**Article:**

**'Dead Forever': an ethnographic study of young children's interests, funds of knowledge and working theories in free play**

**Accepted for publication Learning, Culture and Social Interaction**

Dr Michelle Hill

International School of Zug and Luzern, Switzerland


Dr Elizabeth Wood

University of Sheffield

**Abstract**

This ethnographic case study explored how children build and use working theories in play (Hill, 2015), specifically theories about existential matters of life, death and dying, human nature, and the social, physical and natural world. The concepts of funds of knowledge and interests are integrated to theorise children's agency and competence in how they collectively build working theories. This conceputalisation reflects contemporary socio-cultural theories in which peer cultures, relationships and interactions are central to play and learning, with interaction conceived as multimodal, encompassing artefacts, embodiment and affect. Data is presented from research conducted with children age 4-6 (Hill, 2015), using videotaped episodes of their 'Dead Forever' play, and post-video discussions with children and parents. Findings indicate that children's interests and working theories are sources of knowledge in peer-led learning, as evidenced in the social, cognitive, cultural and affective content

of their play. We propose a complex understanding of play and learning within child-led Zones for Proximal Development. The extent to which children's interests and working theories are understood by teachers to connect with curriculum goals is problematized in the context of contemporary ECE frameworks.

## 1.0  Introduction

This paper builds on international research on young children's interests and working theories as sources and drivers of their learning. A substantial body of research initially developed by Hedges, Cullen and Jordan (2011) in New Zealand, developed these two concepts in the context of *Te Whāriki* - the early childhood curriculum (Ministry of Education [MoE], 1996; 2017). Children's interests, agency and cultures are valued, and 'The learning outcomes of *Te Whāriki* include knowledge, skills and attitudes which combine as dispositions and working theories' (MoE, 2017, p. 22). Although working theories are sometimes partial and emergent, they nevertheless are open to development and modification over time (Hedges, 2014a). Working theories are developed and expressed within children's peer cultures as they collaboratively construct and share funds of knowledge, drawing on everyday events, popular culture

and existential issues. Children's interests thus reflect deep engagement with their social, natural, and material worlds. Hedges and Cooper (2016) identified a gap in theorising the nature of children's interests, and the need to move beyond the surface of activity choices to understand children's questions and enquiries as being productive of their working theories. In early childhood play typically provides a range of contexts for the expression of interests, with the potential for those interests to be sustained over time through relationships and multi-modal interactions. Drawing on contemporary socio-cultural theories we combine the concepts of interests, funds of knowledge, and working theories to propose a complex understanding of play and learning.

The research study reported here focuses on children's interests in existential matters of life, death, and dying, as expressed in their 'Dead Forever' play (Hill, 2015). Although children's interests in existential matters is evident in play (Corsaro, 1985; Edmiston, 2008, 2010), less well documented is their specific interests in, and knowledge about death and dying, and how they build their working theories. This is because it is unusual for a child-led play theme of this nature to be sustained over time with little adult intervention, and for the play theme to be allowed, rather than being seen as taboo or inappropriate for young children. Corsaro (1985, p. 203) observed what he terms the "death-rebirth theme" in children's spontaneous play. He describes the basic structure and identifies four phases: the announcement of death; the reaction to that announcement by peers; the strategies to deal with the death; and finally, the rebirth. He makes the connection between children's, perhaps limited, experiences of death and dying through television, film and fairy-tales and the "magical quality" of the death-re-birth themes he observed. Corsaro (1985, p. 208) contends that this play

theme allows the children "jointly to share any concerns or fears they have about death" but acknowledges that further research is needed in order to "develop the full implications of these activities for our understanding of children's life-worlds."

The first section presents contemporary interpretations of socio-cultural theories, and problematizes differing interpretations of Vygotsky's Zone of Proximal Development (ZPD) (Daniels, 2016; Wood, 2014). The second section describes the methodological and ethical framing of the empirical research, the methods and analytical processes. This is followed by illustrations of children's play-based interests, funds of knowledge and working theories. The conclusion considers the theoretical implications for understanding play and learning in early childhood education (ECE), and provides conceptual clarification of play as a leading activity in which learning leads development in child-led Zones *for* Proximal Development.

## 1.1    Theorising interests, funds of knowledge and working theories

International research that focuses on the links between children's interests, working theories and funds of knowledge explores how these combine to motivate learning (Gonzalez, Moll, & Amanti, 2005; Hedges, 2014a, b). Funds of knowledge derive from diverse sources in children's lives such as everyday events, popular culture and the media. Drawing on Vygotsky's theories of play, Wood (2014) argues that whilst play is a leading activity, it is the means used within play that provoke and reveal children's learning. From this perspective, peer cultures and relationships are fundamental to learning leading development as children collectively co-construct interests and inquiries.

