



Working paper number 24 –

<https://www.monash.edu/education/research/projects/conceptual-playlab/publications>

We encourage you to use this manuscript for educational purposes. It is intended to further scholarship for policy and practice, not for commercial gain. To cite this work, please ask permission of the authors.

Marilyn Fleer. (2021). How children create their own conditions for learning concepts in child-initiated play: When concepts act in service of children's play.

This work was supported by the Australian Research Council [DP140101131] and [FL180100161].

## **How children create their own conditions for learning concepts in child-initiated play: When concepts act in service of children's play**

### **Abstract**

Government guidelines are demanding greater educational outcomes and intentional teaching in Australian preschools. The purpose of this paper is to present the results of a microgenetic study of how children incorporate concepts into child-initiated play. A cohort of 18 children (aged 3.0-5.8, mean age of 4.8) were digitally observed over 7 weeks (153.3 hours digital video observations). It was found that rather than formalising preschooling to increase cognitive outcomes, the leading activity of the preschool child to play can be preserved when children experience a Conceptual PlayWorld because concepts act in service of the children's play.

Keywords: Playworlds; cultural-historical; learning; play; preschool

### **Introduction**

Play is the core developmental condition of the preschool child and is recognised as their leading activity (Vygotsky, 1966). Longstanding policies and practices in educational settings (Lehto & Eskelinen, 2020) have foregrounded play as an important pedagogy and source of children's learning and development (Bodrova et al., 2019). However, as various governments have imposed stronger measures to assess and to introduce discipline content into play-based settings, concerns have been raised about the formalising of play-based settings (Organisation for Economic Co-operation and Development [OECD], 2006). In response to this, researchers have undertaken more studies into the value of play (Hakkarainen & Brédikyté, 2019) and increasingly engaged in researching the relations between play and learning (Pramling Samuelsson & Carlsson, 2008) in order to advance evidence on the value of play for preschool children's learning.

When particular societal values change, such as wanting greater cognitive outcomes for children in play-based settings (Claessens et al., 2014), these create new demands on the institutional practices of preschools which in turn change the developmental conditions of children (Fleer, 2011). What is not known is how this societal academisation of preschools has been experienced in the everyday life of children in Australia. To understand this problem, we undertook a microgenetic study of 18 children during child-initiated play in order to study the content of their role-play and to see if there were remnants of concepts learned in the play themes of the children. We thought that by studying child-initiated play, that this could give insights into how or if learning concepts in preschools were being noticed or valued by the children.

We begin with an overview of what is known about play and learning, followed by the study design, findings, discussion and conclusion.

### **Play and learning – do they create developmental possibilities for children?**

What is known about how children understand the introduction of concepts in play is very limited. There are studies which bring into focus the themes of children play, but these studies are primarily oriented to studying how children bring into their role-play everyday practices, such as, cooking or driving a car (see Elkonin, 2005). Most of these studies are oriented to the development of children's social skills (Pramling et al., 2019a) and play skills (Hakkarainen & Bredikyte, 2019), with a few concentrating on how to mature children's play from a psychological perspective (Bodrova et al., 2019). However, these studies do not look at if curriculum concepts emerge in child-initiated play.

Closest to the focus of this paper is the study of Pramling et al. (2019a) who undertook an analysis of the content of children's play across settings and age groups to theorise how learning emerges in play. Their work suggests that when the content of learning concepts is introduced by teachers from outside of children's play it remains isolated. Further, when

teachers enter children's play and draw attention to possible conceptual learning in relation to the themes of the play they are role-playing, the content is also isolated. Pramling et al. (2019a, p. 115) state that 'the content is not coordinated with the play into which it is introduced, and in effect transforms the play into non-play'. What is suggested in this work is that when children and teachers go in and out of play, sometimes imagining 'as if' and other times reflecting on the real world ('as is'), teachers in their elaborations conceptually develop the mutual playframe. Moreover, Pramling et al. (2019a, p. 125) when analysing play from the view of learning identified that when adults direct toddlers attention in play to an everyday concept, such as, will the cup of pretend milk spill when it is tipped over, this leads to a change in play actions of the toddlers who begin handling the containers differently. They argue that 'the content for learning in play have in common that the initiatives to expand or explore experiences are emerging mutually between teachers and children within play'. Thereby, they identify that the role of the adult is key for bringing concepts into children's play. But how children make sense of this has yet to be studied.

