

MOTHER-CHILD COLLECTIVE PLAY AT HOME CONTEXT: AN ANALYSIS FROM A CULTURAL HISTORICAL THEORETICAL PERSPECTIVE

Abstract

Very few studies have given attention to parental support for children's play-based conceptual development in a home setting. The key aspect of this paper is to investigate how parental support aids development of children's mathematical and science concepts in collective play in the home context and what happens to the play during parent-child collective engagement. The data has been collected through video, audio and semi-structured interviews from four Indian families and their children (four to five years old and median age 4.5 years). For data analysis, Hedegaard's (2008a) three levels of interpretation -common sense, situated practice and thematic interpretations- were employed. Drawing upon Vygotsky's (2004) concept of imagination and creativity, Fleer's (2010, p. 140) pedagogical model of "collective and individual play" and Kravtsova's (2009, p. 22-23) concept of "subject positioning" are used for thematic analysis. The paper analyses the play experience of a five-year-old boy, Jay (pseudonym used) and his mother's co-construction of play in the home context. The findings of our analysis shows that the mother's interactive approach as an active play partner in Jay's play promoted his learning and development. The paper argues that the parents' active involvement in children's play is not only important to develop the play itself but also important for providing better learning opportunities for children.

Introduction:

A plethora of literature discusses the importance of adults' support in children's learning and development (Alcock, 2010; Björklund, 2010; Degotardi, 2010; Elia & Evangelou, 2014; Gjems, 2010; Gjems, 2011; Hakkarainen, Bredikyte, Jakkula & Munter, 2013; Robson, 2010; van Oers, 2013), especially in formal educational settings. Teachers' collective engagement was first illustrated in Lindqvist's (1995, p. 215) concept of "Playworld", in which the adults take an active role in children's imaginative play, and are emotionally involved in children's play by sharing play themes and being a mediator of the play. Hakkarainen et al. (2013) put forward the concept of "Playworld" and argued that adult-child joint activity through dialogic interactions moved the play to a more advanced level. Collaborative co-construction of joint play not only promotes child's self-development, but also increases the ability of teachers to perform in a more professional way (Bredikyte, 2011). Hakkarainen et al. (2013) shows in their empirical research that novice student teachers' active participation in children's play develops their competency in planning and organising play activities independently. Researchers have also found student teachers learnt how to develop their educational plan in terms of individual children's needs and interests. They have suggested following some steps to intervene in children's play

- Observe and try to catch the child's play idea
- Step into the children's play
- Get involved in joint play
- Reach togetherness with a flow of mutual experience

Very little research has been done in home settings in relation to the parental support in children's play based learning (Devi & Fleer, 2015). Researchers have found parental support in children's play develops children's science concepts, mathematical concepts and numeracy competency (Vandermaas-Peeler, Boomgarden, Finn & Pittard, 2012; Hao & Fleer, 2016; Sikder & Fleer, 2015). Parent's active involvement as a play partner in child's imaginative play not only supports the child's bilingual language development (Li, 2012) and emotion regulation (Chen, 2015), but also gives a platform for internalising cultural knowledge (Li, 2012). A number of studies also found (Vandermaas-Peeler et al., 2012; Zellman, Perlman & Karam, 2014) that a large number of the parents do not know how to support children's play and they have a very narrow view about their role in joining in children's play to promote children's conceptual development. After carrying out an extensive literature review we have found very few studies focusing on how parents position

themselves in children's play and what happens to the children's play after adults' active engagement in the play. Therefore, the aim of this paper is to investigate

Q1. What happens to the child's imaginative play during parent-child collective engagement?

Q2. How do parents join in children's play in order to support children's development and learning?

To answer these research questions, the Vygotskian cultural historical approach has been applied to this study. It begins with discussion of related theoretical concepts, followed by the study design, the findings, and the conclusion.