Vygotsky's metaphorical concept of the Zone of Proximal Development (ZPD) has been used extensively in ECE to conceptualise the significance of mediation and social interactions within adult-led and child-initiated activities. From a pedagogical perspective, the Zone *of* Proximal Development is often presented as a bounded zone or space in which adults lead children from one developmental level to the next, through steps or stages, which may also be expressed as progression through curriculum levels or goals. Mediation takes place within the ZPD, but there are differing interpretations of what this means for learning, particularly in light of contemporary debates about the processes of internalisation and participation (Daniels, 2016). Within this interpretation of the ZPD, children appear dependent on teachers to notice and recognise their interests in order to extend and develop these through responsive pedagogical interactions. In contrast, within freely-chosen play Holzman (2009) argues that children create zones *for* proximal development, thus creating peer-led activities in which learning leads development. However, from an educational perspective, it is difficult to predict the direction that learning will take, how this will be manifest, and whether there are any links with curriculum levels or goals.

We propose that attention to children's interests, funds of knowledge and working theories can illuminate learning leading development within freely-chosen play. Contemporary research has shifted from narrow views of interests as activity choices towards theorising children's interests as having important content and meaning, which are expressed as working theories. Drawing on theories about funds of knowledge and communities of inquiry, Hedges and Jones (2012) understand children's interests as emanating from their participation in their families and communities. They conceptualise learning as a dynamic process that involves the co-

construction of knowledge within children's peer cultures, as well as with adults in the setting. Hedges and Jones (2012) draw on participatory learning theories, cognitive inquiry and children's interests to propose that working theories

> … represent the tentative, evolving ideas and understandings
>
> formulated by children (and adults) as they participate in the life of
>
> their families, communities and cultures and engage with others to
>
> think, ponder, wonder and make sense of the world in order to
>
> participate more effectively within it. Working theories are the result
>
> of cognitive inquiry, developed as children theorise about the world
>
> and their experiences. They are also the means of further cognitive
>
> development, because children are able to use their existing ...
>
> understandings to create a framework for making sense of new
>
> experiences and ideas. (pp. 36-37)

Research has explored the links between children's interests and working theories, and conceptual knowledge. Hedges (2014a, b) has demonstrated that the scope, content and direction of children's interests extend beyond the surface of the activity or topic, so that interests become a vector for questions, cognitive exploration, co-constructing meaning and interpreting everyday experiences. In a study of children's working theories in New Zealand settings, Peters and Davis (2015) documented wide-ranging interests in good and evil, electrical equipment, how water travels, gender – what it means to be a boy or girl, babies and being a baby, and narratives about search and rescue which arose after the earthquake in Christchurch. Peters and Davis followed children's interests as they developed over time, and the extent to which the

preschool teachers were able to challenge and extend their working theories.  They concluded that working with children in such open-ended ways was not always easy, even within the context of *Te Whāriki* in which working theories are valued outcomes (MoE, 2017).

A consistent theme in research on free play is how children's deep interests range across power, strength and weakness; existential matters of birth, life and death; good and evil; safety and danger (Wood, 2016). Papadopoulou (2012) focused on the ecology of role play in a Greek primary school to examine the evolutionary function of pretence from the perspective of play as a child-led cultural activity. The processes of cultural adaptation and cultural production were evident as children played with familiar themes in their lives, sheltered families; the battle between good and bad; disobedience and punishment and the world of protectors and their protégés. Everyday and existential matters also reflected culturally-specific narratives derived from Greek mythology. Papadopoulou proposes that these themes are also narrative expressions of power, control, and agency that enabled the children to explore physical and emotional risk and uncertainty in play.

Building on the work of Hogg (2011) and Hedges (2014a, b) Chesworth (2016) conducted a small-scale study in England that focused on children's funds of knowledge in their play, as both sources and areas of knowledge, that have movement and direction over time. This study was 'multi-vocal' in that children's, teachers' and parents' perspectives were combined, using videotaped episodes of play to stimulate reflective post-video dialogues. Chesworth notes that teachers' interpretations of play interests frequently focused upon children's engagement with the play materials per

se, reflecting narrow interpretations of interests. By contrast, the children's, and parents' interpretations indicated how classroom resources acted as cultural artefacts, in which children drew upon their interests to imagine and ascribe new meanings to objects in their play. The shared interests that arose from mutual and distributed funds of knowledge afforded opportunities for the co-construction of meaning, and relational agency, thus demonstrating the significance of social and participatory learning. Because children used a range of strategies for inclusion and exclusion, Chesworth highlighted the influence that funds of knowledge may have upon the manifestation of power, agency and choice with young children's peer cultures.