In research specifically oriented to the play-learning of children Pramling Samuelsson and Carlsson (2008, p. 633) have coined the phrase 'the playing learning child' in order to not separate play from learning. Importantly, they theorise that 'making meaning as a playing learning child is related to taking the child's perspective'. They suggest that 'there are play dimensions in learning and learning dimensions in play' (p. 635). In a related study of why children invite teachers into their play, Pramling Samuelsson and Johansson (2009) identify from their study of 8 play-based and one school setting, that children allow teachers into their play when they need help, request affirmation of accomplishments, correct rule breakers, need guidance in relation to how something works, and interestingly, invite in teachers as potential play partners. What is argued, is that teachers need to plan a goal-related strategy associated

with how to engage in children's play. But how the teacher's role relates to the play themes of children was not studied.

The concept of the playing-learning child was also used by Wallerstedt and Pramling (2012) who studied the actions of 27 children aged 6-8 years during experiences associated with the arts. Relevant to the focus of this paper was how play and learning were found to be inherently interwoven, that play gave motivated actions to learning, that play allowed children to show rather than tell what they knew, and learning and play were seen as a goal-directed practices by the teachers.

With the play-learning child as a backdrop for taking the child's perspective in relation to learning concepts in child-initiated play, we now turn our attention to those studies which draw on different pedagogies for bringing play and learning together, such as Conceptual Play and science inquiry (Fleer, 2019), playing-exploring child (Nilsson et al., 2018), and teacher-guided and child-guided play (Sliogeris & Almeida, 2017). Termed as Conceptual Play (Fleer, 2011), this concept captured how abstract concepts come into children's imaginary play through imagination. In using an ecosystem as a big idea in science, 'the teacher considers what might be the core concept that would be necessary for the child to build relational knowledge between what they find [in the environment], the habitat in which it is found, and the food sources available. That is, the teacher reduces the complexity of the material world to the essence of a core concept. A core concept that will help the child make meaning of their surroundings...It is an understanding of the relations between these [structure of the organism, habitat and food source] that creates theoretical thinking for the young child' (Fleer 2011, p. 233).

Conceptual play underpins pedagogical models of practice known as, Engineering PlayWorlds (Fleer, in press) and Scientific Playworlds (Fleer, 2019). These pedagogic models have emerged from empirical studies where play and learning are theorised in unity, and have

been designed from studies of practice where teachers create motivating conditions for children to use concepts to enhance their play. Foundational to the educational experiments of these studies where pedagogical models emerged, was Lindqvist's (1995) study of the aesthetics of drama, literature, and play in a common playworld. In Lindqvist's (1995) twelve month study across three research sites, she developed a research collaboration with teachers and children to investigate how to enrich children's play – termed educational experiment (see Hedegaard, 2008 for details). She identified that in a common playworld all the children and teachers go into an imaginary situation together, become characters from the story told or read, and go on adventures in the imaginary playworlds. Relevant to the focus of this paper was how her study identified the key role of educators in being play partners and in introducing emotionally charged problems that guided the adventures, and which in turn were found to help develop and mature the children's play. But her study did not focus explicitly on how to bring curriculum concepts into children's play.

Bringing engineering concepts into children's playworlds was researched across 12 months with 18 children and two teachers and it was found that teacher planning was oriented to introducing into the imaginary situation engineering problems that need engineering solutions, such as how to design a simple machine to take into the playworld of Robin Hood, and to retrieve the treasure from the castle in order to re-distribute wealth (Fleer, in press). Engineering teams, prototyping and the development of an engineering motive emerged. In another study of a scientific playworld of 26 children and 3 staff over 4 weeks, the teachers and children imagined being inside pond water, being a worm wriggling out of its casing, and embodying a scientific world they were exploring with digital devices (photographing and enlarging, digital microscopes, etc) (Fleer, 2019). Pedagogically in line with Lindqvist (1995), the models of practice from these studies always begin with a story reading/telling, the children and teachers role-play the characters in the story, collectively going on adventures, where

problems related to the story arise, and where dramatization of the journeys. But different to Lindqvist's (1995) is that the problems and solutions takes place in relation to curriculum concepts.

In following a Vygotskian conception of play, what dominates these latter Conceptual PlayWorld models is that children use concepts to develop their play scripts, often solving exciting problems that emerge as players go on adventures. But these studies are not oriented to the problem of how children themselves bring into play the curriculum concepts that are now expected of preschools in recent times. Therefore, a gap in understanding how children bring concepts into child-initiated play is evident.

### **Materials and Methods**

The study that is the focus of this paper included the introduction at group time of a Conceptual PlayWorld (Fleer, 2019) of the story of The Adventures of Alice in Wonderland. We were interested to study if curriculum concepts introduced by teachers in the Conceptual PlayWorld emerged in child-initiated play.