Cultural historical theoretical framework:

The dialectical relation between collective and individual imagining:

From the Vygotskian perspective, imagination is the internalisation of children's play and it is connected with collective social interaction in real life. Vygotsky (2004) argues that the imagination is associated with reality and "everything the imagination creates is always based on elements taken from reality" (p. 13). Vygotsky argues that "a child's play is not simply a reproduction of what he (sic) has experienced, but a creative reworking of the impressions he (sic) has acquired. He (sic) combines them and uses them to construct a new reality, one that conforms to his (sic) own needs and desires" (p. 11-12). Children bring real life experiences into their imagination; so the richer the experiences, the richer their imagination in the play. Adults' experience is much richer than children, therefore by engaging in children's play adults can advance the play complexity and develop children's imagination and thinking (Vygotsky, 2004 as cited in Li, 2012). Fleer (2010) calls this collective imagining in the play. By creating a collective imaginary situation, adults support the children to connect with the collective knowledge and enable children to move away from the reality. Consequently, individual imagining allows children to move towards the reality (Fleer, 2010). Collective and individual imagining are dialectically related to each other (see the figure 1). Therefore, together with children, adults help children to develop their imagination, introducing new concepts and developing the perceptions of the surrounding environment (Li, 2012). Fleer (2014) argues that researchers have mostly focused on the value of play in terms of individual biological development; however, she found in her empirical research (Fleer, 2011) that children give meaning to objects collectively, they communicate collectively, and develop individual imaginaries collectively in play based settings. Fleer (2010) developed her argument by mentioning that a child is an individual person in the play but at the same time, he or she follows the rules and roles of the society in her or his play. In group play, children are not only individually performing a role, but are also collectively generating the play script through negotiating with each other. Children continuously move towards the reality and move away from the reality when they are engaged in collective imagining and individual imagining. Furthermore, Fleer (2010) argues that teacher support, interaction and intervention develops children's higher mental functions such as logical memory, voluntary attention and concept formation through a dynamic process of collective and individual imaging. Fleer's approach reflects Vygotsky's (1997) statement that "every higher mental function was external because it was social before it became an internal, strictly mental function; it was formerly a social relation of two people" (p. 105). However, very little work concentrates on the collective nature of imaginative play where children and adults work together for learning and development (Fleer, 2013; Li, 2013; Quinones, 2013).

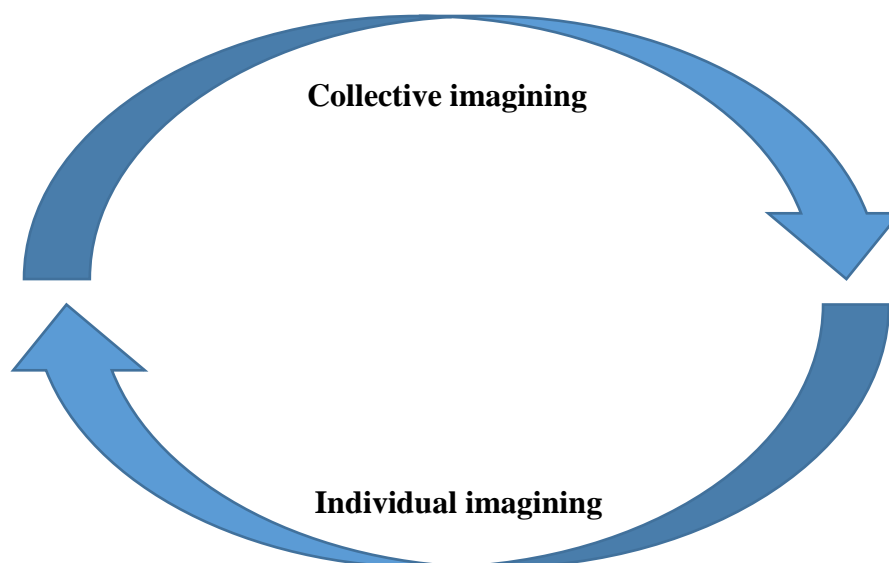


Figure 1: Collective and individual imagining (Fleer, 2010, p. 140)

Kravtsova's (2009) idea of subject positioning:

To understand the idea of adult-child collaboration from a cultural historical perspective, Vygotsky's (1987) concept of Zone of Proximal Development (ZPD) is important to understand where he says, "what the child is able to do in collaboration (with adults or more able others) today he (sic) will be able to do independently tomorrow", p. 211). So, adults or more able others can help children to complete the task if they are unable to do it independently. Kravtsova (2009) have elaborated the concept of ZPD by identifying the importance of subject positioning in the play. She has used the word "subject positioning" to draw attention to the concept of being inside of the play (such as pretending to be a crying patient) and being outside of the play (gathering materials to support the play). She proposed dividing adults' level of participation into different positions while they move inside of the play; such as equal position, under position, above position, children in an independent position from adults, and a 'greater we' position. In joint play, adults make a suggestion by staying in above position, while adults take the lead and instruction from children when they go in under position. Furthermore, when adults and children contribute equally and negotiate with each other to extend the play, then adults are in equal position. In 'primordial we' position, adults show themselves as models to allow children to follow them with the flow of the play, but it is not necessary for young children to understand the storyline of the play. In independent position, adults allow children to actively engage in the play independently but they do not withdraw themselves from the play; rather, physically being present inside of the play. The position of adults in Kravtsova's research is considered in pair pedagogy context. We have used the concept of "subject positioning" in the context of adult-child interactions in imaginary play situation instead of pair pedagogy (adult-adult-child) approach in teaching-learning situation. Kravtsova's (2009, p. 22-23) theoretical concept of "subject positioning" in relation to adults' position in children's play and Fleer's (2010, p. 140) idea of "collective and individually imagining" will be used in our analysis to answer the research questions of this paper.

Study design:

This paper particularly focuses on how parents position themselves inside of the children's imaginative play to develop children's theoretical understanding and to support the development of the play complexity itself. Drawing upon cultural historical theory, we have employed Hedegaard's (2008b) dialectical-interactive methodology, where the first author researcher has positioned herself as

a partner with the participants of the activity to carry out a deeper examination of the entire situation. In this way, it was possible for her to take dual positions as a researcher and as a research participant. Additionally, she kept in mind not to take the authority of the other participants or direct the play situation, but rather engage with participants as a member of the community (Hedegaard, 2008b) by letting them know of her role as researcher. In this study she did not dismiss her position but rather participated in the situation as a researcher to understand the participants' intentions and social interactions.

Sample:

The data were gathered from four focus children and their families in Victoria, Australia. In total 17 hours of data has been collected from four focus children (two boys and two girls), including their family members, in an everyday family environment. There were three visits made to each family. This paper has a particular focus on Jay (pseudonym used, age five years old during the data collection) and his mother's collective engagement in the play in a home setting. He has a sister, Joya, two years his junior (pseudonym used). The parents did their higher study in India and they migrated to Australia nearly six years ago. Jay attends a preschool between 9am to 4pm four days a week. According to his mother Dipa (pseudonym used), Jay talks little and loves to play by himself. As both parents work they cannot get much time to involve themselves in Jay's play at home. Sometimes he plays with his younger sister Joya, but this is very rare.

Data generation:

Influenced by a cultural historical methodology, the data was generated through a visual digital methodological approach in everyday family life settings (Fleer, 2014). We have collected data through video camera, still camera, audio recorder and field notes. The data has been collected during Jay's free play situation in the home setting. There were two video cameras used in the research sites: one camera placed on a tripod to capture the entire situation of mother-child joint play, and another roaming camera captures participants' facial expressions, interactions and engagement with the play situation. Video data and field notes have been collected for Jay over three weeks (one day per week) and later all the raw data has been categorised and transferred on to a secured hard disk drive for analysis.

Data analysis:

At the beginning of the data analysis, a large number of videos were transcribed and generated into video clips according to research questions and themes. We have employed Hedegaard's (2008a) three levels of interpretations: commonsense, situated practice and thematic for our data analysis. For the commonsense interpretation, we have analysed a single video clip in written form to extract Jay and his mother's collective interaction and intervention in a play based setting. Then in the situated practice interpretation, a series of video clips that linked with a similar pattern of play based settings of Jay and his mother have been analysed for confirming Jay and his mother's collective engagement in the play. Finally, the third level helps us to bridge the theory and the practice to answer the research questions. For example, on the thematic level, Kravtsova's (2009) theoretical concept of "subject positioning" and Fleer's (2010) idea of "collective and individually imagining" helps to conceptualise the idea of how these theoretical concepts (theory) will be used to analyse Jay and his mother collectively engaging in the play (practice).