From a sociological perspective Corsaro (1997, p. 18) describes how children "create and participate in their own unique peer cultures by creatively taking or appropriating information from the adult world to address their own peer concerns". Corsaro (1997) describes this as a process of interpretative reproduction, a concept that signals a move towards an "appreciation of the importance of collective, communal activity – how children negotiate, share and create culture with adults and with each other." Corsaro (1997, p. 96) defines children's peer culture as 'a stable set of activities or routines, artefacts, values and concerns that children produce and share in interaction with peers'. This definition offers potential for understanding the links between interests, working theories and funds of knowledge in ways that go beyond surface level descriptions, and draws attention to the multi-modal, symbolic and mediational means that children use in their play. Connecting interests, funds of knowledge and working theories may therefore explain what kinds of experiences promote and sustain interests over time; what sources of knowledge are evident in play; how children move funds of knowledge dynamically and strategically across and within contexts, and their

metacognitive awareness of the sources of their knowledge. These concepts are central to the aims and design of Hill's research study presented in the following section.

**2. Methods**

The data were generated in a naturalistic, ethnographic case study focusing on children's working theories in a play-based classroom (Hill, 2015). The research was conducted with a class of 20 4-5 year old children (13 girls and 7 boys) in an international school in a city in Switzerland. Children's emergent theorising is encouraged in the curriculum framework, The Primary Years Programme (PYP) (3-12 years). This was first introduced by the International Baccalaureate Organisation (IBO) in 1997 and was taken up in 2001 by the international school in which Hill's research is situated. The guide to the primary curriculum *Making the PYP Happen: A Curriculum Framework for International Primary Education* (IBO, 2009) is underpinned by a constructivist approach to teaching and learning, principally through guided inquiry, and draws on principles from the Reggio Emilia approach. This document has been supported since 2011 by a written policy for the Early Years division of the school, which sustains a commitment to child-initiated play, and further articulates Reggio Emilia principles, including a negotiated curriculum based on students' interests and passions (Hill, 2015).

In terms of research ethics, the study followed ethical guidelines from the University of Sheffield. Parental consent was first obtained from the children's parents, with the exception of one child, but this did not create any conflicts during the study. All the data came from incidents where that child was either not involved or not directly involved, for example playing on the periphery and, whilst his comments were

recorded in writing as part of the usual assessment process, they did not feature as part of the data set for the study. He did appear in small sections of the video recordings collected as part of the 'scheduled' recordings but these were not significant moments and, although part of the data corpus, these did not form part of the data set used for transcription and analysis.

Two children left the school, leaving 17 children the focus for the study. Following parental consent, the children's assent was sought before and during the research, and they were able to withdraw this at any time for the use of any part of the data. With over 25 years experience as a teacher, Hill was the class teacher prior to the data collection. As such, she knew the children well, and was able to exercise an additional ethical principle of being aware of children's verbal and non-verbal interactions to indicate their willingness to be involved. Consistent with the 'naturalistic' approach, the children were all used to Hill taking notes, photographs and using video as part of the everyday assessment process. In addition, her moral and professional responsibilities were paramount, and her duty of care as a professional determined ethical decisions and actions. Prior to showing the videos to the children and parents, Hill removed any data that might be considered embarrassing for the children. The children had the opportunity to watch the videos and could ask for sections of the videos to be deleted. They were invited to give their views about what was happening in an attempt to limit the tendency to process their talk through an adult perspective. Thus the interpretations of the play events were child-informed, with additional insights from parents about children's home-based interests and funds of knowledge.

The definition of working theories provided above (Hedges & Jones, 2012) was used to inform the questions that guided the data collection and analysis:

- What do young children theorise about?

- Where do these theories come from?

- How do they build these theories?

- How do they use them in their lives?

