contexts. Specifically, this chapter focuses on key interactions in the edited videos and draws on teachers' comments to explore what may or may not be seen as "fair" in New Zealand and Japanese early childhood education.

Play and Learning in New Zealand and Japanese Early Childhood Settings

Teachers' perspectives on play and learning are influenced by their own diverse cultural backgrounds, and these notions of appropriate play can greatly impact on children's early years experiences (Izumi-Taylor et al. 2010). As Huang (2013,

[7] A system where status is based on a predetermined factor, such as age, sex or race and not on individual achievement.

p. 14) has pointed out, "children represent in their play the activities they see adults doing and the values that are important for their society". In both contexts, a variety of approaches to play and learning are evident: free play, teacher directed and mutually directed (Synodi 2010).

For the majority of time at Kaimai Kindergarten, New Zealand, children are immersed in free play. This approach is consistent with the New Zealand early childhood curriculum, known as *Te Whāriki*, which positions children as competent, capable learners enmeshed in community (Ministry of Education 1996). At Kaimai Kindergarten, teachers strive to provide each individual child with a myriad of opportunities that will foster learning and exploration. This approach is linked to children's rights discourses that view choice as a fundamental right (Te One 2011). Within this paradigm, children are free to choose where and how to play in the centre. There are no explicit expectations for children to engage in specific activities or experiences, and teachers work to support and extend children's play without interrupting or dominating it (White et al. 2009).

In contrast, Japanese early childhood education emphasises the desire for all children at a centre to be able to experience the same things. In Japan, group games, organised class sessions and centre events are all evidence of providing fair and equal play opportunities. Children are expected to attend kindergarten every day in order to benefit from the same shared experience (Ben-Ari 1997). While free play is also a feature of the Japanese early childhood experience, it is seen as a way of assisting children with their social and emotional development (Whitburn 2003), rather than being associated with academic learning (Izumi-Taylor et al. 2010).

Teachers encourage children to try new activities at kindergarten, even if the child initially shows no interest or an active dislike for such experiences. Japanese cultural expectations dictate that children will overcome any suki-kirai aversions in the early childhood context. *Suki-kirai* translates literally as "likes and dislikes". This term is often applied to children (or even adults) who insist on making their preferences clear. Experiencing hardship, in various forms, is seen as a vital means "of moving from the self-centredness of childhood to the social responsibility of adulthood" (Holloway 2000, p. 70).

Foucault (1991) argues that disciplinary power creates a "discursive practice" or a body of knowledge that normalises certain behaviour and practices but rejects others. These discursive practices do not remain static but change alongside developing social conditions. For both Oka and Kaimai Kindergarten, the dominant discourses regarding play have also evolved according to social, ideological and political forces. Through fieldwork vignettes, selected for this chapter for the way they show the cultural constructedness of fairness (evidenced through teacher and child interactions), the next section examines how concepts of fairness are embodied and practised in both contexts. As the voices of teachers in New Zealand and Japan analyse the video of "the other", it is useful to remember that diverse early childhood contexts reflect multiple, and equally valid, value structures, knowledges and world views (Canella 2002).

Food as Cultural Ideology

In New Zealand, there is clear emphasis on children being able to self-select (Stover 2011), and New Zealand early childhood teachers have adopted a strong advocacy role for the right of children to play freely (White et al. 2009). However, in Japanese early childhood settings, there is an expectation that all members of the group need to encounter the same things for the experience to be considered fair and equal. Foucault (1991) argues that every society draws on types of discourse that are accepted as true, as regimes of truth. These discourses are constantly evolving and strengthened through the education system and within institutions such as early childhood centres and schools. In New Zealand, the dominant discourses suggest that children and families should exercise free will regarding activities, experiences and the level of participation. In Japan, planned class activities are one way of ensuring children have fair and equal opportunities. The following interaction from the New Zealand video explores how a cooking activity took on different meanings for the Kaimai and Oka teachers (see Vignette 1, Box 9.1).

Box 9.1: Vignette 1
A group of children are engrossed in making Easter buns at Kaimai Kindergarten, New Zealand. The lengthy process involves mixing the ingredients, rolling the dough, creating the buns, putting them in the oven and cleaning up the workspace. Some children work through all stages of this process, while others come, and go at different stages of the activity.

Seeing this scene in the video, an Oka Kindergarten teacher asked, "What happened if a child suddenly decided to stop an activity halfway through?" Another teacher commented, "What if more children suddenly wanted to join and there weren't enough materials for everyone to take part?" For Japanese teachers, it is important that children learn to persevere (*gambaru*) through to a specific end point (Singleton 1991). Furthermore, in Japan, classes of 35 children and one teacher are common, and these high child/teacher ratios mean that a single teacher cannot conduct an activity like baking without careful planning and preparation. With lower child/teacher ratios, the New Zealand teachers can afford to be quite relaxed about sessions such as the baking, reasoning that even if resources are stretched they can "make do". Free of the expectation that all children receive a similar bun, teachers are able to divide up the finished products as they see fit at the time.

Food production is also popular at Oka Kindergarten in Japan, but rather than being the random result of a child's interest, it is often linked to specific cultural celebrations. An example is the making of rice balls (*mochi*) at New Year. At this time, the teachers cook sticky rice prior to the children arriving and then place it in a traditional mortar where a local grandfather will begin pounding it with a wooden mallet. Once it is suitably glutinous, the children are invited to take turns symboli-

cally pounding the rice, and then everyone helps to roll the balls in sweet or savoury coatings. Back in the classroom, the teacher will ask the children for assistance in counting out the total number of balls, which are then divided evenly among all members of the class.

Special events such as rice ball making (*mochitsuki*) are seen as intrinsically Japanese and replicated in centres throughout the nation**.** These kinds of activities not only reproduce a state-constructed national identity but also represent opportunities to reinforce key goals of group socialisation (*shūdan seikatsu*) such as cooperation and interdependence. While children will not be forced to take part in group activities and events, non-participation is regarded unfavourably (Peak 1989). If children remain reluctant to join in, teachers take a "wait and see" (*mimamoru*) approach, often allowing children to roam about the grounds freely until they decide to join their classmates. Teachers believe that rather than rebelling, these children have not yet realised "the fun of being together with others" (Peak 1989, p. 116).

Foucault (1991, p. 194) sees power/knowledge as pervasive, but he also contends that power can be rewritten, not as a negative, repressive force but as a means of producing objects and "rituals of truth". The knowledge that may be gained belongs to this production. Activities such as *mochitsuki* are designed to include all the children in a particular class or centre, and failure to do so is seen as both inappropriate and unfair. Such events also serve to reproduce powerful rituals of truth that resonate with Japanese cultural values. Reproduction of these rituals and truths forms a major part of classroom interactions at Oka Kindergarten and at the thousands of centres like it across Japan.

Children Assuming the Role of Leader

Japanese teachers see the duty monitor (*tōban*) system as serving the important function of allowing even the quietest child an opportunity to be a leader and to develop empathy for authority (Lewis 1995). The jobs expected of duty monitors vary but may include leading the class in greetings or songs, distributing work materials and ensuring students are correctly dressed. Each child takes on this role at least once a term according to a rotating flip chart on the wall, and the morning questions asked by the teacher are recycled every few days. The following interaction from the Oka Kindergarten video illustrates the *tōban* experience (Box 9.2).

Box 9.2: Vignette 2
In Rose Class at Oka Kindergarten, it is time for the duty monitors *(tōban)* to take part in the daily question and answer session. Two 4-year-old girls stand in front of the class, clutching a microphone, as the teacher asks them several questions, including "Who is your favourite person?" After some thought, each girl identifies their preferred member of the class.

In New Zealand, children are also called on to assist the teachers in the manner of the Japanese *tōban* system. But rather than being organised like in Japan, where all members equally share the task over the course of the term, New Zealand approaches are more haphazard as this Kaimai teacher explains "We get certain children to do things like [being a duty monitor] too. Often the ones that we know will do it or to give the responsibility to make them step up a bit. We certainly don't go through a list and tick off who is doing it next, it just happens to be whenever it is".

The New Zealand curriculum, *Te Whāriki* (Ministry of Education 1996), acknowledges the ways early education can influence self-esteem and states that children have the right to protection from harm and anxiety. Rather than viewing the Oka teacher's questions as innocent, New Zealand teachers felt the approach could potentially represent a damaging blow to a child's fragile self-image. One Kaimai teacher commented: "The rest of those questions are fine but we would never in a million years say, "Who is your favourite person?" For us, that's horrifying. It's picking out certain children and … some children are less likeable".

For the Kaimai teachers, forcing shy children to take on the role of duty monitor or asking personal questions that might alienate certain children is seen as acting unfairly. However, Oka teachers indicated it would be unfair to allow only some children the opportunity of class responsibility.

Smith (2012, p. 86) describes how perceptions of fairness are "often discussed through normatives and communicated on many levels through mutually understood idioms". Through such mutual understandings, fairness becomes an "embodied subjectivity" reinforced by the shared interaction. This means that individuals come to expect and anticipate that interactions will proceed in a certain manner. Children at Oka accept that everyone must take their turn at the front of the class, just as Kaimai children understand that they have the right to reject or accept such a performative role (Foucault 1991). As a social construct, fairness is therefore "embodied, performed and perceived and used as a means to access chains of familiarity within groups of people" (Smith 2012, p. 86).

Playing Fair

The New Zealand curriculum, *Te Whāriki*, is clear about supporting children to make their own choices about play. This may take the form of individual play, group play or teacher-supported interactions. In contrast, Japanese teachers take an egalitarian approach which ensures all children have the opportunity to take part in group games, outside of scheduled free play periods. Group games build class unity and foster a collective identity (Lewis 1995). Such games are also opportunities for Japanese children to learn about fairness, perseverance and participation. As discussed earlier, children will not be forced to take part in group activities, but there is strong pressure to participate (Peak 1989) generated by the internal governmentality of the individual when she, or he, recognises the expectation to conform. With this ideology in mind, the following video interaction from Kaimai Kindergarten challenged Oka teachers' notions of teacher-led group play (see Box 9.3).

Box 9.3: Vignette 3
At Kaimai Kindergarten, the teacher goes around the playground asking children to join a game of Red Rover. While some accept, others decline. Participants make two lines of players standing a few metres apart, and link hands along these lines. The first team calls for a player, Sam, to run across and break the opposing team's chain. Sam fails to break the chain, so he must join the opposing team. Next up is Will who runs so fiercely he not only breaks the chain, he knocks Elsie on her back. Players like Will, who successfully break the chain, return to their own team. Each team takes turns this way until all players eventually end up on the same side.

From the Oka teachers' point of view, this game was problematic for a number of reasons. First of all, they were perturbed by the Kaimai teacher soliciting children to take part in the game and the number of children who declined her invitation to participate. The Oka teachers were also surprised that children were asked to select a "runner" from the other team. The final surprise came when a young girl was knocked over and told by the Kaimai teacher that she could quit the game. In the first instance, asking children to make decisions about participating (or not) seemed in contrast to the egalitarian approach taken by Japanese centres where every child is included in group games (Walsh 2002). The girl being knocked over was not particularly significant, as Japanese centres are very boisterous places, but the reaction of the New Zealand teacher was.

Perseverance (*gambaru*) is a highly regarded quality in Japan and is deemed more valuable than natural ability (Singleton 1991). In the minds of the Oka teachers, to tell a child to give up participating in a game with her classmates seems counter-productive to the instilling of this key value taught at kindergarten. Finally, it seemed to the teachers that such young children could not be expected to regularly make subjective decisions about their peers, such as choosing game participants, without feeling emotionally drained. Japanese children usually solve these dilemmas by *janken* (paper, scissors, rock) which eliminates the need to make obvious who you prefer. Choosing one person from the group, in the manner in which Sam and Will were selected, not only seemed to be unfair (Azuma 2001), it increased the chances of alienating the less popular children.

The scene also confused Oka teachers as Red Rover closely resembles a traditional Japanese game, Hana Ichi Monme. The difference can be found in the way each game is played. In the Japanese version of the game, the children also form two groups, link hands and face each other in two lines. One group steps towards the other in the rhythm of a chant used for the game, and the other steps back so that the team lines remain parallel. Each time the chant ends, the team leaders step forward and do *janken*. The winner goes back to his team, and they discuss whom the team wants to add from the other team. The game ends when one team loses all of its members. Played this way, the game eliminates the need to make individual choices

or preferences clear which the Japanese teachers indicated would be "exhausting" on a daily basis. Azuma (2001) points to the term *rashiku-suru*, which means to act in the manner expected of a person in that role. To stand out or make individual choices for the group can thus be in conflict with this goal.