Findings: an example of Jay and his mother's collective play in a home setting

Jay is trying to make a slide for cars. First he joined some blocks together and put a slide on top of the blocks. He was trying to put a sloped plastic frame to create a slide which would start from the end of the slide. He needed support to lift the sloped frame and was struggling to solve the problem but did not ask for any help from his mother. His mother was sitting next to him. According to his mother Jay

loves this type of construction play and he uses Lego or blocks to make a car slide. He plays by himself but is happy to get help from his parents, although he does not like any intervention from his younger sister during his play. We have provided the play scenario with a few images to help visualise the entire situation of the play.

Dipa (mother): What are you making?

Jay: I want my cars to slide down. (*Shows a sloped frame to put at the end of the slide*)

Dipa: ok, but your slide is too high from the ground. Put it down a bit.

Jay: No.

Dipa: Then you have to put some more blocks at the end of the slide to lift the sloped frame. It needs to be at the same height. (*Dipa helps him to put the blocks together to lift the frame up.*)



Figure 2: Dipa is showing Jay that the sloped frame needs a straight support to touch the slide

Dipa: See Jay, the slide is too high so the sloped frame can't touch its edge. We have to put more blocks underneath the frame. Is it ok now? (*Places the frame near the slide, but the sloped frame did not touch the slide properly and there was a gap between them*)

Jay: No, it is not ok. The car cannot go, it will get stuck here (*Points to the gap*).

Dipa: Ok (*Smiling*), then we have to adjust the level of blocks to remove the gap.



Figure 3: Jay has identified a gap between the slide and the sloped frame

They were collectively placing some blocks and taking out some blocks from under the slide to make the adjustment. After a couple of attempts, the sloped frame and the slide touched each other without any gaps.

Dipa: Now what?

Jay: I want to put something in here (*Pointing to the end of the sloped frame*) to make a slide and car will go.

Researcher: What do you want to make?

Jay: "Car track". I got an idea. (*Bringing some connectors to make a slide*)

They made a slide structure by joining connectors and were working together to put that at the end of the sloped frame. But it was not working and was falling down. Dipa proposed putting a straight support under the connectors. Jay added a teapot to support it, but this did not work.

Dipa: No, Jay. It is not working.

Jay was becoming frustrated when it was not working. His younger sister Joya was putting some connectors in and was trying to help them but Jay became angry. Dipa put Joya on her lap and Joya watched their collective construction.

Dipa: What about you bring your plastic ladder and put that at the end of the sloped frame.

(*Jay accepts Dipa's proposal. He brings the ladder and his dominoes box from their room.*)

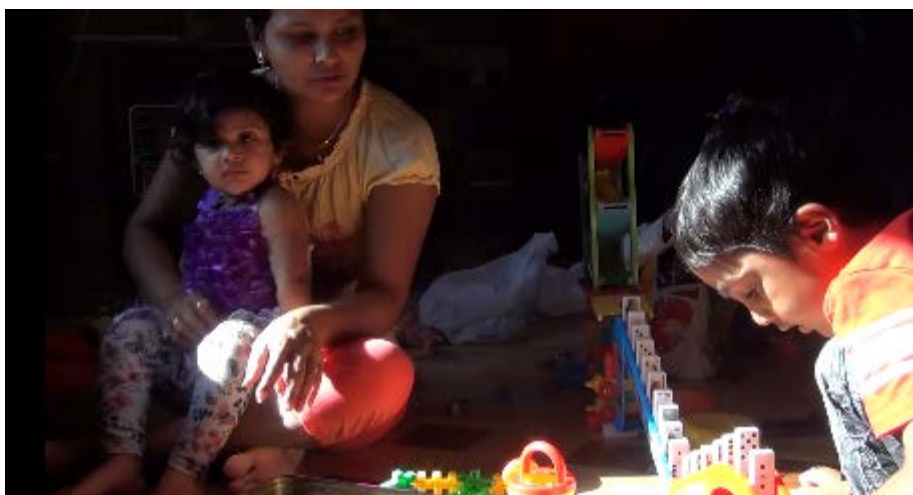


Figure 4: Jay and Dipa collectively extending the play by implementing the idea to using ladder and dominoes

Dipa: See, now it will work (*Puts the ladder at the end of the frame*). Now you can put a car on the slide.