Hill became the teacher-researcher who collected all of the data in a single classroom setting during episodes of freely-chosen play over a period of 5 months. While this dual role of teacher-researcher is not unproblematic, the benefits include detailed knowledge and understanding of the setting, the children and their family histories, including cultural heritages and prior experiences. The study was grounded in ethical concerns to carry out research *with* children. Hill adopted the role of 'least adult' as a way of capturing "the dynamics of children's interactions and to fit into children's interpretive acts without disturbing the flow" (Mandell, 1988, p. 464), using participant observation as a way of attempting to "enter children's worlds of understanding" (Mayall, 2000, p. 121). The study also used video recordings, photographs, post-video interviews and conversations as the main methods for data gathering, affording a balance between the spontaneous and planned activities within the context. Mayall (2000, p. 133) highlights the advantages of research conversations as a means of data-collection with children: the researcher is able to "*somewhat*, hand over the agenda to children, so that they can control the pace and direction of the conversation, raising and exploring topics with relatively little researcher input", and

to "tap into one of the means whereby, through talking with each other, children firm up knowledge, and learn more about aspects of their social worlds."

The use of visual methods is well-established in research with young children. Therefore, the opportunity to engage in reflective dialogues using photographs and video-stimulated recall makes visible what is implicit, or understood by the players. These processes contribute to respecting children's interpretations and promoting analytical clarity, and are consistent with the post-modern images of the child that informed Hill's research. For example, as the study developed, the children participated in making decisions about what areas of play to focus on, and where to place the camera, once they had become familiar with its presence. Thus the methods were responsive to children's ideas and choices, and allowed the research design to develop naturalistically.

Data analysis was mainly inductive, allowing theory to emerge in ways that informed and extended the original theoretical framing. The aim was to capture the complexities and dynamics of young children's interests and working theories, the influences that contributed to their development, and the origins of their funds of knowledge. Three themes were identified that reflect children's interests and working theories:

- theories related to human nature: *to self identity; to beliefs, values, religion; to rights and responsibilities; to relationships; to life and death*

- theories related to the social world: to *the structures of human society- families, communities; to organizations in society such as schools and workplaces; to the roles people play in these organisations*

- theories related to the physical and natural world: to *the physical and biological world; to scientific laws and principles; the animal and plant kingdoms*

These themes are illustrated through the following vignettes, based on the videotaped data, and conversations during children's self-initiated play.

## 3.0    Findings

The children's interests had been noted in their freely-chosen play in the months prior to the formal data gathering and continued for the duration of the study (January-June). Many of the children shared fundamental inquiry interests about death and dying, including what it means to be "dead forever" and what happens after death; about morals, power and justice; and about families and social roles, particularly motherhood. These interests were evident in children's interactions, choices of materials, and the imaginative uses of those materials to construct and convey symbolic meanings. Vignettes of the children's interests in death and dying are presented here to exemplify how interests integrate affect, embodiment and cognition. Selected photographs show how children used the materials and resources within the setting to convey their meanings and intentions. For example, the face of the 'dead' child is covered with a tissue, and subsequently the tissues and other clothing are used to cover the children's bodies. The images indicate the embodied qualities of playing

at being dead, and convey symbolically the children's working theories of what it means to be dead.

The photograph below **(Figure 1)** was taken of Rosie (5.2) during one of the 'Dead Forever' games in January.



Figure 1: Rosie embodying being dead

Rosie lies motionless amongst the play materials, which are randomly scattered around her. Two tissues cover her face, signifying that she is dead. Her body position is striking: she appears uncomfortable, lying on her back, arms up and legs apart, suggesting vulnerability. The apparent limpness and position of the body suggest a physical embodiment of Rosie's theory about the physical nature of death. This body position and the dishevelled clothing almost convey the suddenness associated with a more violent end to life. This is in contrast to the images in **Figures 2** and **3** taken in March, which suggest a more peaceful ending to life.

Figure 2: a peaceful death



Figure 3: covering faces – Dead Forever

Lily (4.7) and Rosie, both dressed as princesses, are firstly 'dead' (**Figure 2**) and then

'dead forever' (**Figure 3**), with the tissues apparently signifying burial. Both have

outstretched arms, the legs together and the body straight. The manner of death may

be influenced by the 'princess' role both children are playing. In June this

fundamental inquiry interest continues as a different group of children play 'Dead Forever.' The following vignette provides an account of their play.

**Do you want to be Dead Forever?**

During the morning session in the classroom, Jake (4:11), Tracy (5:6), Chloe (5:8), Rosie (5:2) and Helen (5:8) are playing.

**Jake:** Pretend I've died.

*He lies face down on the floor motionless. The four girls lift Jake and move him about 2 meters onto a cushion on the floor.*

**Tracy:** Pretend I am a doctor. He's dead. We have to wrap him up

*They cover Jake in tissues and a blanket until satisfied that he is completely hidden* (**Figure 4**).