Smith (2012) refers to fairness as a mobilising metaphor in the dominant discourses of policy-making and governance. This means that the idiom of fairness can be used in normalising discourses or behaviours. Smith (2012, p. 87) explains that "Fairness may not necessarily be a token for a specific meaning but rather a symbolic vehicle used to express much more complex and subtle messages". While the New Zealand version of Red Rover supported children to exercise agency in play, this version was troubling to Japanese notions of appropriate role performativity and concepts of fairness. Idioms of fairness may be expressed through discourses that stress individual desires in the New Zealand context, but the reactions of Oka teachers reveal their perceptions of collective justice as a normalising discourse (Foucault 1991; Hayashi and Sekiguchi 2006).

Negotiating Creative Interactions

Over the past decade, fear has been rising in Japanese society about the consequences of allowing children too much freedom and choice. Recent policy changes in the early childhood sector, as part of wider educational reforms, have been criticised by those who link poor school performance to more relaxed education (*yutori-kyōiku*). These critics claim that the problem stems from an abundance of free play in early childhood education, causing children to become selfish, disruptive and unable to adapt to the more structured classroom environment of the primary school (Aranil and Fukaya 2010). As one of the aims of socialisation at kindergarten level is to eventually turn children into fully functioning members of adult society, some teachers perceive too much choice as potentially threatening to a stable society (Allison 2006). While free play is a regular activity at Oka Kindergarten, structured teacher-led sessions are also an important daily occurrence. These sessions often link to seasonal or cultural events and are carried out by children as a class, while the teacher gives detailed instructions. The following interaction from the Oka Kindergarten video describes a summer activity (see Box 9.4).

Box 9.4: Vignette 4
At Oka Kindergarten, the 4-year-old class is seated at their desks in neat rows as their teacher explains how to make a water pistol from a detergent bottle. She carefully draws each piece on the board and explains each step of the assembly. Throughout the explanation, she checks that the children have understood and repeats the instructions several times.

Viewing this scene, Oka teachers indicated that the pursuit of common goals, participation and support is paramount. Japanese early education makes it clear that a failure to follow rules during class activities can result in others' work being negatively affected (Holloway 2000). In contrast, teachers at Kaimai Kindergarten, in New Zealand, emphasised the process as important, rather than the end result. While this might sometimes mean sacrificing aesthetically flawless results or uneven access to resources, it is not viewed as significant or disruptive to other children's learning and interactions.

Kaimai Kindergarten teachers explain that Oka's approach represents both a lost opportunity and an unsatisfactory interaction between teacher and child:

> Teacher A: It's not even that we demonstrate. I'd be happy to let the kids figure it out for themselves.
>
> Teacher B: It's like, "I wonder how this goes together?" You have the bits there and the child starts working it out. So you have to get them to think about it rather than giving them the answer.
>
> Teacher C: That's right, because for us the importance is not necessarily the squirting of the pistol, it's putting it together and if you have just told them how to do it you've taken some of the learning away. It's fostering that wonder and awe of how things work. If you tell them and show them, then that's it. You lose something. It's a shame.

As these teachers articulated, giving instructions for each step of the process conflicts with the way New Zealand's early childhood curriculum, *Te Whāriki*, (Ministry of Education 1996) seeks to empower children holistically. The comments reveal the importance New Zealand teachers place on self-discovery, exploration and creativity. To give detailed directions for each step of a process not only limits creativity, it risks denying children a fair chance to become confident, competent learners. In New Zealand, teachers respond to learning and development opportunities within the context of the wider world, and the socioculturally based *Te Whāriki* allows for children to follow their own interests.

This approach contrasts with Japan, where teachers draw on a standardised curriculum that has clear goals and expectations. At the beginning of each academic year, early childhood teachers all over Japan plan a detailed curriculum for the following 12 months.[8] Rituals which emphasise group cooperation and festivals which celebrate traditional customs are also entered on the calendar, and every month, there is a well-known event for children and parents to look forward to. Activities like making water pistols are seen as an opportunity for Oka Kindergarten children to learn through clear instructions and a common outcome, yet for the Kaimai teachers the activity seemed didactic and disempowering for children. However, as Stephenson (2010) has argued, New Zealand children may have creative freedom, but teachers still have control over resources and children's access to them.

[8] The academic year generally begins on April 1 with an entrance ceremony and finishes mid-March with a graduation ceremony for children who are moving on to primary school.

Foucault (1991) sees the control of time and space as central to his theory of a disciplinary society because they are at the crux of all human interaction. While children at Kaimai Kindergarten are subject to diffuse uses of disciplinary power, it is more obvious at Oka Kindergarten through ritualised class activities, structured sessions and strict routines. During their years at kindergarten, Japanese children learn to change their behaviour according to context, in preparation for essential social skills they will need as adults. In the same way, New Zealand early childhood education fosters attributes and characteristics, such as autonomy and self-determination, which are valued in New Zealand society.

Conclusion

This chapter has used the lens of "fairness" to examine how interactions in New Zealand and Japanese early childhood education are cultural activities. Foucault (1991) argues that normalising discourses inform how individuals are classified and judged. In the early childhood education context, fluid constructs such as "fairness" and "justice" are applied on a daily basis. However, an interaction classified as fair in one cultural context may be considered unjust in another. This chapter has drawn on vignettes from fieldwork to demonstrate how interactions between teacher, child, family and centre are culturally constructed and normalised according to dominant discourses in each society.

LeVine and White (2003, p. 169) suggest that Japanese concepts of democracy stress the provision of equal opportunity for all, "rather than equal entitlement and the encouragement of individualism". This argument is borne out in the way teachers at Oka Kindergarten organise group games and activities for children to participate in regardless of ability or interests. This is seen as a fair way of ensuring all members of the centre are privy to the same opportunities. Many activities are linked to specific cultural celebrations and help to reproduce a national Japanese identity by reinforcing group socialisation goals such as cooperation.

At Oka Kindergarten, teachers work to achieve a harmonious group of children whose views and behaviour are mirrored by those of their peers. Large classes are seen as an effective way of introducing children to "life in the group" (*shūdan seikatsu*) and to Japanese social values that will become essential as youngsters move into adulthood (Holloway 2000; Tobin et al. 2009). Encouraging each child's individual character, as well as socialising them towards group life, is not seen as opposing but complementary (Sato 2004).

In contrast, New Zealand notions of play and learning focus more on the freedom to choose. At Kaimai Kindergarten, teachers strive to provide each individual child with a myriad of play opportunities that will foster learning and exploration, and choice is viewed as a fundamental right (Te One 2011). Within this paradigm, children are free to choose where and how to play in the centre. In New Zealand, the bicultural curriculum, *Te Whāriki*, adopts the metaphor of a mat to illustrate the relationships between play, learning and teaching (Ministry of Education 1996).

While interactions will be different for diverse communities, they are supported by the belief that children are central to learning and their rights are of prime importance (White et al. 2009).

Campbell and Smith (2001) have shown that assuming teachers to be knowledgeable and insightful agents in the classroom can sometimes perpetuate or contribute to inequality or unfair outcomes. They ask that teachers critically examine their taken-for-granted teaching knowledge and try to re-examine observation of children "as practices that work for equity and fairness" (Campbell and Smith 2001, p. 100). They suggest teachers create a method of observation that includes specific issues of fairness and then share this method with a teacher from a different cultural background, as a means of disrupting the normalising gaze (Foucault 1991). As the early childhood context diversifies and expands, it is important for teachers to consider the impact culture, context and curriculum have on children's experiences. Assuming that notions of quality interactions are similar across cultural contexts risks denying the rich and multiple knowledge perspectives created by diversity in early childhood education (Canella 2002; James and Prout 2015).

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Chapter 10
Strategies for Teacher Learning and Development Over Child-Adult Interactions in ECE Settings

Claudia A. Hruska

Communication and especially language competencies are important in the early years – in this chapter I plan to discuss both. The chapter is divided into three parts: firstly, I want to discuss, in the theoretical sense, the concept of communication and how views of communication have shifted from former child development-driven concepts to child-teacher interaction concepts. Secondly, I will present an example of teachers' work with a boy when his development of communication needed sustained support. And finally I will explain a method of educating teachers which I developed within the last 10 years of teaching, designed to enhance the analytic and action-oriented competencies of teachers in ECE settings with respect to communication and children's language competencies. The last part of the chapter will illustrate an approach to video analysis I have found useful for teachers' learning.

Communication and Its Emphasis in ECE Settings

Before we learn to speak and communicate with others, a fundamental interest in sharing our intentions, ideas, and thoughts with others and to read theirs is necessary. As Tomasello (2003, 2008) claims, communication must involve a sense of purpose for interactional partners and, especially in the case of infants and toddlers, involve face-to-face interactions (see also Brooks and Meltzoff 2015; Kuhl and Rivera-Gaxiola 2008; Conboy et al. 2008, 2015). For young children in the early period of language acquisition, the impact of nonverbal communication, through, for instance, body language, gestures, facial expression, eye contact, and in addition *paraverbal* aspects of spoken language, is useful for identifying intentions of communication (Doherty-Sneddon 2003). This nonverbal information will be

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shared by communicators and is more or less interpretable to them. Parents and other adults are experienced communicators and should be able to read such information carefully and accurately. In fact, studies of parent-child interactions conducted by Papoušek (2001, 2008) analysed reciprocal interaction signals between parents and their children and described how adults' communication skills allowed them to respond differently according to the developmental stage of a child. This differentiation is referred as *intuitive parental communication* (Papoušek 2001, p. 31). Furthermore, the studies of Conboy et al. (2008, 2015) illustrate the importance of interactional partners for child's learning of a language and associated gestures. The direct interaction and connection to the real world will connect the sound of a word or a gesture with an underlying meaning. As Tomasello (2003, 2008) claims, interactions are essential ingredients for language development.

Moreover, if interactional dyads or even groups communicate several times with each other, chains of interaction rituals will be formed, and these will influence learning and development (Collins 2004, see also Chap. 2 Klusemann, and Chap. 8, Gunn – CoP). Rituals influence interactions between language learners and competent communicators, for example, parents, teachers, or even older children. The communication is not just given or taken by spoken language alone; nonverbal information will be used by interaction partners to share the focus of thinking, acting, or interactions with materials and things (see Chap. 4 Bateman, Carr, and Gunn).

The Situation in Germany

With these understandings about language development in the early years, I have been wondering why in Germany so many children's language and communication competence is judged to be developmentally delayed than what might be expected for the age (see Grimm 2003). Children with migration backgrounds and low socioeconomical backgrounds have persistent language impairment which also influences academic skills, like writing and reading competencies (Grimm 2003; Weinert 2002; and in USA Tomblin et al. 2003). Many scholars in German ECE research have been questioning the same (ISEG 2012; Jungmann and Koch 2011; Sachse 2016) because spoken language competencies are considered the key within learning. Furthermore, language has a fundamental impact on other learning dimensions, such as social-emotional competencies, reading and writing skills, and other cognitive functions, like mathematics. In Germany much attention has been paid to supporting early (German) language competencies before children head to school.

To address the perceived problem with German youngsters' communication and language competence, many programmes and concepts have been developed during the last 10 years (e.g. Buschmann et al. 2010, Kammermeyer et al. 2014, and for an overview Lisker 2011). Germany has an educational system established by each respective state, and researchers in most states have developed different ideas about

how to support children's competencies. However, the first Germany-wide qualification of specialised ECE supervisors was recently launched. Part of what these specialised supervisors will encourage teachers and ECE centres to achieve are specific strategies for supporting children's communication and language. Almost 300 supervisors for language support will be trained to implement a curriculum; over a period of 2 years until 2019. The training will occur in groups of regional networks of approximately 15 supervisors each. The aim is to enhance competencies of head teachers and thus of special language supporting teachers in ECE centres.

Most of the concepts in the new curriculum disregard nonverbal aspects of communication, such as body movements, prosodic information, eye contact, mimics, and gestures (Doherty-Sneddon 2003). But as argued earlier, these are important aspects of interactions and communication even if they are typically unconsciously processed. A lack of physical affection or eye contact in interactions, for instance, increases the probability of communication failure especially in settings where many children are involved and a teacher's attention has to be shared widely. As modern theoretical approaches favour the idea that language development is based on interactional processes more than developmental processes alone, a willingness between interaction partners to engage (Tomasello 2003, 2008), as well as positive experiences in previous interactions (Collins 2004), is essential.