The study was undertaken in a preschool that is situated within the school grounds of an independent school in Victoria, Australia. The preschool is surrounded by natural play areas, and large outdoor equipment, such as wooden planks, a fort, grass, trees, sandy areas, and pathways. The philosophy of the school is to provide a child-centred and *interest-based* program for children even though state-based curriculum guidelines expect the intentional teaching of children (Department of Education, Employment and Workplace Relations [DEEWR], 2009). Ethics approval for this project was granted from Monash University Human Ethics Committee [19778], the Victorian Department of Education and Training, and Queensland Catholic Education Office Rockhampton.

### ***Participant background***

The participants of the study were children aged 3.0-5.8 years (mean age of 4.8). The

two teachers and 18 children participated in the study were mostly from European heritage backgrounds. Both teachers had university education and ten years of teaching experience in early childhood settings.

### ***Data collection procedure***

The Conceptual PlayWorld practices were digitally video-recorded using two cameras over 7 weeks generating 1,725 digital photographs and 153.3 hours digital video observations. One camera was mounted on a tripod and placed in close proximity to the group time area, whilst the second hand-held camera followed the children and teachers as they moved about the centre. The latter gave the opportunity to follow child-initiated play.

### ***Analysis procedure***

The data were conceptualised holistically as a set of play practices within a dynamic system of social relations in the preschool setting. In our cultural-historical study we drew upon Vygotsky's (1966) conception of play, and looked for moments of child initiated imaginary play situations; if and how they changed the visual field to be something else, such as when a stick comes a hobby horse, and followed the children's play actions, such as if they used curriculum concepts previously introduced in a Conceptual PlayWorld by the teachers to see if they were part of their play actions. To achieve this, the data were organised digitally into folders related to the week in which it was collected, tagged with descriptions of weekly practices and logistical details. The data were then viewed, logged into activity settings and activities (e.g., group time/child-initiated play) and tagged in relation to cultural-historical conception of motives (stimulating motives, meaning-making motives, and leading motive orientation; Hedegaard, 2002) and play (Vygotsky, 1966). Analysed digital data were then copied and made into short video clips of play practices relating to the focus of the study and placed into labelled folders. A density of data surrounding the content of the play was also determined (Conceptual PlayWorld, conceptual learning). Finally, a theoretical analysis was



undertaken using the concept of motives in order to answer the research questions guiding the study reported in this paper: Do children use concepts during child-initiated play in a preschool setting, and if they do, how do they use them in their play?

## **Results**

We begin this section by presenting a contextual example that is illustrative of the intentional teaching tradition at whole group time (Vignette One), followed by a microgenetic analysis of child-initiated play (Vignette 2, Segments A-E).

### ***Group time becomes a Conceptual PlayWorld of Alice in Wonderland***

In Vignette One is an example of how collective imagining is established and maintained in the pretense of acting ‘as if’ in Wonderland at whole group time. The children and two teachers are sitting on the floor in the area that was traditionally their space and time for whole group instruction. But now it is the Conceptual PlayWorld of The Adventures of Alice in Wonderland. Ruth (teacher) is inside of the imaginary situation as a player and not a teacher. Building on previous storytelling by Olivia (teacher), they are role-playing the scene of going down into the rabbit hole and imagining 3 small doors. In this part of the role-play Alice has shrunk and now cannot reach the golden key on the table – so she can unlock and go through one of the small doors. In role as the table, Ruth (teacher) stretches high, as Alicia (child) in role ‘as if’ Alice, tries to reach the key.

**Vignette One: Amplifying the drama and emotions while collectively imagining being in Wonderland.** Ruth announces her role, ‘I am the table. But I am SOOO slippery, aren’t I?’. Alicia in role ‘as if’ she is Alice responds by reaching up and saying, ‘I can get it’. Roger clarifies the plot they are role-playing by asking, ‘But can she get it?’, to which Ruth in character as the table and projecting the storyline of Alice simultaneously says, ‘No you can’t, because I grew’. Alicia jumps up and down, smiling and showing a lot of pleasure, as she tries to pull herself up to the top of Ruth to retrieve the imagined key. Ruth asks, ‘How does Alice

feel?'. She rubs her eyes and says, 'Oh no', and Ruth begins making sobbing sounds. Olivia and the children mirror her actions, extending the emotional response collectively with gestures (even though the children's eyes appear to twinkle with delight). Alex now smiles, laughs and touches the hand of Olivia as though gesturing enjoyment about the adults acting out the emotions of Alice.