**Figure 4: covering and wrapping**

**Helen:** He's all white. His head is white, and his tummy is white, his feet and arms are white.

**Chloe:** His bum is white

*Tracy, Helen and Chloe all laugh. Jake remains motionless.*

**Rosie:** He *is* dead.

*The play continues as Tracy then decides to be dead and Peter joins in.*

**Tracy**: Guys, I'm dead. Put tissues over me.

*Peter joins the play*

**Peter:** I want to be dead

*He lies down and Chloe, Helen and Rosie begin placing tissues over him. Jake remains motionless for a while longer then stands up and joins in.*

**Tracy:** Now me. Use the tissues on me

*Helen covers Tracy's face with a tissue*

**Cara:** Can you breathe?

**Tracy:** Actually don't do my face. I don't like it. I want to come back alive so I don't want a tissue on my head. I don't want to be dead forever.

**Tracy:** (to Peter) Do you want to be dead forever?

**Peter:** No

**Tracy:** (addressing the others) Then don't cover his face.


Tracy makes the rules explicit and they seem to represent a theory about two states of death - a final, permanent state when you are 'dead forever' and a temporary state, from which it is possible to come back to life. The tissues continue to play a material and meditational role in signifying both states, but also enable Tracy to communicate

her choice and understanding of playing dead, but not really being dead.  Another example of this continuing and deepening interest in death is described in Adam, Lily and Chloe's play.

**How about I die too?**

Adam (5:6), Chloe (5:5), Lily (4:7) are playing 'swimming pools'.

*Chloe lies motionless on her back on the mattress. She has been "bitten by a shark" in several places on her body.  Lily sits next to her, "dressing Chloe's wounds".  Adam sits and watches Lily for a short time before turning away, apparently losing interest.*

**Lily**:   (to Adam) How about I die too?

   *Adam turns back to face her*

**Lily**:   OK?

**Adam**: And I've left you there because I had to practice doing Superguy.

   *Lily gets up quickly and runs out of shot*

**Lily**:   Yeah, but I was quite dead and you noticed me.

   *Adam gets up*

**Adam**: Yes, because I could do diving and I spotted you.

   *Chloe remains motionless.*

   *Adam goes just to the edge of shot and bends down.  He takes Lily's wrists and walks backwards back into shot dragging Lily by the wrists. She is on her back, body limp, her head is back, eyes closed and her hair is dragging on the ground.  Adam heaves her next to Chloe.  He walks away.*

**Adam**: Lily is dead and now there is only me left in my family and that's not fair for my life.

> *Lily stays lying down. She opens her eyes, moves her head very slightly to look at Adam.*

**Lily:** But you have to look after us too, right?

**Adam:** Yeah, but you're dead and I'll have to put you in the cross where the cross goes and you'll be dead in there.

> *Chloe suddenly sits up.*

**Chloe:** And I come back alive

When Lily 'dies' and Adam says "*and that's not fair for my life*" he seems to be considering the unfairness of death, and the moral/ethical dimensions of complex existential concepts. Later, Lily seeks reassurance from Adam that he will look after her and Chloe, even though they are dead, suggesting death is a temporary experience. Adam does not share the theory about death being temporary and has his own theory about what will happen, making reference to a cemetery and a cross as symbols of being dead. Chloe is equally clear in her response, getting up quickly: she can come back alive.

*Later, after watching the video with the researcher, Adam clarifies.*

**Adam:** The cross is in the graveyard. Like in Scooby-doo. And there are ghosts.

**Researcher**: Can people come back alive?

**Adam**: No, they can come back alive but are ghosts and you can't see them

Television and popular culture are the sources and funds of knowledge that Adam brings to his play, and he is aware of where his knowledge comes from. Adam is building his working theories about death through a combination of his funds of knowledge, his fundamental inquiry interest and the co-construction of knowledge in play. Building a working theory becomes even more apparent four days later when Adam rethinks his theory as new knowledge is brought into play.

*Peter (5:6) and Adam (5:6) are eating a snack together in the classroom. They are good friends and they often choose to play together. The researcher joins them at the table.*

**Adam:***(to the researcher)* Do you know the world's greatest football player, he died and went to the doctor and the doctor electrocuted his heart and he became alive. He didn't even come back alive by a ghost.

**Peter:** That's not true

**Adam:** *(to the researcher, his eyes are wide open as he speaks)* He says that's not true but my cousin told me.

**Peter:** Sometimes people can be wrong

**Adam:** Well even everyone in the world says it's true.

*Later that day Adam's mum tells the researcher that Adam's older cousins have been to stay and had told him the news story about the footballer collapsing on the pitch and being revived (the story had been headline news in the UK).*

Adam's theories about death are evolving as he integrates this new knowledge from a respected authority (his cousin) with his previous knowledge gained from popular culture. However, the following day brings a new challenge to Adam's theories.