I argue that approaches which just focus on the developmental steps of a child or the pure teaching of effective strategies for teachers are therefore inadequate for supporting children's communication and language competencies. To illustrate the importance of changing teaching to an approach based on interactional analysis and deliberate planning for communicative competencies, the following example, involving a young boy, will illustrate the issues. In addition, the exemplar shows how the interactional approach adds to teachers' knowledge about developmental steps and evidence-based strategies.

An Interactional Approach to Supporting Children's Communication and Language Competence

My work with teachers who have been developing their own skills and expertise in early childhood teaching has led me to believe that interactional analysis is supportive of teacher learning and the development of teaching strategies. This is especially the case when teachers are developing inclusive education practice and working in settings where some children's developmental pathways vary from the so-called norm. The following case of a teacher's work with a 3-year-old boy, Theo, illustrates how interactional analysis supported learning and inclusive practice.

Theo's teacher was looking for ways to get in touch with him. As a 3-year-old boy attending an inclusive early childhood setting, Theo was reluctant to communicate with others. When his mother enrolled Theo at the centre, she reported concerns about his communication; there had also been questions raised over the pace

of his general development. Theo's reference teacher decided to videorecord interactions involving him and others over a period of six months and to use the videorecordings to reflect later on the interactional process. The aim was to generate ideas of effective strategies and support for Theo's learning and development. In the next sections, I will describe Theo more fully, including his family background and what happened the first time he attended the centre. Then I will share descriptions of the videorecording analyses undertaken by the reference teacher and show how she generated ideas for changing her pedagogical work (Boxes 10.1 and 10.2).

Box 10.1: 3-Year-Old Boy Theo and Background Information

Theo is a 3-year-old boy who lives with his mother, an older brother, and grandparents in a house in Northeast Germany. Theo's father works in another state of Germany and is looking forward to move to where his family resides within the next year. Theo had been enrolled in other ECE settings previously. First, he attended a home-based centre and later a nursery setting. The family was not satisfied with both of Theo's former education and care settings. Theo's development has been regular as an infant; he started speaking words at the age of 1 year. Nevertheless, when Theo reached the age of 1 ½ years, his parents noticed a slowing down of his development. At the time Theo began attending his third ECE centre (3.0 years of age), his mother described several developmental difficulties. She also describes others having problems interacting with her child. Theo showed severe delayed language competencies and had tantrums. His parents were in contact with paediatric services but with no result. Another doctor diagnosed hearing problems and Theo had ear surgery. His mother made the decision to enrol Theo in an inclusive ECE centre with specially trained staff, so Theo might receive more supportive care and education.

At the first visit, Theo's mother demonstrated to his reference teachers the interaction style she had developed with her son. Due to his low level of verbal communication, Theo's parents try to read his needs and interests through nonverbal communication. She only gets his attention by using repetitive verbal prompts accompanied by visual and physical signs. If Theo is aware of these prompts, he responds. Theo himself uses another style of interaction to begin communicating with his mother: He takes her hand to indicate his intention and interests with her. Mostly he draws attention to objects. Theo seldom uses eye contact or vocalisations within these interactions. The relationship between Theo and his mother is described as close by her, but also stressful. Theo also attended a speech and language therapy.

Box 10.2: First Visits in the New ECE Centre

At the first visit of Theo's to his new early childhood setting, it is obvious that he is interested in the room and materials. Immediately, he starts exploring the new environment. Noteworthy, there is a lack of obvious interest in other children and the teachers. Theo's reference teacher notices a warm and sensitive contact between mother and the child. Across the first three weeks of settling in, Theo spend increasingly more hours at the centre. During this time, Theo mostly explores his new environment – materials, games, and objects; recognisable interactions with other children are rare; however, he increasingly chooses the teacher instead of his mother to indicate his interest in the setting. He has a remarkable interest on books and animals. He is a picky eater, and if he is stressed, he will eat paper. Theo has a preference for specific clothing; if he is required to change trousers or his neckcloth, for instance, he starts crying.

The centre is organised into groups of 17 children each, aged 3–7 years. There is one teacher, one specially trained teacher for children with special needs and one integration educator working in the space full time per group. In addition, a speech and language therapist and a physiotherapist will come for some hours per day to join the group and give therapy to individual children. Five children of the group have special needs.

Upon entry to the early childhood setting both Theo's teacher and mother agreed that he should get support for his development and learning process. They decided on three main targets for the following period of six months:

1. Building up new relationship with other adults
2. Enhancing Theo's language and communication competencies
3. Enhancing Theo's social contact with peers

The first target was realised during the settling in period. Theo built up a close relationship with his reference teacher. She planned to be in close contact with Theo when he attended the centre and would be responsive to his emergent needs and interests. During the settling in period, Theo came to recognise the reference teacher as someone who is important for him. He accepted her, as shown by his interactions with her, and he came to interact with her like he would do with his mother: He would take her hand or use body contact to get her attention and to indicate a favourite object, e.g. a book.

The second and third targets were difficult for the teacher to realise. She was focussed on supporting Theo's development of communication and social competencies. After two months during which the teacher wrote notes about Theo's participation in the centre twice a week, she recognised no progress, she changed to daily notes and video recordings, to get a deeper understanding of the ongoing interactional process he was involved in. Both notes and video sequences of daily life situations were examined to analyse any changes in Theo's communication and social relationships as well as to provide evidence of pedagogical opportunities (Boxes 10.3, 10.4, 10.5 and 10.6).

Box 10.3: Videorecording 2 Months After Settling In

Sequence 1a: Theo is running in a room. Then other children are in the room, too. Five of them are standing on a table and are drawing. Two of the children are listening to the music from a CD player, and three are sitting on the raised stage plattform. Theo tries to dance, so he puts his neckcloth in his mouth and suckles. A nearby teacher comments to him: "Ah, Theo, you are dancing." Theo seems to ignore the comment. Then he runs again across the room. A girl is nearby. He takes her arm and moves his body, like they are dancing together. Theo runs again. The girl follows him. Later, Theo takes a piece of paper and gives it to another girl. Again, he puts his neckcloth in his mouth; this time he starts bouncing. After a short while, he stops and takes a seat on the ground. A few seconds later, he jumps up and moves to the table where some other children are drawing. He takes some crayons and puts them on the ground. He runs away, takes a crumbled piece of paper, and runs around again. Theo then stops in front of the teacher and gives her the piece of paper. She says: "Thank you, Theo".

Sequence 1b: Theo is lying on the ground. The sun is shining on his face. He is looking at the window. The teacher kneels next to him and asks: "What should I do?" She is looking into his eyes attempting to get eye contact. Her hand strokes him gently on the head and then strokes his right hand. Immediately he turns his head and looks into her eyes. Theo starts smiling and purrs like a cat. His teacher asks again: "What should I do?" He continues purring, this time with a wide smile. She interprets his signals as an invitation to tickle him. Soon she is tickling him under the arms. He is laughing silently and turns his body to the side. Then he turns back in front to her, still lying on the ground. She asks him: "Shall I tickle you again?" He smiles again and lifts his foot in her direction. She tickles him again. He is smiling and turns to the right side and then to his tummy. He lifts his head. The teacher asks again: "Should I tickle you?" He responds with a deep voice "No!"

Then Theo recognises a nearby shadow and light and crawls to the shadow. The teacher notices the change of interest and asks him: "What do you see?" She calls to him: "Theo! Then you have to turn yourself!" After a short while, she repeats: "Then you have to turn yourself!" Theo stands up and makes the purring sound again. Shortly after, he turns his head and looks to something else in the room. The interaction sequence between Theo and the teacher ends.

After a while, Theo is looking at a book by himself. In the book objects are sorted by categories. The teacher joins him and asks: "Theo, what are you doing?" She takes a seat next to him and tries to follow his eyes and to verbalise what he might be seeing: "Oh, a banana!" and shortly after, "I know, you really like bananas! Do you want to eat a banana?" Theo does not respond.

(continued)

Box 10.3 (continued)
Then he turns the next pages very quickly. After a few pages, he points to an object in the book. The teacher responses very quickly: "Oh, a pan!" Theo moves his lips but with no voice. Again, he turns the pages very fast, and then he points to a lion and makes an indefinable noise. She responses: "A lion". Theo points to the zebra and says "Me-Ma!"… On another page with different number of things, he looks for a long time then starts pointing. The teacher recognises the pointing and counts from one to ten following his tapping. Subsequently, Theo closes the book and comes closer to the teacher. She asks: "Do you want to cuddle?" As a response he rolls back and forth and opens the book again. Then he points to a watch and vocalises "Uji.", she responses "Yes, a watch!" Then he turns to the page, where the pan is visible and starts to repeat the word "Pan!" The teacher agrees with enthusiasm: "Yes, a pan!" Later Theo points to different things, and the teacher names the objects sometimes explaining or expanding the single word into short sentences. Theo closes the book and lies down for a few seconds before taking another book. He turns the pages very quickly and suddenly the interaction ends by walking to another area in the room.

Interpretation and Implication: Theo does have some contact with other children in the group, but these are interruptive and do not result in peer play. Mostly, Theo is playing by himself or involved in interactions with the teacher. When a contact with another occurs, it is typically initiated by the teacher. Otherwise, Theo is doing things like book reading, lying on the ground, grabbing paper, running around … Often he changes actions very quickly. The teacher tries to follow and respond to Theo's attention – she tries to read his interests. His verbal communication is quite low. He vocalises and sometimes makes a connection between his play and the real world. He uses his index finger to point, and on a few occasions, he uses eye or body contact to initiate interaction with the teacher.

Planning: The teacher decided to set targets to promote further interaction. She focussed on enhancing opportunities for shared attention and accompanying talk for the naming of objects. She also wants to keep him engaged in his activities for longer times. Furthermore, she plans to listen more carefully to the vocalised sounds that Theo makes and to give him helpful feedback about his speech. She also wants to initiate shared playtime with other children.

Theo's teacher recognises that she is herself engaging in a lot of repetitive communication, and she wants to be open and clear in what she is talking about. Furthermore, she wants to be more attentive to Theo's initiation of communication with her.

Box 10.4: Second Videorecording 4 Months After Settling In

Sequence 2a: Theo is using a puzzle and thinking about the many pictures of objects that he can see. He has named the objects visible in the pictures. The teacher has pronounced the terms clearly, and she is trying to embed the words into short sentences. In addition, she accompanied his movements verbally. In comparison with the first video, Theo is using a lot of words and seems to have a better understanding. He is trying to name each picture. The pronounced words are very hard to understand.

Sequence 2b: Theo is using set of painted objects on a wooden panel and naming each object. Another teacher crouches down in front of Theo. She is pointing to one object and is asking: "What is that for an animal?" He answers: "Elephant." She shows excitement and says: "Well done!" Then he names a few other objects, before ending the interaction by moving away. He tries to look in her eyes and then walks backwards and raises his own hands to his own eyes. He moves to a table nearby. Later Theo starts moving around and shakes a plate with painted objects he had been played earlier. For a while, Theo runs through the room. The teacher is talking to Theo asking what he is doing and why he was shaking the wooden panel. She then asks him to allow her a look at the panel. Theo comes closer and tries to take a look through the camera. The teacher explains him what a camera is and what is visible through this device. Theo moves the camera to record other children. He does not speak.

Interpretation and Implication: Theo is using more words and stays longer in the activities he chooses to play. Still he turns around and breaks up the initial game when changing the activity. He still does not play with other children in the group. The teacher recognizes her own improved awareness of Theo's initiatives in communication and her changed practice from repetitive pronunciation to a more child-directed speech, e.g. asking questions. Furthermore, she encourages Theo with praise, using expressions like: "Well done!" The interactions are more reciprocal than those observed six weeks before.

Planning: The teacher now wants to involve Theo in other children's play. Moreover, she would like to engage him in longer play sequences involving deeper interactions with the materials. Therefore, she would like to use strategies to convince Theo to play longer, for example, by asking questions or by showing him other things or ways to use the materials.