The children and teachers in the collective imaginary situation of Wonderland have changed the visual field of group time to give it new meaning – Wonderland. New actions and meanings are possible within the imaginary play. Alicia acting 'as if' she is Alice, initiates her own narrative by actively trying to reach the golden key, pulling herself up on to the leg of Ruth and laughing, as Ruth in role acts 'as if' she is the very tall table, stretches up high to stop her. The teachers in the imaginary situation are play partners with the children. The children are responding to them not in the real relations of child-teacher, but rather in play-relations. This is in keeping with a key characteristic of a playworld where teachers are with children inside of the imaginary play (Lindqvist, 1995).

The actions of Alicia climbing up the leg of Ruth mirrors the actions in the storytelling and shows how the imaginary situation of role-playing creates important dramatic and potentially developmental conditions for the children. The teachers amplify the drama and the emotions from inside of the imaginary situation. They also respond directly to the initiatives of the children as they play with the narrative of the story. The children experience the drama of the story and live the emotions of the characters through their actions. The dynamics of shrinking and growing in the role-play of acting 'as if' Alice and 'as if' a table, create a great deal of pleasure for the children even though the scene also portrays the emotion of Alice crying. Drama creates dual emotional responses and this according to Vygotsky (1966), gives the opportunity for children's development.

Further, the contradiction between being small in an adult world, and being huge in Wonderland, are played out in the story plot as a paradox of play (Vygotsky, 1966). A consciousness of actions can be realised through play and this supports the meaning making of children. This is realised through imagining the tall table whilst imagining being small; but also when the doors were too small because Alice had grown again in order to reach the key on the table. The children had to imagine themselves as tall. But knowing how the Conceptual PlayWorld with its dramatic and paradoxical imaginary situations comes into children's own play, we must turn to an analysis of child-initiated play.

***Child-initiated play of Alice in Wonderland***

In this study the demands and motives of children during moments of child-initiated play can be seen in relation to the new practices of a Conceptual PlayWorld. The relations are illustrated in Table 1 where Column 1 summarises the institutional practices of the Conceptual PlayWorld activity setting, and Column 2 shows the motivating conditions planned by the teachers, and Column 3 shows similar practices but as occurring within the imaginary play initiated by the children. The findings shown in the table bring together child initiated play with the same practices to how the teachers introduced at group time a Conceptual PlayWorld of Alice in Wonderland.

Table 1 *Summary of teacher practices and children's actions during child-initiated play*

Characteristics of a Conceptual PlayWorld	Activity setting of a Conceptual PlayWorld of Alice in Wonderland	Children's actions in child-initiated play of their own Alice in Wonderland PlayWorld
Selecting an engaging story	The teachers chose <i>The adventures of Alice in Wonderland</i>	Children pretend to read the story of the Adventures of Alice in Wonderland
Creating an imaginary Conceptual PlayWorld space	Group time introduced imaginary situation of Wonderland	Children use props and collectively establish they are playing the roles of the teacher and students for the PlayWorld of Alice
Teachers and children entering and exiting the Conceptual PlayWorld together	Both teachers and children planned which character they would role-play before entering, such as the White Rabbit	Establishing the rules before play (scene of flying down the rabbit hole rather than floating)

Problems arise in the Conceptual PlayWorld that need to be solved	Concepts act in service of the children's play. How to go down the rabbit hole in order to follow the White Rabbit	<ul style="list-style-type: none"> <li>• Children set up problems in their play that need to be solved: Looking for the White Rabbit</li> <li>• Children introduce school discipline content knowledge (but it does not service the problem being addressed)</li> <li>• In role as teacher asking students 'to think about it'</li> </ul>
Teachers take different roles in the Conceptual PlayWorld to actively support children's play development—subject positioning	One teacher is the storyteller and the other a character in the role-play with the children	<ul style="list-style-type: none"> <li>• Spending longer talking about the roles and rules than playing</li> <li>• Different child-initiated actions 'as if' they were 'being a teacher' and 'as if' students – keeping in role, being nice, putting up your hand</li> </ul>

What is evident in Table 1 is a condensed form of many of the characteristics associated with a Conceptual PlayWorld of Alice in Wonderland where concepts are introduced by the children into child-initiated play. It shows how children explore *schooling conventions inside the Conceptual PlayWorld* when in the role 'as if' they were the teacher and the children. They adopted the conventions of asking/being asked to help, to think about things, and to put up their hands, to wait for the instructions before starting, to line up, and to follow the rules of the game. Second, what was significant, was how the children introduced and embedded school discipline content into child-initiated play. Imitation with understanding was emerging through how the children explored the rules and roles associated with the new practices of a Conceptual PlayWorld. Imitation with meaning is a sign of the children being proximally in the next zone of development – as is characteristic of the zone of proximal development (Vygotsky, 1966).