*The children begin each day playing outside in an area that includes access to a small garden with a pond. A group of children find a dead newt in the garden and as they come in three children, Lucia (4:11), Peter (5:6) and Adam (5:6) begin telling the researcher about it at the same time, talking over each other excitedly. The researcher stops them and asks how they know the newt was dead.*

**Lucia:** It had its eyes open and I don't think it was sleeping

**Peter:** People can die with their eyes open

**Lucia:** Sometimes they can die with their eyes closed or open

**Adam:** (indignantly) Or half open

**Lucia:** If they are dead they don't move

**Adam:** They go to heaven

**Peter:** People believe in it but that's where they stay alive, where the skeletons are.

**Adam:** They die on earth and then they go to heaven where they started.

**Peter:** I've got a book about digging up the past. The skeletons stay on earth and dirt goes on top

**Researcher:** So skeletons stay on earth?

**Adam:** (referring to conversation of the previous day) No. They go to heaven. And the person who is a football player died and came alive again-boom!

This vignette reveals Lucia's explicit theory that dead things do not move and may have their eyes open. Adam brings in the idea of heaven, suggesting that people and animals begin and end in heaven. Peter implicitly rejects Adam's theory: "*People believe in it…*" which may mean that Peter doesn't believe in heaven. He goes on to appeal to an 'official' source of knowledge to endorse his theory - a book. At the end of the conversation Adam is certain of his theory that people and skeletons go to heaven, but re-iterates that it is possible to be revived from the dead, a change from his earlier stance. It appears that his "boom" indicates the defibrillator used to resuscitate the footballer.

In response to an email to the children's parents about the game, Adam's mum replies:

> *I have not heard of him talking about a game called 'dead forever', but*
> *I do know that both he and his 4 year old sister are interested by*
> *'dying' temporarily (e.g. in a computer game, or Snow White before*
> *she is kissed back to life by the prince), and dying forever as when*
> *their Grandparents' dog was put down over Christmas. I get the*
> *feeling that 'dying forever' is quite hard for them to imagine as in*
> *their world an adult can normally make things better and fairy stories*
> *have happy endings where death is normally temporary or only for the*
> *really bad guys.*

These vignettes illustrate how children co-construct working theories alongside shared fundamental inquiry interests within the context of play and classroom conversations. Their working theories may be modified in response to new funds of

knowledge, or evidence that is contrary to the existing theory, showing movement and direction over time. In developing these theories the children used their shared funds of knowledge of popular culture in the form of cartoons and movies; shared life experiences such as family and community events; as well as their individual funds of knowledge from their own home and cultural contexts. Through their relationships, interactions and dialogue, they showed metacognitive awareness of their funds of knowledge, the sources and content of their knowledge, and how this knowledge could be used in their play. Some of the children were able to explain their conceptual knowledge, and other peoples' beliefs, sometimes within the constraints of their language abilities, and their understanding of the wider context.

Their working theories also reveal the dynamic interplay of imagination, emotions, pretence, and everyday knowledge, as they negotiate the rules of the play, and convey meaning via different modes – spoken language, gestures, signs and symbols, and embodiment. The available materials are used to signify being dead, and not really being dead, through covering, wrapping and enclosing. The children use these materials, and their own rules of play, to maintain the liminal space between play/not play and being dead/coming alive. The children also revealed funds of knowledge about play and what it means to be in a state of play – creating a frame, negotiating rules, stepping in and out of the frame to check meanings and understanding, using imagination and pretence to sustain play, and enacting their individual and shared agency. At the end of the study, in a session to review the data with the children and check for on-going consent, the children confirmed the rules of the game:

**Tracy:** Oh that's when we played 'Dead Forever'. We died and if your face is covered you are dead forever.

The children all agreed that this game was "so fun."

Their 'Dead Forever' play revealed connections between and within their life-worlds, as individual experiences and knowledge became shared and distributed over time. Children's shared interests appear to be important for the continued development of working theories, and offer a context for their modification and refinement as they respond to new evidence from peers, adults and their own observations. The data suggest that the children's interests in death and dying consider death not only from a biological perspective, such as what happens to your body after death, but also the emotional effects of death, such as loss and grief. Thus their working theories combined everyday and scientific concepts with ethical, emotional and relational concepts in ways that enabled them to manage emotional risk and uncertainty.