Jay: No, wait. I want to put dominoes on the ladder.

Dipa: If you put dominoes on top of the ladder then how will the car go through the ladder?

Jay: No, the cars will hit back of the dominoes and they will fall all together. (*Pointing to one of the dominoes. Puts a plastic bridge at the top of the ladder and starts to place the dominoes one by one.*)

Dipa: But the car won't be able to go top of the bridge.

Jay: No, car will stop here. (*Pointing to the end of the ladder*)

Dipa: Ok, I got it. The car will stop at the end of the bridge and will hit the dominoes of the bridge.

Jay: Yes.

The dominoes were falling again and again. Jay became frustrated but Dipa proposed to help him and they finished placing all the dominoes successfully. At the end of their play, Jay put the cars on the slide and the cars slowly hit the dominoes of the ladder and the ladder's dominoes hit the dominoes of the bridge. Jay and Dipa smiled and gave each other a 'high five'.



Figure 5: Their collective engagement in imaginative construction play promoted a play based learning environment

Analysis and discussion:

Collective engagement of Jay and his mother (Dipa) in imaginative constructive play:

At the beginning of the play, Jay was struggling to place the sloped frame and could not solve the problem by himself. Dipa took the initiative to join in his play, which motivated Jay to continue the play. (Even though he did not ask for any help from Dipa, he was happy to welcome his mother into his play.) However, the question here is: Where did his idea of 'building car track' come from? According to Dipa's response in the interview, Jay loves playing with a variety of cars, Lego, blocks, and he loves to watch the TV show 'Mister Maker' (art and craft show) on the ABC channel. From her point of view, these two experiences motivated him to construct this type of car track or skate park. She also mentioned that Jay makes car track in his preschool too. Dipa's comments and the above

example demonstrate that his conscious acts (trying to make the slide) in an imaginary situation have been drawn from real life experience. In line with Vygotsky's (2004) argument, Jay's constructive play was not simply a reproduction of what he has experienced from a TV show; rather, he creatively combines his favourite toys, cars and blocks to construct a big car slide. Jay was not able to work out how to put the sloped frame next to the slide, and his unsuccessful attempt gave the opportunity to Dipa to respond to his actions and take an active role in his play. To solve the problem, Dipa's different proposals (put the slide down or put some blocks under the frame to lift it up) extended their imaginative space and developed the play itself (Hakkarainen & Bredikite, 2010; Hakkarainen, 2010; Bodrova 2008; Lindqvist, 1995). Dipa's continuous interaction ("We have to put more blocks underneath the sloped frame") and asking questions ("Is it ok now?") created the opportunity for Jay to do brainstorming to solve the problem. Their collective experiences and actions were associated with how to make a slide without any gap between the slide and the sloped frame. Dipa's interaction and actions were helping Jay to develop his individual imagination and allow him to think more deeply about the technical-constructive or building activity that he experienced in the real world (Fleer, 2010). Moreover, collective imagination (putting some blocks to lift the frame up and trying to reduce the gap between the slide and frame) was extending the play, while Jay proposed to add the dominoes in his play or use a bridge to extend the slide from the end of the sloped frame (Fleer, 2010).

Dipa was actively helping Jay to develop his mathematical understanding by showing the measurement of the height between the slide and the sloped frame. She used some words such as 'lift', 'high', 'underneath' and 'level' to support Jay's conceptual development. At the same time, she gave the opportunity to Jay to see how to reduce the gap between the slide and the frame using the blocks. Jay was supported by Dipa to pay attention to what type of support they needed to make a big slide. Collectively they were moving away from reality and developing their imagination in making a big slide, at the same time as they were moving towards reality by exploring different ideas (for example using a ladder to make the slide or using a mathematical measurement to reduce the gap between the slide and the sloped frame), which is in fact associated with technical constructive knowledge. As a result their play became more complex and constructive through their collective imagining, which was developing Jay's individual imagining (Fleer, 2010). As this above example clearly shows, Dipa and Jay's negotiation and discussion about what to use to make the slide and how to use the the objects to extend the slide is based on their shared thinking, which is not only enhanced the ability of Jay's individual imagination (using dominoes), but also generated the understanding of new scientific concepts such as a '**cause and effect relationship**' ("Car will hit back to dominoes and will stop behind the dominoes"). Dipa gave the opportunity to Jay to think about a cause-effect relationship when she asked the question "If you put dominoes on the top of the ladder then how will the car go through the ladder?" The scientific reasoning of the cause effect relationship became evident through Jay's answer: "No, the cars will hit back of the dominos (*one event - the cause*) and they will fall all together" (*makes another event happen- the effect*) of their shared imaginations. Through their collective imagining, Dipa was developing Jay's individual imagining, developing the complexity of the play, developing the understanding of abstract thinking (spatial concepts; cause-effect relationships) and developing the perception of the surrounding world. This is presented in figure 6 below.