Box 10.5: Videorecording 6 Months After Settling In

Sequence 3: Theo is playing with the puzzles again. Each object is named, and the teacher gives him feedback by repeating the words for each object clearly. If she is too slow or does not react, Theo repeats the words again and again until the teacher replies by repeating the word, too. He always shows her the pictures and puts them into the puzzle after naming. He is very focussed. After a while, the teacher says: "Oh Theo, this is quite difficult. I am curious, if you could find the right place for the next piece of the puzzle!"

Theo's pronunciation of the words is much clearer; furthermore, he uses paraverbal vocalisations in the interaction. The teacher imitates the paraverbal vocalisations, like "Mhm!" He looks quite proud as he continues with the puzzle. She explains some details to him: "Look here is a wing, there are two ropes and in the middle a board". Silently, he is continuing with the puzzle. Then she asks: "Do you want to tell something to me?" Theo starts to become impatient, as he tries to work more quickly. He becomes frustrated, while making grumpy sounds. Thereafter, he starts shouting: "No!" He makes long periods of eye contact with the teacher. Theo seems to be quite angry. The teacher tries to soothe him using calm voice and explains to him: "Keep on trying!" He continues puzzling for a while. Then he finishes the task, starts running through the room and picks up another puzzle.

Interpretation and Implication: Theo has made a big step in his development and the usage of communicative competencies. Now, he uses more words, as well as paraverbal sounds, that underlines he has a set of shared communicative signs. The teacher concludes that Theo now possesses an understanding of pragmatic rules of communication acts. Despite showing sometimes negative emotion while he is interacting with the teacher, the teacher remained calm and stayed in the interaction. This co-regulation process may have deepened the relationship between Theo and his reference teacher.

Planning: Theo's teacher sets further targets for the forthcoming weeks aimed at continued enhancement of his communicative competencies, especially the pragmatic aspect of speech that will be a continuing target for the next period. Moreover, she still wants to focus on peer contacts and social play.

Box 10.6: Final Reflection of the Guided Process
Using videorecordings of a teacher's interaction with a 3-year-old boy, Theo, the teacher became aware of interactional processes and her opportunities to change his speech and encourage Theo to enhance his communicative competencies. Whereas at the beginning the teacher copied the behaviour of Theo's mother, she learned over the time to change her style of interaction, for instance, by staying calm and focussed on the boy's nonverbal signals, and she began to verbalise more clearly his actions and comments his play.

With this slowed, targeted observation, supported by the use of videorecordings, Theo's teacher felt increasingly competent to influence Theo's learning and actions through her own interactional signals. During this process, she changed her style of talking, her manner of questioning, as well as the level and kind of reciprocity in her own and Theo's interactions. In addition the focus of teaching moved from the previous emphasis on Theo's speech towards a more reciprocal teacher-child interaction. In spite of this change, Theo's interactions with his peers remained infrequent.

Reflection About Theo's Development and Learning During the Period of 6 Months

Within six months Theo's reference teacher tried to improve her communication with him, a 3-year-old boy (age 3.0–3.6 years). Theo made some progress in the naming of pictures and in his direct communication with the reference teacher but not in social play with other children in the early childhood setting. Furthermore, he stayed more attentive in play activities. Theo's interactions were still not fully reciprocal, and Theo, for a lot of the time, seemed to create his own world. There were some contact opportunities with other children; however, these were rare and volatile. Theo was accepted but not favoured by his peers. Nevertheless, he had fewer tantrums during the day at the end of the 6-month period and engaged in longer sequences of play with materials.

Later, Theo received the diagnosis of autism spectrum disorder. This might help to understand why interacting with him had been difficult and why his developmental process had slowed. Even though, Theo as a full member of the society was participating in his early childhood setting as much as he could, with the most support he could get; Theo's development and learning process was possible in an inclusive way. The results of the intensive work Theo's reference teacher engaged him, shows how nonverbal communication signals and the way interaction partners reference each other have an impact on the interaction itself. The referencing is a sign of synchronicity within interaction; furthermore, it demonstrates aspects of responsiveness (Remsperger 2011, Chap. 3 in this book). The work invested in by Theo's teacher reveals children's openness for interaction with others, even if their efforts might be impaired.

How Theo's Teacher improves her own and His Positive Interactions?

The overarching question at this point is what is the best way to be supportive in language development or to enhance communicative competencies of children in ECE centres? In Germany, educators' focus on language development has predominantly paid attention to the improvement of verbal skills, including the number of words spoken, the ability to use the proper pronunciation, usage of grammar as well as pragmatic competencies such as conversational strategies, whereas identifying and setting appropriate turns, or interpretation of nonverbal elements have been almost ignored. German researchers on the other hand have turned their attention to the concept of *sustained shared thinking* (SST; see Siraj-Blatchford et al. 2002, 2009) or stimulating dialogue attitude (König 2010) or taking account of daily integrated language support (Buschmann et al. 2010; based on Girolametto and Weitzman 2006). This has privileged the attainment of general patterns of child development for all children and not just to address the practice to support individual develomental-delayed children in the ECE context.[1]

Problems with the current approach to the improvement of communication and language competencies in German are threefold. First, the approach focusses solely on the competencies of children and not also on the analytical competencies of teachers. Any perceived deficiencies in language learning are therefore directed towards the child and not the interactional partners or its teachers' practices. Secondly, while promoted concepts like SST are based on general research findings and implemented through everyday integrated language support strategies, they do not necessarily work for all children nor are there always sufficiently qualified teachers to implement such practices. Finally, education for adults so they can prepare to implement such strategies is not available for all teachers working in ECE. I have therefore theorised that interaction analysis (IA) should be taught as a method to assist educators to analyse the interactions between ECE-teacher and children to get a deeper knowledge of context specific issues and generate ideas to support children's individual learning and development.

How to Develop Competencies by Analysing Interactions?

A video-based interaction analysis such as described in the case of Theo and his teacher enables researchers or teacher/educators to develop a deeper understanding of children's and teacher's signals in communication. Moreover, it is useful to build a better understanding of the range of reciprocal processes of communication that exist between interaction partners. Everyday situations that involve verbal and

[1] German ECE centres provide care and educational services for 1–6 years; some of them take care for infants, after time the obligatory of maternal leave (8 weeks after birth). For further information, see Chap. 1.

nonverbal communication, for example, free play, reading time, or planned activities, can be examined. The analysis of video-recordings focusses on nonverbal and verbal signals of each communicator as well as in relation to each other. While it is outside of the scope of this chapter to go into detail of the program of instruction involved in learning about interaction analysis, I will share an example of interaction analysis conducted by an educator in the context of a university course of study for ECE-teachers. The following sequence was recorded by a student during her internship at an ECE centre. The participating teacher chooses to analyse a video sequence from a public playground involving free play. While children explored the large sandpit, the teacher became concerned, because children tried to pull out some meshed fabric of the sandpit. The following scene illustrates the interaction between the teacher and three children (A, and B, C) (Table 10.1).

The students' analysis is as follows. Despite the scene's content (involving intense emotions and conflict), teacher and child A are having a good communicative process. Child A is moving around and the teacher is joining him. Moreover, she invites other children to join the dyadic situation. She uses eye contact and gestures such as pointing, and he shares her intention – while looking at the area she points to. Both, the teacher and child A, are talking and responding to each other. It is obvious that the child stays on the subject and he asks a few times: "Why?" (09, 13, 15). Furthermore, he (child A) tries to ague (20, 22). The teacher interrupts the conversation several times (04, 10, 12), whereas child A tries keep on going the joint communication. This shows how competent child A is using communicative strategies.

Both verbal and nonverbal descriptions of the scene illustrate the process of coming together, breaking up, and coming back to the shared communication – like the movement of waves. It also illustrates how fragile communication between teacher and children can be in a group setting, even the group is small and how easily it can be interrupted. This short sequence also shows how the verbalisation of child A increases (20) as well as his movements (22, 26) and his argumentation (22) during the time of the shared conversation. The component of sustained communication is very important for increased competencies in language, in thinking, as well as social acting (see also Siraj 2015; Pianta 2006; Tomasello 2008).

From the perspective of the teacher, another view is possible. She does not use effective strategies to foster language development, for instance, there is an absence of open-ended questions (see Pianta 2006). Moreover, the teacher is concerned that the public sandbox is not being used in an acceptable manner. This impedes the teachers' focus on the process of communication. Despite this, the interaction was characterised by a warm relationship and several turn-taking, both qualities linked to sustained shared thinking (Siraj and Asani 2015; Siraj-Blatchford 2009; Sylva et al. 2004). In the example discussed here, the sustaining part of the interaction was initiated by child A and less by the teacher. The child engaged the teacher to creating further turn takings.

By analysing interactions in this way, it becomes possible for a teacher to focus on increasing their own capacity to support children's learning. The usage of video-recordings unfolds the potential of develop a conscious change in work practice.

Table 10.1 Example of an interaction of an ECE teacher and a group of children (boys) in a public playground

	T = teacher/C = children A, B, C	Spoken utterances	Nonverbal
01	T:	Oh, What's that? Yes, we have put them on the sand	*Child A is lying on the ground and digs a hole in the sandpit. The teacher kneels next to him. She also digs the hole with her fingers*
02	CA:	Why?	
03	T:	I don't know!	*(pause) Child A stands up.*
		Oh, this is cool!	*Two other children (B, C) are joining the scene. Both have large shovels*
04	T:	Hallo	*(Speaking with a soft voice and using eye contact)*
05	CB/CC:	My shovel, my shovel, *argh*!	*Children B and C are quarrelling, and screaming. Child A stays calm and is watching the others*
06	CA:	If so, then this is so	*Teacher stands up and leaves the sandpit. Now she stands on the side, while child A try to soothe the others. – Pause –*
07	T to CA:	Ey!	*Child A is digging with a large shovel, and puts the sand on the stones of the sidewalk.*
08	T to CA:	The children made this!	*The teacher points to sand outside the sandpit.*
09	CA to T:	Why?	*All three children are digging together*
10	T:	Because they want to play here …	*The teacher try to put the sand back in the pit*
		Oh, no Karl, not on …	
11	CB/CC:	Here?	
12	T:	No! Otherwise, we can't come back. Please stop it!	
13	CA:	Why we can't come back?	*Child A stops the digging and is watching the teacher, while asking.*
14	T:	It can't be left that messy here!	*Child A stands up again and has come over to the teacher. She kneels and makes eye contact with him. He touches her on the shoulder*
15	CA:	Why, other parents will scold?	*Both are close together*
16	T:	No, the parents will not scold	
17	CB/CC:	*whine*	*The both other children are still in dispute with each other. The teacher is watching them*
18	CA:	What will do the parents, instead?	*Then the teacher make eye-contact with child A*

(continued)

Table 10.1 (continued)

	T = teacher/C = children A, B, C	Spoken utterances	Nonverbal
19	T to CB/CC:	The sandpit is huge and you are playing in this corner, always! Look, the sandpit is so large!	*Teacher speaks to the both other children and is watching them. Both put a lot of sand out of the sandpit. She speaks with a soft voice, nevertheless forcefully. Child A is watching attentive to the scene, while talking to the teacher*
20	CA:	Yes! That's what I mean But, if the children want to put something on the top, here, then – then – then they can do it. But, for children it is not allowed	*Child A is moving to the hole and points to the whole, while he is speaking. Then he moved to the side of the teacher. Both have eye contact. The teacher is listening to him*
21	T:	No! Look, you can dig there There is a lot of sand!	*Teacher is pointing to the middle of the sandpit. Both are looking in the same direction*
22	CA:	But, they don't want to	*Child A is shaking the head, and the teacher makes eye contact. Then the child walks to the hole again*
23	T:	Do you want to dig here, here were we are sitting?	*The teacher is still kneeling and is now watching child A*
24	CA:	Yeah!	
25	T:	„Ehm"	
26	CA:	There! m*** we too …	*Child A is walking around.*
27	T:	Then we had to take a broom with us. Next time. … Look, how it looks like!	*The teacher still kneels, and is pointing to the middle of the sandpit, and later to the stones surrounding the sandpit – full of sand*
28	CA:	Where?	
29	T:	T h e w h o l e s a n d … On the stones! Everything is full of sand …	*She starts smiling*

Conclusion

Interaction analysis using video-recordings is a promising method for professional learning and development of ECE teachers/educators. By being able to analyse interaction from the point of view of both interaction partners, it becomes possible to see how the teacher herself/himself communicates with children and the effects of the style of that communication. Moreover, nonverbal communication competencies play an important role in children's communicative competence, and professional caregiver should be aware of how their own communicative signals support or influence interactions. Competent ECE teachers must work to expand the

opportunities for communication; focusing on nonverbal communication signals is a way to achieve this.