## 4. Discussion

By combining children's interests and funds of knowledge with the development of working theories, we propose a complex understanding of play as a leading activity. Returning to Vygotsky's metaphor of the ZPD, Daniels (2016) has drawn on several interpretations and recontextualisations of this concept, and has traced shifts away from the ZPD as a space of transmission from more to less knowledgeable members of society. When applied to young children, this interpretation consistently positions adults as the more powerful others who have access to forms of knowledge that are valued within societies. In contrast, Daniels has argued that a view of the ZPD as 'the

24

nexus of social, cultural and historical influences takes us far beyond the image of the lone learner with the directive and determining tutor' (2016, p. 67). This is an important distinction in the context of play in ECE, and in the study reported here, because knowledge has value within the shared understanding 'this is play'. Following Holzman (2009) we support the proposition that play creates child-led zones *for* proximal development which enable children to make decisions about what knowledge is important for them, what they want and need to learn, and what directions their learning and activities take. In zones *for* proximal development children reveal what is proximal for them, and the further potential for learning that evolves over time.

From a Vygotskian 'learning leading development' ontology, there are three reasons why play can be understood as a leading activity. Firstly, in freely-chosen play children can follow their interests and develop understanding through the expression, modification or rejection of individual and collective working theories. Through dialogue, negotiation, uncertainty between fact and fiction, they actively drive their own and each others' learning via observation and creative imitation. Secondly, children transfer and apply funds of knowledge from many different sources. This is significant because play enables children to express their desires to act more knowledgeably, more skilfully, and with a sense of individual and relational agency. Moreover, the power and intensity of their interests motivate their play and learning. Thirdly, relationships and interactions within play contexts sustain and develop interests and enable children to construct and reconstruct their working theories, however tentative, emergent and exploratory.

Children's play-based peer cultures have their own rituals and practices, but at the same time incorporate meaningful content within complex webs of learning, thinking, reasoning, problem-solving, pretending and imagining. Interests thus become the conceptual arena in which complex ideas (rather than basic developmental needs) are expressed, drawing on available cultural resources, materials and technologies. Through these means the outcomes of children's interests and enquiries are knowledge exchange and knowledge building as they incorporate everyday and scientific knowledge and understanding, moral reasoning, and an ethical concern for relationships. It is suggested that there are three main contributing factors to the production and development of peer cultures and working theories in ECE settings: a strong sense of community felt by children, a shared "interactional history" (Evaldsson & Corsaro, 1998, p. 381), and the time given for working theories to evolve. Consistent with Hedges and Cooper (2016) and the international research that informed this study, going beyond the surface of activity choices is critical to conceptualising the role of children's interests in a learning leading development ontology.

Shifting the focus to the implications for pedagogy and curriculum, the study confirms the need for teachers to look closely at children's fundamental inquiry interests, the substantive content of their working theories, and the contribution of the peer culture as sources of knowledge. However, children's learning in free play is not linear or progressive in the ways that are valued in many international ECE curriculum frameworks. Many of those frameworks (including the PYP) expect teachers to notice and respond to children's interests, and the related knowledge and understanding that emerge through their activity choices. However, a persistent

tension is that children's working theories may not have direct relevance to defined curriculum goals or learning outcomes. The more tightly framed the goals or outcomes, the fewer possibilities are available for teachers to pay attention to, let alone respond to children's working theories as important cognitive content and sources for learning. As a result, there remain fundamental tensions between what is proximal for the child or peer group as their learning is generated within peer cultures, and what is proximal from the perspective of adults' goals or intentions.

**5.0    Conclusion**

We argue that combining the concepts of interests, funds of knowledge and working theories provides a complex theorisation of play and learning. The focus on death and dying may seem to be unconventional both in terms of children's interests, and the class teacher allowing this play theme to develop over time, not least because adults may view concepts about death and dying, and other existential matters, as uncomfortable or inappropriate. However, children's interests in death and dying are not macabre, and their working theories are integrated with wider theories about the natural world, relationships and ethical concerns.

Children's peer cultures are pivotal in the expression and development of working theories. Child-led zones *for* proximal and potential development are concrete and abstract, tangible and metaphysical. The relationship between experiences and interests is fluid and dynamic as new experiences drive new interests, and vice versa. Children's interests, working theories and funds of knowledge are, therefore, integral to contemporary interpretations of Vygotskian theories of play as a leading activity, and learning leading development. This theoretical integration has wider significance,

not just for developmental or educational progress, but also for understanding how children invent and perform their own childhoods, and demands close attention to the complexity of children's life-worlds.

