# Chapter 4 Digital Peer Play: Meta-imaginary Play Embedded in Early Childhood Play-Based Settings



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#### 4.1 Introduction

Longstanding research into the nature of children's play has contributed enormously to how play is conceptualised and how teachers support the play practices of children in early childhood settings. However, digital play has not yet received the same amount of research attention, particularly in relation to peer play with animation apps. What is known has come primarily from studies in families (Danby et al. 2018) and critiques of new media (Nuttall et al. 2013), with more recent research examining the nature of digital play in early childhood settings (Arnott 2017). What appears to be central to this research, is a theorisation of what is digital play in relation to what it is not (Marsh et al. 2016), what apps afford for children's learning and social development (Theobald et al. 2016), and researching how children interact with devices and apps to initiate social pretend play (Verenikina et al. 2016). These conceptualisations of digital play, place the research lens on children and their interactions with digital devices. In contrast, the study reported in this chapter examines the broader context of children's play. The aim is to understand the development of digital peer play with animation apps over time and within the overall activities of the setting.

To achieve the aim of this chapter, a cultural-historical theoretical approach has been adopted in order to gain a holistic conception of the study context. The key theoretical concepts used are discussed in relation to the relevant literature in the first part of this chapter. This is followed by details of the study design. A model is presented to capture the findings. A discussion of the key drivers for the systematic development of digital peer play in early childhood settings is elaborated. Examples of peer play as illustrative of the findings are presented throughout.

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#### 4.2 Theoretical Foundations

*Play* is theorized in this chapter from a cultural-historical perspective, where children (and adults) create an imaginary situation, in which they change the meaning of actions and objects to give them a new sense. In this reading of play, complexity develops within the imaginary situation and the associated narrative, and this in turn develops the child (Vygotsky 1966).

Play has been well documented in the literature, but with different foci (Fleer 2014). A range of approaches to studying peer play has featured (Brooker et al. 2014). Of significance, is how play has been conceptualized in relation to learning in Australia, the context in which this study took place. In the mandatory curriculum that informed the participants of the study reported in this chapter, play is described in relation to practice as, "Combined or integrated child-directed play and learning, guided play and learning, and adult-led learning" (Department of Education and Training 2016, p. 14). In the curriculum document play is modelled in relation to adults and children as shown below.

This conceptualization draws upon longstanding research from the UK that has shown the importance of sustained and shared interactions (Siraj-Blatchford 2007). In the curriculum context of Australia, particular kinds of interactions are foregrounded. For instance, "Effective early childhood practices use integrated teaching and learning approaches to support sustained and shared interactions with children" (Department of Education and Training 2016, p. 14). As will be shown later, this conceptualizing of interactions in play-based programs informs how teachers plan and organize child initiated play periods in centres. This approach to planning for play is relatively new and has promoted new ways of engaging in practice (see Brooker et al. 2014). Consequently, examining peer play when a handheld digital device is introduced into children's play in an Australian early childhood context, potentially offers insights into the nature of digital peer play in relation to the curriculum model advocated. However, as will become evident, the model shown in Fig. 4.1 does not capture all of the key drivers for supporting the development of digital peer play.

In order to achieve the aim of this study, a more comprehensive theoretical frame was needed. Consequently, *subject positioning* was drawn upon (Kravtsova 2009; Kravtsov and Kravtova 2010) to understand and advance the concept of digital peer play. Subject positioning is conceptualized as how teachers and children position



**Fig. 4.1** Dominant theoretical model of teaching and learning in early childhood settings in parts of Australia (Department of Education and Training 2016 p. 15)

themselves in relation to the activity setting, to each other, and to the dominant practices within the activity setting. Kravtsova (2009) has noted that this concept captures how teachers in dialectical pairs take particular pedagogical positions in relation to each other. Also included are children and how they are positioned in relation to each other and their teachers. Examining how teachers and peers relate to each other in play, offers a productive approach to conceptualising the dynamic context of play-based settings, where digital play tools are introduced, and as such, gives the possibility of revealing insights into the nature and development of this form of peer play.