To encourage ECE teams to be supportive of educators' learning, video methods like those described here should be implemented in the meaningful contexts of teachers'/educators' own workplaces. This might motivate a sustainable change and learning process by reflective practice.

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Chapter 11
The Importance of Professional Knowledge for Learning Support in German ECEC Settings

Claudia Wirts, Monika Wertfein, and Andreas Wildgruber

Interactions in Early Childhood Education and Care (ECEC) Settings

The Importance of Interactions in ECEC Settings

An essential aim of German teachers[1] in ECEC settings is to support infant and child development and learning. It is registered in the UN Convention on the Rights of the Child that children need affinity, attachment and learning opportunities. Teachers have to establish good relationships and to support children's learning appropriately.

Numerous international studies have shown that quality of child care settings influences the development and learning of children in a large range of developmental domains (see for instance, the meta study of Burchinal et al. 2011; and NUBBEK study of Tietze et al. 2013). The extent to which early child education and care experiences are related to child outcomes is generally modest. But quality of teacher-child-interactions shows stronger associations with child development than other measures of child care quality (Burchinal et al. 2011). Therefore, most recently, research has focused more and more on aspects of process quality. In various studies, higher quality teacher-child-interactions were related to higher levels of social-

Reprinted with permission of the author Barbara Fredrickson. A version of this op-ed appears in print on March 24, 2013, on page SR14 of the New York edition with the headline: Your Phone Vs. Your Heart.

[1] In this book we will use the term teacher, even if in Germany vocational trained educators (Erzieher) are the professionals most prevalent in ECEC settings. Please, refer also to the introduction chapter for further explanations of the different systems and qualifications in Germany and New Zealand.

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emotional and academic development in children (e.g. Anders et al. 2012; Sylva et al. 2010; Mashburn et al. 2008). Findings show that the teacher-child-interaction is a key element in children's development and learning in ECEC settings.

For German and international ECEC settings research has shown only modest levels of process quality (e.g. Tietze et al. 2013; Anders et al. 2012; Sylva et al. 2010; Mashburn et al. 2008). In particular, the quality of instructional support has been found to be extremely low (von Suchodoletz et al. 2014; Wildgruber et al. 2014; Kammermeyer et al. 2013) and effective strategies of learning support were rarely encountered in everyday interactions in ECEC settings (e.g. Anders et al. 2012; König 2009; Siraj-Blatchford and Manni 2008). These findings are particularly important, because of evidence that only high quality interactions show lasting positive effects related to children's development (Burchinal et al. 2011; Siraj-Blatchford et al. 2002; Sammons et al. 2008). Thus it is clearly important to conduct research in this area and to further professional development concerning process quality and in particular interactional strategies in ECEC.

Therefore this article focuses on the relationships between interaction strategies of ECEC teachers that support effective child learning on the one hand, and the professional knowledge connected with higher levels of learning support in preschool teachers on the other hand.

Learning Support Strategies in ECEC Settings

Many studies have found a relationship between specific interaction strategies and positive development of children's capabilities. The use of open-ended questions is known to be an effective strategy to enforce children's academic and linguistic knowledge (e.g. Siraj-Blatchford et al. 2002). Whitehurst et al. (1994) also validated these correlations for dialogic reading. But in various studies involving preschool interactions, open-ended questions are rarely found (Siraj-Blatchford and Manni 2008; König 2009; Briedigkeit 2011; Tournier et al. 2014).

The use of methods to encourage higher-order thinking skills (e.g. sustained shared thinking, concept development strategies) is related to better outcomes of verbal, cognitive and social skills in children (Wharton-McDonald et al. 1998; Siraj-Blatchford et al. 2002; Taylor et al. 2003). But again, these strategies are not often seen in daily routines (Siraj-Blatchford et al. 2002; König 2009; Anders et al. 2012). And last, but not least orientation towards children's interests and motivation as well as free choice of activities shows a correlation with developmental progress in children (Siraj-Blatchford et al. 2002).

But it is not only quality of interaction that matters. Frequency of verbal interaction between teachers and children is important for child development, too (Ruopp et al. 1979; Carew and Clarke-Stewart 1980; McCartney 1984; Howes and Rubenstein 1985; Melhuish et al. 1990). Children only can increase their language skills if they have enough opportunities to hear and use language.

International research overall shows the importance of teacher-child-interaction in ECEC settings for learning and development in children. Associations were found between higher quality interactions and cognitive, linguistic and social competences of children (e.g. Mashburn et al. 2008; Cadima et al. 2010). In addition

Burchinal et al. (2010) found that only a high interaction quality had long-term positive effects.

The BIKE[2]-Study

The BIKE-study examines the quality of teacher-child interactions in ECEC settings and relationships between structural conditions, attitudes and knowledge of the ECEC staff, and interaction quality.

The BIKE-study refers to the CLASS-model of interaction quality (Pianta et al. 2008). The aim is to generate recommendations and methods to improve education and professional development and structural conditions in ECEC centers based on empirical data. Leading questions of the study are:

1. What quality level is seen in German ECEC settings in the domains Emotional Support, Classroom Organization and Instructional Support?
2. What correlations exist between conditional factors and interaction quality?

In this chapter the following questions are considered more closely:

- What capabilities do German ECEC teachers show in planning supportive activities for language learning?
- Are capabilities in planning supportive activities for language learning related to interaction quality?

Methods of the BIKE-Study

The analyses include data from two data collection waves, which were carried out from April 2013 to July 2014 in 46 ECEC centers with children from three to six years of age. 85 teachers from 46 ECEC centers in the south of Germany (state of Bavaria) participated. The sample of ECEC settings is a stratified random sample from four cities, stratified by service providers. Teachers participated voluntarily.

All participant teachers worked with children from three to six years of age, were female, and had an average age of 39.38 years (SD = 10.92), 14 years of professional experience (M = 13.75; SD = 10.18) and were employed in the observed ECEC setting more than seven years (M = 7.18; SD = 6.85). The average number of children per group was 22 children (M = 22.34; SD = 4.36), mostly supervised by two teachers, a common ratio of staff to children in Bavarian ECEC settings for three to six year old children.

[2] BIKE = Bedingungsfaktoren für gelingende Interaktionen zwischen Erzieherinnen und Kindern – Conditional factors of successful teacher-child interactions.

Seventy seven (90.61%) of the 85 teachers were trained in post-secondary vocational schools, eight (9.4%) teachers had university degrees. In Germany most of the teachers in ECEC settings have no university degree, but in general a mostly three or four-year course of study at a post-secondary vocational school specialising in social pedagogy (Fachschule/Fachakademie – such as Colleges of Education), leading to an award as a state-registered teacher (Erzieher/in – educator).

The Classroom Assessment Scoring System Pre-K (CLASS Pre-K)

The Classroom Assessment Scoring System Pre-K (Pianta et al. 2008) was used for the live observations in the ECEC settings. The CLASS Pre-K includes ten dimensions of classroom quality, sorted in three domains based on factor analyses (Pianta et al. 2008). The dimensions are rated on a 7-point scale with 1–2 indicating a low, 3–5 an average and 6–7 a high level of quality.

The first domain, *Emotional Support*, focuses on the emotional climate in the classroom. It comprises the dimensions Positive Climate, Negative Climate, Teacher Sensitivity and Regard for Student Perspectives. The second domain, *Classroom Organization*, comprises the dimensions Behavioral Management, Productivity and Instructional Learning Formats. In the last domain, *Instructional Support*, learning support is assessed in the dimensions Concept Development, Quality of Feedback and Language Modeling. These dimensions are operationalized by specific "indicators" and "behavioral markers" that describe specific interactional behavior between teachers and children and among children. The following Table 11.1 presents the main contents of the CLASS Pre-K domains and dimensions.

The CLASS Pre-K was developed for observations in ECEC settings for children three to six years of age and for transition classes like the so called kindergarten in the United States of America. The observational tool CLASS Pre-K shows good prognostic validity in international studies (e.g. Mashburn et al. 2008; Burchinal et al. 2011; Leyva et al. 2015), which means that the studies found correlations with child outcomes. The CLASS Pre-K is a well evaluated tool for standardized observations using a 7-point scale to measure the process quality in interactions of teacher-child-interactions in ECEC settings. The factor structure and instrument quality was tested in over 4300 classrooms in the USA (Hamre et al. 2013) and also in two German studies (von Suchodoletz et al. 2014; Stuck et al. in press). In Europe the CLASS Pre-K has also been used in Finnish, Dutch and Portuguese Studies (Slot 2014; Pakarinen et al. 2010; Cadima et al. 2010), therefore it is possible to compare results from the instrument with other European studies.

The observers collected data across approximately five cycles per classroom, each consisting of circa 20 minutes observation plus 10 minutes scoring. The observations typically started with the morning circle time and ended after lunch. Teacher-child interactions were assessed across a variety of different settings and activities included in daily routines. For every cycle, the predominant type of activity (e.g. circle time, free play, mealtime), duration and number of participating teachers and children was noted. The most frequently observed activities were free play (indoors and outdoors), moderated activities like book reading and mealtimes.

All observers were trained in using the CLASS Pre-K and had successfully passed the required reliability test, this means every observer was able to show once

Table 11.1 Domains and dimensions of the CLASS Pre-K (Pianta et al. 2008)

Domain	Dimension	Description
Emotional Support	Positive Climate	Reflects the emotional connection between the teacher and students and among students and the warmth, respect, and enjoyment by verbal and nonverbal interactions
	Negative Climate	Reflects the overall level of expressed negativity in the classroom
	Teacher Sensitivity	Encompasses the teacher's awareness of and responsibility to students' academic and emotional needs
	Regard for Student Perspectives	Captures the degree to which the teacher's interactions with student and classroom activities place an emphasis on students' interests, motivations, and points of view
Classroom Organization	Behavioral Management	Encompasses the teacher's ability to provide clear behavioral expectations and use effective methods to prevent and redirect misbehavior
	Productivity	Considers how well the teacher manages instructional time and routines and provides activities for students so that they have the opportunity to be involved in learning activities
	Instructional Learning Formats	Focuses on the ways in which the teacher maximizes student's interest, engagement, and ability to learn from lessons and activities
Instructional Support	Concept Development	Measures the teacher's use of instructional discussions and activities to promote students' higher order thinking skills and cognition and the teacher focus on understanding rather than on rote instruction
	Quality of Feedback	Assesses the degree to which the teacher provides feedback that expands learning and understanding and encourages continued participation
	Language Modeling	Captures the quality and amount of the teachers' use of language-stimulation and language-facilitation techniques

a year that he or she was still able to code accurately. In sum 17.8% of the observed cycles were rated twice. The inter-rater reliability, the degree of concordance among raters, was analysed using Intra-Class-Correlations (ICC) and had an overall score of ICC = 0.70 (single measure). The ICC score varied from 0.65 to 0.78 between the dimensions. The following analyses are based on the scores of the main rater.

The Case Vignettes About Planning Language Support

To ascertain teacher capabilities for planning activities to support language learning, vignettes about planning language support (Mischo et al. 2011) were used. Vignettes describe hypothetical, but practical situations and are used as a stimulus to ask the involved teachers what they would do in this situation, and to explain their answer (Schnurr 2003). After the CLASS Pre-K-observations the teachers were

asked (using the vignettes) to describe how they would act in the represented situations to support the children's language learning and to explain why.

Four vignettes (No. 5–8) were used. Each focused on different aspects of speech and language learning. The teachers were asked for example to describe and explain language modeling strategies, strategies to activate children's verbal engagement or explicit support strategies for a developmental task in language acquisition. The coding referred to a proved coding system of a research project concerned with the qualifications and characteristics of teachers (Mischo et al. 2011). The coding system involves concrete criteria and examples for the classification of the open-ended responses to three ordinal levels from zero to two.

To prove inter-rater reliability 20% of the vignettes were re-coded by a trained second coder. Inter-rater reliability is the degree of concordance among raters. The Intra-Class-Correlation ICC scores of the four vignettes was between 0.91 to 1.00. What means that two raters in most cases scored the answers of the teachers equally.

Results and Conclusions: How Good was the Interaction Quality in the Observed ECEC Centres?