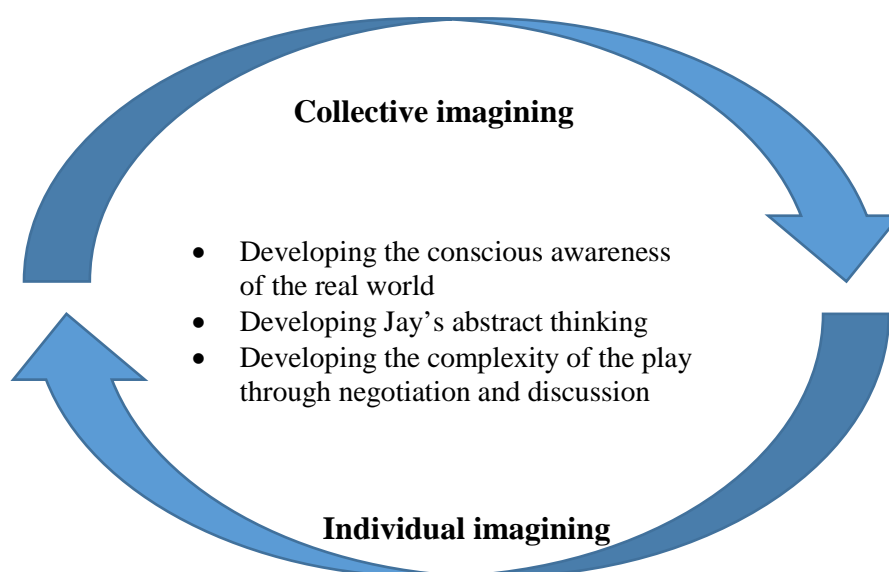


Figure 6: Jay and his mother's collective play supports Jay's development and learning (Fleer, 2010, p. 140)

Dipa's active participation and interactive support in Jay's imaginative constructive play:

We have found in our data that Dipa positioned herself inside of Jay's imaginative construction play from the very beginning of the play. She took the opportunity to go inside of the play as a play partner. Her role was not limited by asking questions, providing materials or giving suggestions, rather she actively supported Jay by building the slide together and by discussing her understanding with Jay. Dipa took dual positions in the play: she was associating her previous experiences by being outside of the play and at the same time developing Jay's individual imagining by being inside of the play. By moving inside of the play, Dipa was able to understand Jay's play theme and was able to develop the complexity of the play. Based on Kravtsova's (2009) concept of "subject positioning" in adult-child interactive approach, we have found Dipa positioned herself from various angles to extend the play. At first, Dipa placed herself in the position of 'above' to Jay, by proposing to put the slide down or lift the sloped frame to bring them to the same level. This expanded Jay's thinking and gave the opportunity to let him express his thinking. She also proposed bringing a ladder to replace the connectors by being in the above position. By positioning herself in the 'above' position, each time Dipa mentioned different mathematical words 'high', 'low', 'level', 'under', 'remove' and 'lift' to develop Jay's theoretical understanding of 'measurement'.

Dipa was trying to establish her understanding through negotiation with Jay and positioned herself in the 'equal' position. This position allowed her to negotiate with Jay, for example she was developing Jay's imaginative thinking by asking questions about how the car would go if dominoes were placed on the ladder and by rejecting the idea of using connectors to make the slide. In this sense, Dipa did not give any direct instructions to Jay; rather, she gave the opportunity to Jay work along with her equally through her actions (listening, responding and enquiring) and interactions.