The positions that are theorized in Kravtsov and Kravtova's (2010) and Kravsova's (2009) model are, 'above the child/teacher', 'equal with the child/teacher', 'below the child/teacher', and the 'primordial we'. The practices are operationalized through pairs of teachers acting in complementary ways, such as when one teacher is equal with the children, and the other teacher is above the children or even below the children, asking for help. Children can also be in different subject positions; above, equal or below. The position of 'primordial we' is defined as a teacher or child actively modelling to another a certain practice in the context of its enactment. For example, this may be seen when an adult places an infant on their lap, whilst using a digital device, and narrating to the infant the adult's actions. This positioning is thought to allow the child to be in the activity setting, whilst being swept along with the dominant motives and demands inherent within the practice traditions (Hedegaard 2014), but not necessarily understanding or participating. Subject positioning in the context of a cultural-historical conception of play, informed the study and guided the analysis of the data.

## 4.3 Study Design

Peer play is always in motion. To study the dynamics of digital peer play within a holistic context, demands a theoretical framing that can capture in motion, the practices and interactions that support play development. A cultural-historical approach was used to document the dynamics of the local curriculum practices and teacher imperatives for implementing a play-based program. A holistic conception of research pioneered by Hedegaard (2008) and further developed through the use of digital video observations (Hedegaard and Fleer 2008; Fleer and Ridgway 2014) framed the study design.

# 4.3.1 Study Context

The study took place in a middle class inner city early childhood setting. Families and staff were mostly of European heritage background. The teachers were either four year degree or two year technical and further education qualified. The teachers

participated in an after hours professional development session where they learned about the focus of the study. They were given support in using the digital tools, and brainstormed with the research team a play inquiry to support children's learning of curriculum concepts. When gathering data, ongoing technical assistance was provided by the research team with the digital handheld device and the *My Create* app. This app allows the user to simply photograph a particular scene, to bring all the still images together into a moving picture scene, and record a narrative or music onto the animation (see Fig. 4.4). The teachers chose the fairytale of *The Three Little Pigs* to read, tell, role-play and to produce an animation. Further, they planned during the professional development session, to include house construction with a focus on materials, to explore with the children the associated concept of force, as is featured in building construction, strength of design, and blowing down the houses in the story.

#### 4.3.2 Activity Setting

The dynamics of the free play period were examined by following the intentions of the children and the teachers over seven weeks. A total of 20 visits were made to the setting. The demands and motives (Hedegaard 2014) of the staff and children were noted in the context of digital peer play, as they negotiated their roles within the activity setting of children's play.

# 4.3.3 Data Gathering

Three cameras were used to document the play sessions that took place in the centre. Two cameras followed two focus children, whilst a third camera was positioned on a tripod to capture most of the play area. A home visit to each family was undertaken for approximately an hour. One extended semi-structured interview took place with the director of the centre. The details of the data and data gathering process are summarized in Table 4.1.

	Data gathering period	Preschool digital video observational data	Photo documentation	Family digital video observational data	Teachers	Children
MT 2014	7 weeks	23.5 h	348	2 h	N = 10	N = 27 (1.6– 5.3 years; mean age 3.5 years)

#### 4.4 Findings

The overall finding of the study was that the complexity of digital peer play had to be understood as a collective activity over time, rather than as single moments of children playing together with a digital device and animation app (also see Sulaymani et al. Chap. 8 this volume). In taking a holistic view of peer play over time, it was possible to notice how peer play developed within groups and across time (as noted by Hakkaranien Chap. 2). It was found that there were six key drivers for digital play development, and these were all embedded within the holistic play practices of the centre. The drivers were:

- peer-initiated play,
- adult-initiated play-inquiry,
- adult in the imaginary play situation in role or as the narrator,
- digital placeholders to support imaginary digital play,
- virtual pivots to support imaginary digital play,
- meta-imaginary play peers in role or as the narrators of the digital play.