Overall, the quality of Emotional Support shown by the teachers in the sample was high (Fig. 11.1). Positive Climate had the highest ratings (M[3] = 5.87; SD[4] = 0.72), followed by Teacher Sensitivity (M = 5.64; SD = 0.70) and Regard for Student Perspectives (M = 5.50; SD = 0.71). Aspects of Negative Climate (recoded scores) were hardly observed (M = 6.90, SD = 0.19). These findings show that we found in most ECEC settings a good emotional connection between teacher(s) and children and respectful interactions. Also the awareness of and responsibility to children's needs were rated highly and teachers also emphasised children's interests, motivations, and points of view.

For the domain Classroom Organization a high level of interactions in the dimensions Behavior Management (M = 5.94; SD = 0.73) and Productivity (M = 5.67; SD = 0.72) was also found. This means that in most cases Behavior Management by the teachers was good and opportunities to learn were provided for most of the time – the dimension Productivity does not capture the quality of activities, but the amount of possibilities potential for learning. In the dimension Instructional Learning Formats, which captures how interesting and stimulating interactions were for the children, the quality of interactions was rated in the high mid-range of quality (M = 4.97; SD = 0.78).

Only in the domain Instructional Support did the observed teachers show rather low mean values across all three dimensions. Concept Development (M = 1.76; SD = 0.64) and Quality of Feedback (M = 2.58; SD = 0.92) were on average rated in the

[3] M = mean.

[4] SD = standard deviation.

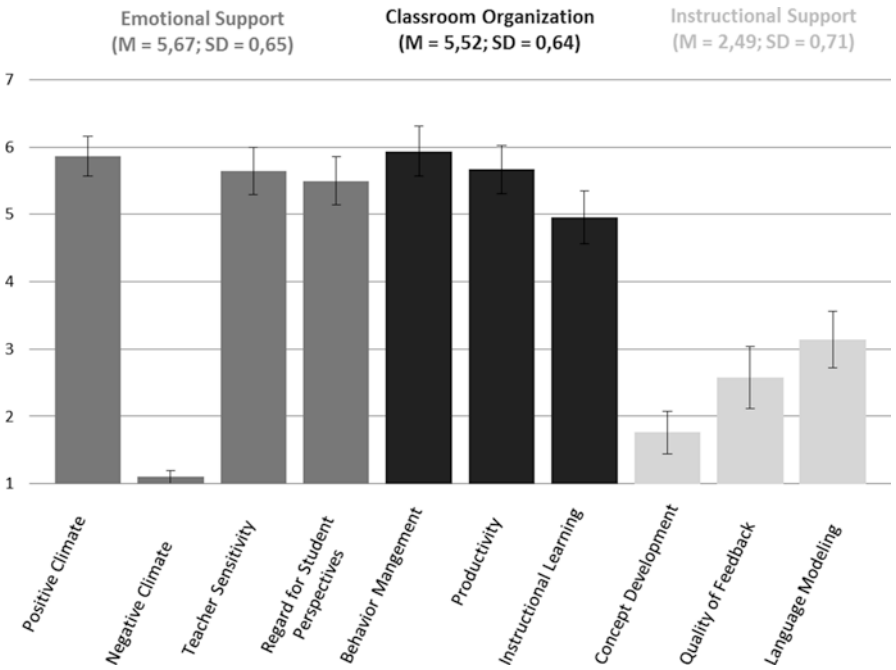

Fig. 11.1 Results CLASS Pre-K dimensions in the BIKE-study

low level of quality. These results show that the teacher rarely provided feedback that expanded learning and understanding and only very scarcely supported higher order thinking skills. Language Modeling had moderately higher scores (M = 3.14; SD = 0.85),[5] but the dimension barely reaches the mid quality level. This dimension focuses on the quality and amount of the teachers' use of language-stimulation and language-facilitation techniques as well as quantity and quality of conversations in the classroom.

The aggregated CLASS quality score across all dimensions and situations is M = 4.56 (SD = 0.58), without transition-cycles M = 4.54 (SD = 0.59). We aggregated a score without transition cycles, because transition-cycles are not comparable with homogeneous situations (e.g. circle-time, free play, mealtime). Transitions are situations with a high demand in organisational structure, but usually they are short. The Finnish CLASS Pre-K-data (Pakarinen et al. 2010) and the German data from Stuck et al. (in press) showed a good model fit (for the three-domain model including Emotional Support, Classroom Organization, Instructional Support) when Negative Climate was excluded. Negative Climate also showed very little variance in our data, so sum scores were calculated without Negative Climate, like Pakarinen et al. (2010) and Stuck et al. (in press) suggest. Negative Climate is defined by

[5] Language Modeling without transition cycles: M = 3.12 (SD = 0.89).

expressed negativity, like yelling, threats, bullying or even physical violations. In European ECEC settings, indicators of a negative climate cannot be observed very often. This is good on the one hand, but might be also a cultural effect, caused by higher controlled behavior of the European teachers in context of observation. In any case the dimension of Negative Climate does not differentiate very well in most European studies, but is very useful to give feedback to teachers who show Negative Climate at all. So in our opinion, it is important to code this dimension nevertheless, but we don't use it for statistical analyses.

Implications of the BIKE Results for Practice Transfer and Professionalisation

The reported results indicate that the observed classroom quality in German ECEC centers shows a high quality level in the domain Emotional Support and a relatively high level in Classroom Organization. In contrast, children experienced rather low quality of Instructional Support, reflecting a low quality level of Concept Development and Quality of Feedback and a low to mid-level of Language Modeling. These finding reflect results of other German studies (Kammermeyer et al. 2013; von Suchodoletz et al. 2014) using the CLASS Pre-K in different parts of Germany, and also international research, which shows similar low-level or low mid-level Instructional Support (e.g. Hamre et al. 2013; Cadima et al. 2010). Only Finnish findings stand out by showing a mid-level of Instructional Support. This might be an effect of attitudes towards education in the Finnish ECEC context. Finnish teachers might see their role more as learning companion than German teachers do, because of the tradition in German ECEC settings to focus more on care than on education. In addition "at least one third of staff employed in [Finnish] early childhood centres must be university trained kindergarten teachers" (Oberhuemer et al. 2010, p. 140) and multi-professional teams work in each centre (Oberhuemer et al. 2010). This higher qualification level might be another explanatory factor for the better learning support findings.

Interaction quality in German child education and care centers measured with instruments other than the CLASS confirm the finding that learning support strategies are not well established in German ECEC settings (e.g. Anders et al. 2012; Mackowiak et al. 2014). So it is not only the CLASS-view of interaction quality, which shows this lack of instructional support.

But it is also important to see that the results are average values and that there are also individual teachers who are competent in Instructional Support and that in some situations the teachers do show better interaction quality than in others. We report elsewhere that free play and mealtimes especially, have lower means than moderated situations (Wildgruber et al. in press). In a moderated situation the teacher is involved in a structured activity, like planned handicraft activities, painting, or experimentation. And even among the children of one group there might be differences in the individual experience of interaction quality, e.g. the known systematic differences in interaction quality experienced by boys and girls (e.g. von Suchodoletz et al. 2015).

Implementation in Practical Action

The results of the BIKE-study show a high need of professional development in the area of learning support. But what strategies are effective in supporting children's cognitive and linguistic development and how can they be implemented?

The first question is answered by existing research (see also the first paragraphs in this chapter): open-ended questions, language modeling strategies (such as repetition and extension or self- and parallel talk), and strategies to encourage higher order thinking (such as sustained shared thinking, brainstorming or planning).

These strategies are not often seen in daily routines in German preschools, therefore in-service training is necessary to implement these effective interactions.

The following examples show how these interactions might be implemented. All these strategies are also indicators for good Instructional Quality of the CLASS Pre-K (Pianta et al. 2008).

Language Support Strategies

Open-ended questions are questions that invite elaborate responses and not only one-word-answers.

How do you know? Why do you think so? What do you think the girl might do next?

Using open-ended questions or other techniques to engage children in longer conversations are very effective, however children at the beginning of their language acquisition might have problems with longer answers. For these children yes-no questions are sometimes helpful to motivate verbal participation. All strategies of support have to be adapted to the current abilities of the individual child.

Repetitions and extensions are reactions to children's utterances that acknowledge the communicative attempt and in addition give a feedback how to use language in a correct way without the demotivating effect of negative feedback (such as "That's wrong, try again!").

> *"Child: "Look - temperature thing!" Teacher: "Yes, it's a temperature thing. It's a thermometer!"*
> *Child: "That her dog!" Teacher: "That's her dog! That's Sally's dog!"* (Pianta et al. 2008, p. 80)

The examples show the teacher repeating the child's utterance in a corrected form (repetition) and giving more information (extension) on grammar, vocabulary or the topic.

Self and parallel talk means to map actions through language and descriptions

> *A child is drawing a car and the teacher says: "Oh nice, you're drawing a red car."*
> *The teacher is laying the table and says: "I'll need a fork and a knife…"*

Using **advanced language** is also important to help children to expand their (linguistic) knowledge. A teacher for example uses a variety of words (e.g. not only dog, but also sheepdog or collie) and if there is a potential new word for the children he or she explains it or connects the new word to known vocabulary.

"Child: "Red, orange, blue, yellow." Teacher: "You have many different colors in your picture. It's a multicolored picture!" (Pianta et al. 2008, p. 80)

Teacher: "This is a bottle message. A bottle message is a letter that someone put in a bottle and threw in the sea."

A point of debate is whether teachers should better use simple language to help children with understanding. On the one hand this argument has merit, because bilingual children or children with problems in language acquisition might profit from simple speech. On the other hand children also need the knowledge of elaborated speech to understand books or to erudite language used in school. Hence both are necessary: adapting language to children's linguistic knowledge and giving them adequate opportunities to learn something new.

Cognitive Support Strategies

Most of the support strategies for language learning are also effective in facilitating cognitive development in children. For example open-ended questions can be used to encourage children not only to verbally engage, but also to use higher order thinking. The following strategies help children to engage in higher order thinking processes:

Prediction: "What do you think: which of the cars will go faster?"
Problem solving: "How could they resolve their dispute? What do you think?"
Brainstorming: "What else we can find in the woods?"
Comparison and classification: "What are similarities and differences of these two flowers?"

The difference of these strategies to normal interactions is that children not only receive input, but have to think by themselves. This is much more effective for learning than mere knowledge reception. But it is not only the technique used, it is also important to encourage students' involvement and persistence in learning activities. This is supported by positive feedback and scaffolding if the child needs help.

Overall it is important to be aware of what the child is interested in and then not only to give short answers or the solution for a problem. Moreover, it is valuable for language and cognitive development to engage a child in longer back-and-forth exchanges and give hints on to help the child solve the problem him−/herself. These interaction strategies to encourage children's thinking and to scaffold higher order thinking processes in extended dialogic communication is also known as "sustained shared thinking" (Siraj-Blatchford et al. 2002).

Results and Conclusions: How about Competences in Planning Language Support?

The descriptive results in planning competences were as following (Table 11.2):

Table 11.2 Overview results vignettes

Vignette	Level 0	Level 1	Level 2
Vignette 5 ($N = 85$)	4.7%	12.9%	82.4%
Vignette 6 ($N = 81$)	11.1%	61.7%	27.2%
Vignette 7 ($N = 83$)	13.3%	44.6%	42.2%
Vignette 8 ($N = 83$)	28.9%	44.6%	26.5%

Box 11.1 Vignette 5

Vignette 5: The 4 year old Patrick sits next to you at snack-time. He says: "Mama has cut**ted** the bread that small for me."

How would you respond to the utterance of the child to support his language in this situation? Please give reasons for your answer.

Box 11.2 Vignette 8

Vignette 8: Mehmet is 6 years old. His mother tongue is Turkish. He began to learn German when he came to kindergarten. Mehmet will start school soon. He has problems with the usage of articles, for example: "die Mann" (feminine article "die" rather than the required masculine article "der").

How would you support language acquisition of this child so he will learn German articles? Please describe 3 concrete possibilities to support the correct use of articles. Please explain why you think these support strategies are appropriate.

The frequency distribution of the vignette-scores shows differences between the vignettes. Vignette 5 (see Box 11.1) was most often coded on the highest level (82.4%), in contrast vignette 8 was coded most often on the lowest level (28.9%). Therefore Vignette 8 (see Box 11.2) differentiates best on the low end of the scale.

Are Planning Competences and Quality of Interactions Related?

We were interested in exploring whether there was a correlation between teachers' ability to plan language support (as tested in the vignettes) and the quality of interactions (assessed with the CLASS Pre-K), because we hypothesized that these planning competences have an influence on the performance in daily practices.