**Reference list**

Chesworth, L. (2016). A funds of knowledge approach to examining play interests: Listening to children's and parents' perspectives. *International Journal of Early Years Education*, *24*(3), 294–308. doi:10.1080/09669760.2016.1188370

Corsaro, W. (1997). *Friendship and peer culture in the early years.* Norwood, NJ: Ablex.

Corsaro, W. (1985). *The sociology of childhood.* Thousand Oaks, CA: Pine Forge Press.

Daniels, H. (2016). *Vygotsky and pedagogy*. Abingdon, England: Routledge.

Edmiston, B. (2008). *Forming ethical identities in play.* Abingdon, England: Routledge.

Edmiston, B. (2010). Playing with children, answering with our lives: A Bakhtinian approach to coauthoring ethical identities in early childhood. *British Journal of Education Studies, 58*(2), 197–211. doi:10.1080/00071000903522484

Evaldsson, A., & Corsaro, W. (1998). Play and games in the peer cultures of

    preschool and preadolescent children: An interpretative approach. *Childhood*,

    *5*(4), 377–402. doi:10.1177/0907568298005004003

González, N., Moll, L. C., & Amanti, C. (2005). *Funds of knowledge: Theorizing*

    *practices in households, communities, and classrooms*. New York, NY:

    Routledge.

Hedges, H. (2014a). Young children's "working theories": Building and connecting

    understandings. *Journal of Early Childhood Research, 12*(1), 35–49.

    doi:10.1177/1476718X13515417

Hedges, H. (2014b). Children's content learning in play provision. In L. Brooker, M.

    Blaise, and S. Edwards (Eds.), *The Sage handbook of play and learning* (pp.

    192–203)*. London, England: Sage.

Hedges, H., & Cooper, M. (2016). Inquiring minds: Theorizing children's

    interests. *Journal of Curriculum Studies, 48*(3), 303–322*.

    doi:10.1080/00220272.2015.1109711

Hedges, H., Cullen, J., & Jordan, B. (2011). Early years curriculum: Funds of

    knowledge as a conceptual framework for children's interests. *Journal of*

    *Curriculum Studies*, *43*(2), 185–205. doi:10.1080/00220272.2010.511275

Hedges, H., & Jones, S. (2012). Children's working theories: The neglected sibling of

    *Te Whāriki's* learning outcomes. *Early Childhood Folio, 16*(1), 34–39.

Hill, M. (2015). *Dead forever: Young children building theories in a play-based*

    *classroom*. (Unpublished doctoral thesis). University of Sheffield, England.

Hogg, L. (2011). Funds of knowledge: An investigation of coherence within the

    literature. *Teaching and Teacher Education, 27*(3), 666–677.

    doi:10.1016/j.tate.2010.11.005

Holzman, L. (2009). *Vygotksy at work and play*. New York, NY: Routledge.

International Baccalaureate Organization. (2009). *Making the PYP happen: A
curriculum framework for international primary education.* Cardiff, Wales:
Author.

Mandell, N. (1988). The least-adult role in studying children. *Journal of
Contemporary Ethnography, 16*(4), 433–467. doi:10.1177/0891241688164002

Mayall, B. (2000). Conversations with children. In P. Christensen & A. James (Eds.),
*Research with children: Perspectives and practices* (pp. 121–135). London,
England: Falmer.

Ministry of Education. (1996/2017). *Te Whāriki. He whāriki mātauranga mō ngā
mokopuna o Aoteraroa. Early childhood curriculum.* Wellington, New Zealand:
Learning Media. http://www.education.govt.nz/early-childhood/teaching-and-
learning/te-whariki/

Papadopoulou, M. (2012). The ecology of role play: Intentionality and cultural
evolution. *British Educational Research Journal, 38*(4), 575–592.
doi:10.1080/01411926.2011.569005

Peters, S., & Davis, K. (2015). Babies, boys, boats and beyond. Children's working
theories in the early years. In S. Robson & S. Flannery Quinn (Eds.), *The
Routledge international handbook of young children's thinking and
understanding* (pp. 251–261). Oxon, England: Routledge.

Wood, E. (2014). Free choice and free play in early childhood education – troubling
the discourse. *International Journal of Early Years Education, 22*(1), 4–18.
doi:10.1080/09669760.2013.830562

Wood, E. (2016). Interpretivist research in play: The illumination of complexity. In S.

Farrell, S. L. Kagan, & E. K. M. Tisdall (Eds.), *The Sage handbook of early

childhood research* (pp. 291–303). London, England: Sage.