In Vignette Two a small group of children find props from the story of the adventures of Alice in Wonderland when they are in the outside play area and begin child-initiated play of a Conceptual PlayWorld of Alice in Wonderland. The segments of Vignette 2 that follow are presented in relation to changes in children's actions within the same activity setting of the outdoor play area (Segments A to E) and are presented conceptually rather than sequentially.

**Vignette 2 Segment A: Children set up a Conceptual PlayWorld and go looking for the White Rabbit.** It is free play time. The children in the preschool are playing across the inside and outside areas of the centre. In the outdoor area is a raised mound, and at its peak is a basket with props from the story of *The Adventures of Alice in Wonderland*. Cassie, Elaine and Megan run up to the basket and look in; then taking out each item they name each – book, letter from White Rabbit, tea pot, cups. Cassie says, ‘I found one time’ as she moves the teapot out of the basket. Elaine cries out, ‘Look, the White Rabbit’ as she takes a soft toy rabbit out of the basket. With great excitement, Elaine calls loudly to Olivia, ‘I just saw a real White Rabbit. Olivia I just saw a real White Rabbit running up the stairs’. Elaine then stands and runs to the stairs as she says, ‘The White Rabbit is eating a cup cake’. As she arrives at the stairs, she finds a cupcake, and with great excitement announces, ‘Look what I found on the steps. That must have been from the White Rabbit’. She retrieves the cupcake and says, ‘This must have been from the White Rabbit when he was running up the stairs’ as two friends follow, look closely at the cupcake, and then run together with Elaine to show Olivia.

In this example, it is possible to see how the content of the child-initiated play draws from the *Adventures of Alice in Wonderland*. This aligns with both Elkonin (2005) and Vygotsky (1966) who argued that the content of children’s play comes from everyday life, but this study extends this further, by showing how preschools also create content that can be realised in child-initiated play.

In the following Segments (B-E) are examples of children following preschool conventions in their child-initiated play. First the children role-play ‘as if’ teachers (Segment B), then use teacher actions (Segment C), use teacher language to signal they are in preschool (Segment D), and finally children introduce discipline content knowledge into their play (Segment E).

**Vignette Two Segment B: Conventions in the role of the teacher – being the teacher.** Elaine, Cassie, Alicia and Megan are sitting together outside next to the basket of props. Elaine picks up the book of *The adventures of Alice in Wonderland*, and announces, ‘I’ll be the teacher, reading the White Rabbit story’. Cassie picks up the clip board with the letter from the White Rabbit and says, ‘I’ll be, I’ll be’ and pauses as though thinking. Elaine asks, ‘Who wants to be the kids?’. Alicia responds, ‘Not me’ whilst Cassie puts up her hand and says ‘Me, me’. Elaine puts on the white glove (prop for the White Rabbit), and points to the children, ‘You three have to be the kids, and I will be the teacher’. She turns the pages and pretends to read the book in a teacher pose, directing the children to view the text. Peter joins the group saying, ‘I’ll be the Mad Hatter’. Elaine re-directs Peter as she turns the page and announces to him, ‘You have to be the kids’. Alicia smiles, and sits watching on as Elaine reads. Peter and Cassie take on roles as children listening to the story.

This example aligns with Vygotsky’s (1966, p. 9) premise that ‘What passes unnoticed by the child in real life becomes a rule of behaviour in play’ and in this study this is shown through how children in a preschool setting initiate their own Conceptual PlayWorld of Alice in Wonderland. The children who in reality are children in a preschool, are role-playing being preschool children with one child as the preschool teacher. This is evident by how Elaine announces the game, ‘You three have to be the kids, and I will be the teacher’. By taking on the role of being preschool children, they are consciously exploring the roles and rules of what it means to be a preschool child in relation to the practice tradition of preschools. This means they have to think about what it means to be a student, as well as what it means to be the teacher, consciously exploring the rules and roles of pre-schooling.

The children are also role-playing ‘as if’ they are in a collective imaginary situation of the Conceptual PlayWorld of Alice in Wonderland. The props suggest the theme, and the story

narrative that is known to them, suggests the actions and the rules and roles to act out. The Conceptual Playworld appears to afford new play conditions.

In the next set of examples, the children explore particular preschool conventions of 'being helpful' (Segment C) and generating a play narrative of 'thinking before acting' (Segment D).