To test the hypothesis that good planning is related to higher quality in interactions, the Spearman's rank correlation coefficient was calculated. To do this, the aggregated score of the CLASS and the vignettes as well as correlations with the single vignettes were used. No significant correlation was found between the CLASS score and the aggregated score of the vignettes ($r_s = 0.14$, n.s.). However, the separate analyses with vignette 8 yielded a significant, according to Cohen (1988) medium sized, correlation ($r_s = 0.32$, $p \leq 0.004$), whereas the other vignettes were not related significantly to interactional quality.

In addition, correlations between the dimension of Language Modeling within the CLASS and the aggregated and single score of the vignettes were analyzed. We did this to prove if there were relations between the whole set or individual vignettes with the overall interaction quality or with the competences in Language Modeling which has probably the strongest connection with planning language support. Again no significant correlation was found with the aggregated vignette-score ($r_s = 0.20$, n.s.), but vignette 8 again showed a significant, small to medium sized correlation with the interaction quality in the dimension Language Modeling ($r_s = 0.28$, $p \leq 0.01$) as with the overall CLASS score.

Furthermore, we tested how Language Modeling and competences in planning language support are related in specific situations that support the acquisition of language competencies. Therefore, book reading cycles (n = 33 teachers) were analyzed separately, following the hypothesis that it might be easier for the teachers to apply abilities in planning language support in situations focusing on language learning.

For the book reading situations a significant, medium sized correlation with the aggregated vignette-score ($r_s = 0.45$, $p \leq 0.01$) was found, but again this result had to be attributed mainly to vignette 8 ($r_s = 0.46$, $p \leq .01$), which was the only significant correlation among those with the single vignettes (cf. also Plese 2015). All correlations were analysed by using only the CLASS-cycles without transitions.

What do the Results Regarding "Competences in Planning" (Vignettes) Tell Us?

Significant correlations between abilities in planning language support activities and quality of interaction were found mainly with one of the case vignettes (vignette 8). This vignette correlated with the aggregated CLASS score as well as with the dimension Language Modeling in all observed situations.

In addition the results indicate how Language Modeling and abilities in planning language support are related in specific language support situations. The correlations in these book-reading activities were higher than for other situations. The findings support the hypothesis that planning language support for the teachers is easier in situations with focus on language learning. A possible reason why vignette 8 shows correlations to quality of interaction while the other vignettes don't might be a characteristic of vignette 8 (see Box 11.2 above).

In contrast to the other vignettes the teacher has to include knowledge of the child's specific problems in her or his support planning ("Mehmet has problems with the usage of articles, so he needs a support activity with focus on articles"). A higher score is given only if the teacher writes down that an activity with articles is planned. To get a higher score for the other vignettes it is sufficient to list support strategies without specific focus on specific linguistic domains (e.g. vignette 7: Looking for a picture with a 6-year-old boy. "What question would you use to activate children's language learning and thinking?", see also vignette 5 (Box 11.1 above).

Teachers that are able to integrate the information about the specific linguistic problem of the child in their plans for language support show better performance in

interactions, especially in situations that are focused on language learning (in this case: book-reading).

Apprenticeship and in-service training should therefore not only teach what strategies support learning, but also focus matching of knowledge with children's needs. Jamil et al. (2015) were able to show that better abilities in observing children's developmental processes also lead to better quality of interactional processes. In addition teachers in Germany often observe children's development, but do not draw conclusions regarding their pedagogy from these observation data. So it is important to train transferring knowledge on child development into specific planning and implementation of supportive activities.

Limitations and Implications for Research

The BIKE-study only included ECEC centers from cities in the south of Germany. The sample is randomised, but not representative for Germany and the generalisation of results might be limited. The results for the vignettes about planning language support have to be seen under the limitation that they are not replicated yet. This is done actually in an ongoing research project of one of the authors.

Further research is needed on how to implement interactions that support learning in German ECEC centers. Research should focus not only on the question of what kind of interactions support childrens' learning, but also on how teachers' knowledge is connected with the implementation in daily routines.

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Chapter 12
Using Insights from Interactions Research to Improve Policy and Practice in Early Childhood Education

Alexandra C. Gunn

Why Study Learning Interactions?

The study of human development and learning in the West has broadened its focus across the twentieth century from a position that largely privileged the individual human subject as separated from the world and effected by its influences, to one where human subjectivity and the world are mutually constitutive; where experience is mediated by cultural tools; and through which over time, we can see the expansion of human learning and activity as interdependent (Bronfenbrenner and Ceci 1994; Rogoff 2003; Vygotsky 1978). It is no longer possible or desirable to view people as separate from culture and to ignore the reciprocal influences of people and culture. This is a major factor in why studies into interactions between children and their worlds are of growing interest to researchers, educators and policy makers alike. In the context of early childhood education in New Zealand for instance, we see this in the view of children as increasingly capable of and competent to direct their own learning as they draw from and shape what happens in the early childhood service (Ministry of Education 2004/2009). Concurrently, formal learning theories have expanded across the late twentieth century to account more clearly for the ways interactions between people, places, and things within an education setting invite and sustain learning (for example, the shift from individual cognitive constructivism to social-constructivism, and social-situated views of learning and associated theories like for instance, community of practice, (Snyder and Wenger 2010)). From a sociocultural perspective learning experiences lead developmental growth and change; communication between people, in deliberately planned places, with particular things is of paramount importance to learning. As educators in early childhood education have begun to take up these ideas with more vigour around the world understanding interactions and the learning that

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comes from them is of growing importance. Hence the critical need for research and scholarship into learning interactions and educational practice in the early years.

This chapter looks across this collection of early childhood based studies to consider the phenomenon of interactions in learning within formal early childhood education. It summarises what these studies have to say about learning being prompted and sustained through quality interactions between children, peers, teachers and things; it considers the research methods employed in this body of work as researchers and teachers have striven to perceive, interpret, and reflect upon learning interactions in early childhood education. Implications for both teaching and research practice within early childhood education are explored, and the chapter concludes with a discussion of challenges and opportunities from interactions research for quality early childhood education policy and practice.

Positive learning climates are characterised by the right blend of stimulation, challenge and safety, including emotional safety. We have understood for a long time that there is always an affective element to learning (see for instance Bandura's (1977) self-efficacy research, Maier and Seligman's (1976) work on learned helplessness). Klusemann's chapter (this volume, Chap. 2) has argued strongly that teachers and researchers often overlook the emotional element of learning; it is time to redress this in policy and practice. Interactions serve two functions in shaping the emotional climate for learning. First, interactions with others over time lead to a shared repertoire of past experiences and engagement with cultural symbols that can support the flow of an interaction. Children can learn from others how to indicate and interpret verbal and non-verbal cues as they relate with people's emotional states because spending time with people who are, what Remsperger-Kehm calls "sensitively responsive" (see Chap. 3, this volume) allows interaction partners to make meaning about emotional states and each others' communication styles, and to figure out how to modify their own in response. Second, spending time with others in shared endeavours can support the emergence of a shared mood and emotional engagement – an intersubjective emotional arousal from joint-attention over objectives can emerge. For White and Redder (this volume, Chap. 7), the interaction is genuine when intersubjectivity results. Spending time together in positive interactions not only enlists interaction partners participation in shared activity it shares power between them thus validating children's experience and strengthening their success within the learning interaction.

Episodes of sustained shared thinking (SST) or joint attention have been shown to support positive learning cultures in early childhood education and are considered an aspect of quality early childhood pedagogy (König 2006; Siraj-Blathford et al. 2002; Siraj-Blatchford 2009). Described as sustained effective pedagogical interactions (in terms of child outcomes, Siraj-Blatchford 2009) which also involve curriculum content, episodes of sustained shared thinking brings children and their teachers into coordinated points of view through which the child learns to understand themselves as projected by and through their interaction partner. So, interactions through SST may be considered pedagogical because they refer to activity of teachers which supports and engages children's learning (Siraj-Baltchford 2009).

Citing Viernickel and Stenger (2010, p. 181), Remsperger-Kehm, notes that interactions have been likened to a 'didactic key' within German early childhood education services. Sensitively responsive teachers can facilitate children's continued involvement, interest and emotional engagement in learning; in turn, children can be observed influencing teachers' emotional states. Thus close and positive emotionally responsive interactions are integral to culturally valued learning in early years settings.

Not all interactions can support learning and the extent and range of teachers' interaction styles have, at times been proven to be limited (as discussed by Wirts, Wertfein & Wildgruber, this volume, Chap. 11). On the other hand, teachers who have had deliberate opportunities to develop a much broader set of communication skills – through for instance, guided professional development, can differentiate their interaction styles with good effect (see Hruska, this volume, Chap. 10 for instance). Differentiated communication skills can enable teachers to respectfully address and support the diversity of children they will encounter across the course of a career in early childhood education. Hruska describes non-verbal aspects of communication as central to learning interactions, and face-to-face interaction as paramount. She argues that real world interactions between teachers and children help to connect words, sounds, gestures with their underlying meaning, interactions, and rituals associated with them (eye-contact, wait time, listening for instance). Furthermore that real world interactions are essential for language learning and development. As children's capability with verbal and non-verbal language increases over time, they have increasing access to thought; in turn thinking becomes a major driver in children's interests and dispositions to learn. But it is not only adults who can effectively scaffold children's language and thinking through quality learning interactions – as we have seen in this book's research, children's peers have an important role here too.

Children's peers may effectively promote and sustain learning interactions with each other (see for example, Dalli 2003, Gunn, this volume, Chap. 6; Kultti, Pramling and Pramling-Samuelsson, this volume, Chap. 5; White and Redder, this volume, Chap. 7). This is especially so when children who may be more skilled with a given activity or idea encourage others to engage. Even when children do not share a common language or the ability to speak, peer interactions, sustained through external and observable cues are powerful conveyers of meanings. Describing interactions as events of co-being, White and Redder show not yet speaking young children in sophisticated learning interactions with peers and teachers. By participating in socio-historically mediated activity with each other, children develop an understanding of themselves, others and the world. Kultti, Pramling & Pramling Samuelsson argue that a teachers' sensitivity to placement of resources and the organisation of peer groups can help children make the most from their interactions with each other, especially if they do not share a spoken language. Teachers can talk about children's activity as peers play with each other and scaffold the learning. Of course, children are powerful teachers in themselves; as can be observed in the analysis of learning about gender brought to life in Gunn's research. As children take up and mobilise particular gender discourses they provide evidence of how to 'do' or 'be' masculine and feminine within

the context of children's kindergarten worlds – despite what adults may value and prefer children to know and learn about. Therefore, learning from and about children's interactions with their peers can provide teachers and researchers with a plethora of opportunities to understand more deeply what is being learned and how. A note of caution however must be raised. Children's conversations, accessible to teachers and researchers through technologies like video cameras and microphones (as has been the case in many of the projects in this volume) may be uncensored by children because the close proximity of adult to child is not required in the same way as it would be if paper and pen methods were being used to record speech. Thus, an important question of what should be *heard* and what might be ignored by the teacher/researcher must be raised. Just because a teacher or research can video and audio record all children's activity does not mean they should; a sensitivity to right to privacy and respect must be maintained.

Interactions with resources and things in an early childhood education environment can be observed and analysed as part of learning interactions too. Material objects, for example toys or play spaces, combine with psychological tools, symbolic systems, non-verbal communication, language et cetera to mediate children's meaning-making. Even where children do not perhaps share the same spoken language or speech as a primary communication tool, teachers can use objects and play things, deliberately within children's play, to focus and develop shared attention between peers and between children and teachers (Tomaselo 2008). They can plan to support non-verbal, object-mediated interactions. Furthermore, when children play with things alone their interactions with those objects can challenge, extend, complexify, and sustain learning. Evidence of how objects supported several children's learning is shown in Bateman, Carr and Gunn's chapter (this volume, Chap. 4). There a ball, for instance, constructed as a character in a story about going faster, higher, and further than a boy (Jacob), acting in response to the forces applied to it by Jacob to extend a storyline and bring a story to an abrupt end. Technological tools like iPads as well as natural resources like shells with pictures stuck onto them provided cues to children and possibilities for creating and expanding stories. Arguably, children's interactions with these more-than-human objects may be thought of as potentially emotionally challenging, when for instance the objects are a surprise or behave unexpectedly as children interact with them. Yet there is a certain degree of safety in the interaction because the sense of what any given response by the object comes to mean rests with the child and her or his interpretation.