Furthermore, Dipa went in 'under' position when she asked Jay "Is it ok now?" (by putting the frame near the slide, or "Now what?") She provided Jay with a chance to expand his imagination, to lead the play and to share his idea to make the slide. This moment gave the opportunity to Jay to make the decision to extend the next step of the play. Jay attempted to bring new ideas, for example bringing dominoes and a bridge into his play enhanced the possibility of development of his problem solving

skills and innovative skills. Dipa also provided a situation which allowed Jay to think independently, find the problem independently and expand the play independently. Dipa did not withdraw herself from the play; rather, she was physically present inside the play (Kravtsova, 2009). Finally, Jay's younger sister Joya was also involved in the middle part of the play. She imitated her mother's actions and placed some connectors to make the slide. Jay, however, was not happy about her involvement and could not engage Joya in such complicated constructive play because her developmental level was insufficient to join in this play. Dipa provided a situation which allow Joya to go in the 'primordial we' position. Instead of withdrawing Joya from the play Dipa let Joya sit on her lap and allowed her to observe the play.

To summarise, in this example of Jay's play with his mother, it is evident that they collectively and imaginatively explored the technique of constructing a slide and at the same time Dipa supported development of Jay's problem solving skills and abstract knowledge. Dipa's consciously created different positions inside of the play allowed her to develop the play maturity through the dynamic process of the dialectical relationship of collective and individual imagining. She took an 'above position' to develop Jay's scientific and mathematical concepts (cause-effect relationship and measurement), an 'equal' position to negotiate how to build the slide and an 'under' position to allow Jay to lead the play independently. The paper shows the ways in which Dipa communicated with Jay made a difference to Jay's development and learning, which is different from the traditional pedagogical practice of early childhood education; that is, not to be involved in children's play and let them explore the world freely. This paper shows that Dipa's active involvement in the play and taking different positions inside of the play (above, equal, under, let children play independently and primordial we positions) actually supported Jay's development and learning. Dipa's actions and interactions encouraged Jay to develop the theoretical understanding of cause-effect relationship and also develop his problem solving ability. Moreover, this paper also shows, as a consequence of Jay and his mother's collective imagination, there was development of the imaginative play itself, which laid the foundations of Jay's individual imagining.

Conclusion:

There are two major outcomes of this study. The first finding shows that the mother-child's collective engagement develops the complexity of the play itself and promotes children's development and learning. Inspired by Vygotsky's (2004) idea of dialectical relations between imagination and reality, Flee's (2010) concept of "collective and individual imagining" provides a new dimension to researching parent-child joint play in an imaginary situation. A large number of studies have shown why adults' interactive approach is important and how adults support children's development and learning. However, this study goes further and shows what happens to the play when adults and children are collectively engaged in the play. Dipa's support in Jay's constructive imaginative play did not only develop the play itself but also provided the platform for Jay to develop his individual imagining. Collectively moving in and out of an imaginary situation allowed Jay and his mother to engage in collective discussion, for example, how to reduce the gap between the slide and the sloped frame, and what to include to extend the slide, and this provided the foundation for supporting Jay's conceptual development which helped him to make sense of the world (Flee, 2013).

The second finding shows that in order to support Jay's learning and development Dipa was active in the play, and she was moving outside the play while using her existing knowledge and simultaneously moving inside the play while engaging in the constructive play along with Jay. By applying Kravtsov's (2009) conception of subject positioning in this study, it was possible to analyse Dipa's different positions in the play. As an active participant in the jointly constructed play, Dipa was able to apply different strategies such as negotiating, questioning and letting Jay lead the play, which encouraged Jay to explore the concepts and expand the play. This finding brings new insights into how parents can position themselves in children's play to support their development and learning in a home context.

This study makes a contribution to early childhood education because it shows how Kravtsova's (2009) "subject positioning" concept and Fleer's (2010) idea of "collective and individual imagining" has been used to analyse adult support in family play pedagogical practice. This study dismisses the traditional view of children's play in order to adults' engagement, where children's play has been regarded as a pleasurable free activity into which adults have little input. We argue that Dipa's active involvement inside of the play as a play partner created the possibility for her to develop Jay's abstract thinking and at the same time develop the play itself. We recommend that further study needs to be conducted in order to understand parental support in children's play in relation to the concept of being inside and outside of the play.

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