**Vignette Two Segment C: Conventions in the role of the teacher – being nice and helpful.** The children are sitting in the sandpit, still in role 'as if' teachers and children in a Conceptual PlayWorld. Elaine acting 'as if' she is the teacher, asks 'Could someone be really nice and get me a container'. All the children look to Elaine as she continues, '...and be nice and get, and get a watering can, and put some water in it'. Alicia raises her hand and says, 'Me' whilst Peter runs off to find the watering can.

**Vignette Two Segment D: Conventions in the role of the teacher – think about it.** The children still in role 'as if' teachers and children in a Conceptual PlayWorld are sitting on the mound in the outdoor area with the props of Alice in Wonderland next to them. Elaine in the role of the teacher is sitting with the children and looks at Alicia and asks, 'Do you want a Barbie?' Alicia nods yes. Elaine responds, 'OK then think about Barbie for a very long time.

By Elaine acting 'as if' she is a teacher with children all around her, she signals teacher organisational actions to the children, whilst at the same re-confirming her status as the teacher by drawing upon teacher language, 'Could someone be really nice and get me...'. She also links action to thought by asking if they want a barbie in the play, but then invites them to think, when she says, 'think about Barbie for a very long time'. In the role-play of Alice in Wonderland, the children did enter into discussion about thinking before acting when discussing if they would go down the rabbit hole. It is possible that there is a direct link between child-initiated play and the content of the children's discussions of thinking before acting and the position of the teachers to support consciousness of action during role-playing.

In Segment E that follows is a further example of how the children act in their roles as a teacher and children, where they identify the rules of the play before beginning to play.

**Vignette Two Segment E: Conventions in the role of the teacher – establishing the rules before play.** The children are seated on the mound outside and are still acting in role ‘as if’ teachers and children in a Conceptual PlayWorld. Elaine announces, ‘OK guys we are going to fly into the air. Right away’. The children immediately stand. Elaine says, ‘You’ve got to fly now’. She swings her arm in a big circle as she establishes the rule, ‘You’ve got to fly around here (pointing across the yard) and back to here (pointing to the top of mound in the yard where they are standing)’. She directs the play by establishing the rules, ‘Alicia, come back here (pointing)’. The children stand in a line. Elaine continues, ‘We go back around here, a hundred times’. The children hold hands to make a line. Elaine says, ‘Say ready steady go’. Cassie has moved out of the line, so Elaine gently encircles her and physically moves her back to the line. Cassie appears willing. Elaine then says ‘Ready, set, go’ and begins running whilst the other children follow. Elaine and Alicia return first and second, and as they do, Elaine says, ‘I’m first’ and Alicia announces, ‘I’m second’.

Establishing the rules of play is according to Vygotsky (1966) evidence of mature forms of play, and this is noted in how Elaine establishes the actions and when to begin them by saying, ‘We are going to fly now’. Elaine sets the theme (flying down the rabbit hole) and possible characters. This is indicative of not just the beginning of discussing the rules consciously as part of the development of play, but it also aligns with the practice of the teachers to invite children to select a character in the Conceptual PlayWorld before they enter the imaginary situation. Vignette E also shows how the teacher creates rules of practice in the kindergarten of settling children and moving children physically into place. The gentle encircling and moving of a child, is a common teacher practice when organizing children.



Elaine draws upon this action as part of establishing the rules before they begin the play (to fly down the rabbit hole).

Finally, and unique to the practice of a Conceptual Playworld, is how concepts act in service of children's play. In Segment F we observe how Elaine acting 'as if' she is the teacher uses school discipline content knowledge within her play to support the actions of the play. In particular, she draws upon counting as a conceptual prop for signalling actions of wishing by the children acting 'as if' students in the preschool inside the Conceptual PlayWorld.

**Vignette Two Segment F: Conventions in the role of the teacher – adding school discipline content into the play.** The children are in role 'as if' teachers and children in a Conceptual PlayWorld. They are seated on the mound outside, and Elaine has taken the fan from the basket of props from Alice in Wonderland. Elaine holds the fan and announces that she will count and then they are to make a wish. She puts the fan in front of Cassie's face and says, 'A hundred times, and then you can tell me, one, two, OK a 100 is a lot, OK?'. She then counts in synchrony with each wave of the fan from 1 to 39 and then says 100. Then she invites Cassie to make a wish, which she does. She then repeats this for each of the 3 children, counting on for longer number sets each time, but always ending in 100.