Lovatt, Cooper and Hedges (this volume, Chap. 8) argue that an important goal of early childhood education is to establish partnerships with parents and children's families that go beyond casual interactions. Their work shows how teachers' understandings of children, their interests and capabilities, can be expanded when relationships with families encompass learning for teachers, about children's daily life at home. Such work connects with Bronfenbrenner's bioecological model of human development (Bronfenbrenner and Ceci 1994), which posited the absolute importance of the mesosystem for children's learning and development. The mesosystem can be thought of as the system of microsystems within which children live their daily lives – settings such as the home, homes of extended family and whānau, the

early childhood setting, the marae[1], for example. The conditions within each of these microsystem settings is important for children's health and wellbeing, but when children are moving between contexts, the interactions between settings can be influential too. The theory posits that when alignment between settings exists, so does an optimal environment for learning and development. This idea brings the concept of learning interactions, which until now has mainly focused on close interpersonal interactions between children and other people, into the meso-systemic contexts of children's lives. We can see that teachers are able to influence learning in positive directions by working effectively in the in-between space involving children's homes and early childhood education settings.

Adult interactions have also been shown to impact on learning when teachers deliberately come together to discuss, observe and negotiate over different forms of curriculum in early childhood education. By having teachers view video examples of divergent forms of early childhood practice, within early childhood settings in Japan and New Zealand, Burke (this volume, Chap. 9) argues that interactions as cultural acts can reify and challenge particular truths of early childhood practice established that have become established over time. Where teachers deliberately engage in critical reflection over established forms of practice or in relation to significant values, asking whether those positions might unintentionally act to diminish opportunities for quality early childhood practice, professional interactions, geared towards improvement can open up dialogue and allow for shared meanings to be negotiated. Burke argues that if we assume particular forms of interaction to be universally good or desired, we risk homogenising pedagogies within early childhood education and potentially marginalising people as a result. We must pay attention to the diversity of forms of interaction a given early childhood community might utilise; build in families' expectations and values; and accept that these will change from setting to setting, and over time. Recognising children's families as powerful sources of curriculum in early childhood education can transform interactions and deepen teachers' knowledge and skills as they teach.

Methods of Studying Learning Interactions

The studies of learning interactions in early childhood education presented in this volume borrow widely from a diversity of research methods and draw from both quantitative and qualitative methodologies to show how intersubjectivity is achieved and maintained between children and others in advance of learning. Adequate study of social events requires multiple methods and data from a range of sources. Audio recording talk for instance, does not give a researcher access to facial expression and gesture as integral components of that talk. Nor does an audio recording alone represent the context of any talking that may be recorded – and it is widely

[1] Marae are places of communal cultural and social significance within Māori society encompassing a physical place (land) with buildings that belong to specific iwi or hapū (tribe or sub-tribe).

recognised that context can afford and constrain what it might be possible to say. Furthermore, different scholars' questions have necessitated different approaches to studying the interactions phenomena in early childhood education and for learning. This book includes research utilising structured quantitative methods which have sought to evaluate the quality of interactions between teachers and children; it has also included inductive qualitative work that has pursued deeper insights into the fine-grained nature of communication, verbal and non-verbal, between children, their teachers, their peers, and things in the learning environment. The strength of this collection lies, in part, in the diversity of studies presented and in the way that people working across different epistemic fields are able to speak broadly to the topic. Thus, for the educator, policy maker, or researcher, the cross-fertilisation of ideas and approaches brought together here supports a complex understanding and appreciation of what's involved in producing sound research about quality early childhood education and the kinds of learning we value from it.

Necessarily the studies included here are human resource intensive. Many have been small in scale, and have involved close observation of children and others (and things) in situ or through post-hoc video analysis. Wherever it is difficult for a single observer to comprehensively describe a complex set of human actions with accuracy, video methods have become useful. This is not to say there are no issues with the use of video; mentioned earlier for instance was the ubiquitous nature of video recording and the way it makes children's worlds more accessible to the teacher or researcher than ever before. However, video may be recorded from simultaneous vantage points, offering up a more holistic view of the interaction and interaction partners' actions and expressions. Analysis may be repeated when video footage is viewed multiple times. The quality of video and audio data able to be produced supports quality analysis and potentially also the communication of research findings in ways accessible to a diversity of audiences through multi-modal forms of communication. Central to interactions over and above the language content, are the facial expressions, body language, vocal cues, the rhythm and flow of actions and expressions, gaze, silence and the emotional states of interaction partners. It is no surprise that most of the studies presented here make use of video methods. As Klusemann (this volume, Chap. 2) argues, if we are to study learning within early childhood education properly, we must be able to examine *how* interactions between children and others (and things) occurs, because the interaction and the achievement of intersubjectivity between interaction partners shapes the child's cognitive orientation. Through interactions studies children can be observed expanding their involvement in their worlds as they take up cultural tools, practices and language each day; scholars uses of established and novel video methods to record interaction data are opening up new possibilities for interactions analysis.

White & Redder (this volume, Chap. 7), for instance, invested in a polyphonic video method to record the visual fields of research participants. Infants and teachers wore head-mounted video cameras during play, thus making the perspectives of infants and teachers in a given interaction event available for analysis and discussion. An holistic account of the interactions and interaction partners contributions to the whole was made visible. Claiming that seeing is a difficult task for the researcher,

the polyphonic video method, in combination with post-video analysis interviews with teachers, made the reciprocal interactions available to the researchers' scrutiny. As mentioned earlier, video data are not without problems, nor are they above manipulation. Their two-dimensional quality makes them secondary, derived, and reduced-in scale when compared with the to three-dimensional real world events they purport to represent (Aries et al. 2011). Yet, if taken as representational data, and handled ethically, video can bring the researcher close to participants for a given time period within a particularly framed view, and allow for close readings of events, interactions, and their effects.

Video data may also act as a powerful provocateur to teachers' professional learning about their work, as studies in this volume show. By being able to analyse one's own professional interactions, for example as in Hruska's work involving video based interaction analysis (this volume, Chap. 10), teachers may discover which of their own communication strategies are effective (or not) with particular children, or in specific circumstances. Teachers may then be able to refine their pedagogical strategies and decision-making, thus improving teaching through self-referenced analysis of systematically produced video data. Furthermore, by revisiting interactions with specific children, teachers may re-author their interpretations of children's or their own competence, and different possibilities for curriculum may become possible. By viewing interactions-focused video the reciprocal processes of communication in a busy early childhood environment may be observed. Thus teachers may challenge their own sense of the pedagogical opportunities available to children in their care, and act to change environments for the better.

Watching video of teachers in an early childhood setting in another country proved fruitful for teachers' consideration of their own values and communication preferences and styles in Burke's study (this volume, Chap. 9). The comparative analysis that was enabled through the video method helped teachers in New Zealand and Japan challenge their ideas about specific kinds of interactions, thus providing scope for a more nuanced and diversified approach to teaching in each setting. Video of children's play in Bateman, Carr and Gunn's work (this volume, Chaps. 4 & 6) made it possible for researchers to consider how peers and things in the early childhood education setting shaped opportunities for learning. In this, the researchers' interpretations were limited to the scope of the event made visible in the video, revealing little about how any arrangement of people and things in the environment, outside of camera shot, impacted on what was possible. Thus the work reminds us that video data alone are probably insufficient as a means of data gathering to understand the social-situated nature of interactions in early childhood education and how the broader context effects possibilities within close interaction. Narrowly framed video data would ideally be accompanied by simultaneously recorded wide angled views and supplemented by field notes. Such approaches allow for the kind of multi-layered analysis of interactions made possible by Kultti, Pramling and Pramling-Samuelsson (this volume, Chap. 5) whereby individual, interpersonal and institutional views allow for collective and social processes, in combination with individual capacities, to be taken into account when interpreting complex social phenomena like learning interactions.

A range of observational methods, utilising both inductive open-ended and pre-configured deductive observation measures, have also been employed in the studies of interactions included in this volume. Standardised assessement tools, such as Classroom Assessment Scoring System (CLASS Pre-K, Wirts, Wertfein and Wildgruber, this volume, Chap. 11) and Remsberger-Kehm's Sensitive Responsiveness scales (this volume, Chap. 3) feature for instance. Such tools have been tested, refined, and adapted for use across a range of populations and settings. They provide larger scale measurements and comparative data for analysis across populations within and across countries' education systems. In parallel to the high degree of reflexivity needed to achieve trustworthy small-scale qualitative inquiry, cultural issues related to large scale and standardised research instruments' interpretation and use cannot be ignored. To understand the phenomenon of learning interactions comprehensively we need both small scale and larger scale perspectives. Standardised quantitative methods may allow us to ask questions of how early childhood quality might be achieved over whole communities, regions, and countries through system-wide interventions and over time. Combined with small scale, qualitative work we may be able to understand the nuanced perspectives of why some interventions work, and for whom.

Where to Next?

An aim of this volume has been to bring together research about learning interactions in early childhood education from across Europe, Japan, Australia and New Zealand, so that teachers, policy makers and researchers may gain a sense of why and how studies of learning interactions are critical for the development of quality early childhood education and care. In our respective countries the care and education of children outside the home has become almost taken-for-granted by governments, communities and families in the twentieth century. We know that high quality early childhood education is critical and related to wellbeing and success (Dalli et al. 2011; Carroll-Lind and Angus 2011) and that conditions in early childhood settings have a direct effect on quality, because they influence the sensitivity and responsiveness of teachers towards children (Dalli et al. 2011; Mitchell et al. 2008; Smith 2015). Sensitive and responsive teachers support children's learning capacity (Shonkoff and Phillips 2000); in fact the essence of quality in early childhood education is embodied in the expertise and skills of the staff and in their capacity to build positive relationships with young children (National Scientific Council on the Developing Child 2007). When children participate in poor or mediocre quality early childhood education, the impacts are negative, particularly for children from low-income backgrounds (Smith 2015). On the other hand, when encouraged to think and explore with sensitive teachers in the context of warm and respectful relationships, children have good outcomes for early childhood education. We must therefore continue with our attempts to understand how interactions between children, their peers, teachers and things in the early

childhood environment are shaping learning opportunities – examining the issues from the broader structural and environmental/policy perspective as well as through close observation of reciprocal interactions between children and things/people in their worlds together. Only then can an holistic and nuanced view of the social-situated nature of learning become visible and available to teachers for development.

The gaze or field of view within interactions research must remain both broad and expansive but allow for close observation as well. If teachers, policy makers and researchers are to comprehend the socially-situated nature of learning interactions in early childhood education then they must look at fine-grained and setting/system-wide features together to make good sense of the interactions being observed. Certainly, close analysis of the minutia of factors like reciprocal speech, facial expressions, tone of voice, pace of exchange, and observable emotional states within a specific interaction can tell us a great deal about how an interaction between a child and an other is sustained, expanded, constricted and shaped. But interaction partners in an early childhood environment are situated within a place, amongst other people, and with things that also contribute to what's possible at a given moment. Therefore what's observed must be simultaneously close and wide framed for the fullest of understandings to emerge. We have seen scholars in this book do this by combining methods, by employing multiple measures of the same event, and by interrogating a given data set in multiple ways. The effect is to keep the understandings of the learning interactions appropriately complex and situated. As argued earlier, it is the complex and wide ranging approaches, perspectives and methods used for studies in this volume that allows us to perceive learning interactions broadly. Ongoing development of interactions research must keep to such a broad view for it to lead to development within the fields of research and of early childhood education.

The learning interactions research in this book has been concerned with aspects of structural and process quality in early childhood education and how this can support the attainment of intersubjectivity between interaction partners. As people negotiate and reach mutual understandings of the situations they find themselves in together, and synchronicity of interactions arises, the emotional and coordinated efforts of interaction partners' impact on what can be and is learned. Understanding this process is key to operationalising sociocultural teaching and learning theory in contemporary early childhood education. The studies have also invited consideration of the ways children's interpretations of non-human elements of the early childhood environment (toys and equipment) may be interpreted by the child in her or his play between her or himself and things. In this way, teachers and policy makers can make deliberate decisions about the types of resources and things they want to include in the early childhood environment to provoke and sustain learning interactions there. Thus a renewed appreciation of the place and resources in the early childhood setting, and how these afford and constrain learning, become possible. Through interactions research in the context of early childhood education, the mutually constitutive relationships between children and their worlds is visible.

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