The routine of embedding the concepts within the play actions is characteristic of a Conceptual PlayWorld. By moving the fan as she counts, she is showing one-to-one correspondence in her actions, but significantly she also injects explicit content knowledge of about number within the play when she says, '...a 100 is a lot, OK?' This example is illustrative of how in child-initiated play, children mirror and make their own a new practice tradition for school content knowledge to be included in preschools. But what is theoretically different, is that this child-initiated play shows how children are sensitive to how school content knowledge was being introduced into the Conceptual PlayWorld to support and develop their play. Using concepts in play in this way is suggestive of a motive orientation to school content knowledge.

Further, the children appear to be consciously playing with the characteristics of the rules of Conceptual PlayWorlds where concepts are explicitly embedded into the play narrative. This characteristic or rule does not go unnoticed by the children through acting ‘as if’ they are children and teachers in their child-initiated Conceptual PlayWorld.

## **Discussion**

Vygotsky (1966) argued that in child-initiated play the zone of proximal development is created because both the real form of development and the ideal form of development are active within the imaginary play. The research showed through a close study of child-initiated play the real form of children’s development. But when children were acting ‘as if’ they were children and teachers in a preschool the ideal form (a head taller than themselves) was in play. This is because when children in reality are in a preschool, pretending to be teachers and children in a Conceptual Playworld, they are making conscious in the play, the rules for governing the new institutional practices of the Conceptual PlayWorld.

Theoretically, the results can be explained as a dialectical relation, as children make meaning by *moving closer to reality*, exploring rules and roles in society, as social and societal reproductions, whilst at the same time children are moving away from reality as they develop their *own fiction through the storylines* they create – as agentic productions. This dialectic creates developmental conditions for the children to learn concepts. It can be argued that, in a Conceptual PlayWorld there is always a contradiction between the *fiction of the play plot* and *reality of the players*, and it is this contradiction that is thought to act as a stimulating motive for child learning of concepts in our study.

A Conceptual PlayWorld seems to make available to children the use of concepts to support their play. We already know from previous research, that in playworlds adults take a more active role in children’s play, creating a zone of proximal development (Hakkarainen & Brėdikytė, 2019). What is different in the study context of Australia, is the new societal need

for greater cognitive development in preschool settings. Maintaining play as the leading activity of the preschool child, whilst creating new stimulating conditions for learning concepts was evident in the child-initiated play of role-playing ‘as if’ they were enacting their own PlayWorld. The cognitive content and the processes of a Conceptual PlayWorld appeared to become personally meaningful for the children, as evidenced by the themes and actions seen in the child-initiated play of the children. But one case example is not enough to give confidence of this claim empirically.

This study was oriented to researching child-initiated play in relation to how or if learning concepts in preschools were being noticed or valued by the children. In keeping with what is known about playworlds (Lindqvist, 1995), the children in this study appeared to positively participate as a whole group in the Adventures of Alice in Wonderland, but different to previous research (Fleer, 2019, in press), it was shown how children during child-initiated play produce their own Conceptual PlayWorld where curriculum concepts are featured. The introduction of discipline content into child-initiated play suggests that children do notice how teachers bring into the preschool program curriculum concepts. Importantly, the motivating conditions of a Conceptual PlayWorld appear to realise a motive orientation for learning discipline content in a preschool setting in ways that are in keeping with children’s play motive. The findings of this study do give directions for future research and the theorization of the relations between play and learning, adding on to the important work of others related to the play-learning child (see Pramling et al., 2019a, 2019b; Pramling Samuelsson & Carlsson, 2008; Pramling Samuelsson & Johansson, 2009; Wallerstedt & Pramling, 2012)

## **Conclusion**

In Australia the new need for greater cognitive content seen through the pedagogy of intentional teaching for preschool settings (DEEWR, 2009) could be undertaken in a range of ways - from instructional teaching (OECD, 2006) through to free play with discipline concepts

being smuggling in by teachers (Hedges, 2014). We argue that the results of our microgenetic study give pedagogical directions to teacher in Australia and elsewhere, in ways that preserve child agency and play as the leading motive of the preschool child.

### **Acknowledgements**

Acknowledgement of research assistance of Sue March (Team Leader), Yijun (Selena) Hao, Hasnat Jahan, Carolina Lorentz Beltra, the teachers and the Australian Research Council

[DP140101131; FL180100161].

## References

- Bodrova, E., Leong, D. J., Germeroth, C., & Day-Hess, C. (2019). Leading children in their “leading activity”: A Vygotskian approach to play. In P. K. Smith & J. L. Roopnarine (Eds.), *The Cambridge handbook of play. Developmental and disciplinary perspectives* (pp. 436-456). Cambridge University Press.
- Claessens, A., Engel, M., & Curran, F. C. (2014). Academic content, student learning, and the persistence of preschool effects. *American Educational Research Journal*, *51*(2), 403-434. <https://doi.org/10.3102/0002831213513634>
- Department of Education, Employment and Workplace Relations [DEEWR]. (2009). *Early Years Learning Framework*. Commonwealth of Australia.
- Elkonin, D. B. (2005). The psychology of play, Preface: The biography of this research. *Journal of Russian and East European Psychology*, *43*(1), 11–21.
- Fleer, M. (2011). “Conceptual Play”: Foregrounding imagination and cognition during concept formation in early years education. *Contemporary Issues in Early Childhood*, *12*(3), 224-240. <http://dx.doi.org/10.2304/ciec.2011.12.3.224>
- Fleer, M. (2019). Scientific playworlds: A model of teaching science in play-based settings. *Research in Science Education*, *49*(5), 1257-1278. <https://doi.org/10.1007/s11165-017-9653-z>
- Fleer, M. (in press). *Engineering PlayWorld – supporting children to collectively design, imagine and think using engineering concepts*. Research in Science Education.
- Hakkarainen, P., & Bredikyte, M. (2019). The adult as mediator of development in children’s play. In P. K. Smith & J. L. Roopnarine (Eds.), *The Cambridge handbook of play. Developmental and disciplinary perspectives*, (pp. 457-474). Cambridge University Press.

- Hedegaard, M. (2002). *Learning and child development: A cultural-historical study*. Aarhus University Press.
- Hedegaard, M. (2008). The educational experiment. In M. Hedegaard & M. Fleer (Eds.), *Studying children: A cultural historical perspective* (pp. 181-201). Open University Press.
- Hedges, H. (2014). Children's content learning in play provision: Competing tensions and future 555 possibilities. In L. Brooker, M. Blaise & S. Edwards (Eds.), *The Sage handbook of play and 556 learning in early childhood* (pp. 192-203). Sage.
- Lehto, S. & Eskelinen, K. (2020). 'Playing makes it fun' in out-of-school activities: Children's organised leisure. *Childhood*, 27(4), 545–561.  
<https://doi.org/10.1177/0907568220923142>
- Lindqvist, G. (1995). *The aesthetics of play: A didactic study of play and culture in preschools* [PhD Thesis]. Uppsala University.
- Nilsson, M., Ferholt, B., & Lecusay, R. (2018). 'The playing-exploring child': Reconceptualizing the relationship between play and learning in early childhood education. *Contemporary Issues in Early Childhood*, 19(3), 231-245.  
<https://doi.org/10.1177/1463949117710800>
- Organisation for Economic Co-operation and Development [OECD]. (2006). *Starting Strong III, Early Childhood Education and Care*. OECD.
- Pramling, N., Wallerstedt, C., Lagerlöf, P., Björklund, C., Anne Kultti, A., Palmér, H., Magnusson, M., Thulin, S., Jonsson, A., & Pramling Samuelsson, I. (2019a). *Play-responsive teaching in early childhood education*. Springer.
- Pramling, N., Kultti, A., & Pramling Samuelsson, I. (2019b). Play, learning and teaching in early childhood education. In P. K. Smith & J. L. Roopnarine (Eds.), *The Cambridge*

*handbook of play. Developmental and disciplinary perspectives* (pp. 475-490).  
Cambridge University Press.

Pramling Samuelsson, I., & Carlsson, M. P. (2008). The playing learning child: Towards a pedagogy of early childhood. *Scandinavian Journal of Educational Research*, 52(6), 623-641. <https://doi.org/10.1080/00313830802497265>

Pramling Samuelsson, I., & Johansson, E. (2009). Why do children involve teachers in their play and learning? *European Early Childhood Education Research Journal*, 17(1), 77-94. <https://doi.org/10.1080/13502930802689053>

Sliogeris, M., & Almeida, S. C. (2017). Young Children's Development of Scientific Knowledge Through the Combination of Teacher-Guided Play and Child-Guided Play. *Research in Science Education*, 49(6), 1569-1593. <https://doi.org/10.1007/s11165-017-9667-6>

Vygotsky, L. S. (1966). Play and its role in the mental development of the child. *Voprosy Psikhologii*, 12(6), 62-76. <https://doi.org/10.2753/RPO1061-040505036>

Wallerstedt, C., & Pramling, N. (2012). Learning to play in a goal-directed practice. *Early Years*, 32(1), 5-15. <https://doi.org/10.1080/09575146.2011.593028>