Figure 4.2 below captures these drivers as cogs in a system that came together to drive the development of digital peer play. This dynamic conception of digital peer play as a key outcome of this study is discussed in this section in relation to the cogs that make up the holistic system of peer play. This is a different conceptualisation of digital play to that which has been previously discussed in the literature (see Danby et al. 2018), where the focus of attention has been primarily on what is digital play and what is not digital play (Marsh et al. 2016).

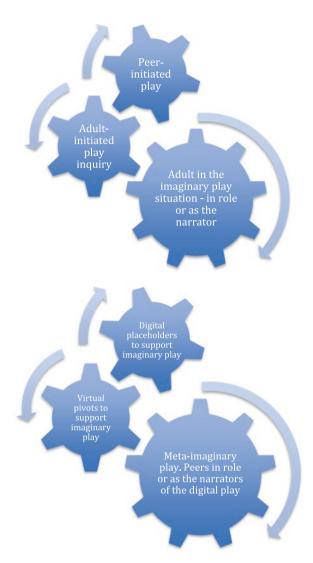
# 4.4.1 Holistic Conception of Digital Play Practices

This section begins with an overview of the peer play context (peer-initiated play) in the early childhood setting where a handheld digital device had been introduced to the children for the first time. The device was used for making a digital animation of the fairytale, *The Three Little Pigs*. This device sat within a program in which the children and teachers supported role-play, play inquiries for constructing different types of homes for the pigs (straw, sticks and bricks), and child initiated play during free play time in the centre. The key drivers are discussed in turn, in relation to examples of data illustrative of the findings.

## 4.4.2 Peer-Initiated Play

Typically, children in this early childhood setting could draw upon the staff as a resource to support peer-initiated play during free play time. For instance, the Director of the centre during the interview stated that,

Fig. 4.2 Key drivers for the systematic development of digital peer play in early childhood settings



Our program is a play-based program. How that works, is that it's got child initiated, teacher initiated, and intentional teaching...it's basically extending what they are doing at the moment. So, if children are wanting to do a certain drawing, we will help them with different utensils and media to use; to express themselves... just to watch and listen (MT17C5).

The philosophy of the centre, exemplified in this quotation, is directly related to the curriculum model in Fig. 4.1. The approach was enacted in practice, as was evident across the data set. For instance, when children asked for resources to support their play (e.g., "I need something to put over the pig's house. For straw"), or when directed to 'help themselves' to resources during an enactment of a play plot

or when preparing for this (e.g., "Just go and get the sticky tape from the office"), or when self-directed by taking objects and changing their meaning to give them a new sense, as the following example shows:

Being mummy pigs eating breakfast: Ellen and Lucy each have a piglet mask in their hand. They have crawled under the three little pigs' table and are huddled up in a sleeping position. Ellen says to Lucy in a bright and cheerful way, "It's the morning". Lucy responds by wriggling and rising as though she is about to leave her bed. Ellen cries out and giggles, saying "Worms. Worms are getting me. It's the morning!". Lucy says, "Let's go to bed again". This suggestion is accepted, and Ellen curls up into a sleeping position. Both grasp their masks tightly. Then they both rise, saying "Mummy?"; "Mummy pig. Cupcake?". Lucy says, "Oh yeah. I made some coffee". Ellen responds by getting out from under the table saying, "I've got lovely cupcakes with ponies on top, I will get the cupcakes". Ellen moves across the kindergarten and retrieves a plastic cylinder and a pop stick from the shelf to use in her play as a cupcake. She says to Lucy, "Mummy pig come on. Two cupcakes". Lucy rejects her objects, "I don't want. I don't have cupcake". Ellen says, "I will get you one". Both children go over to another shelf, and Ellen finds an object (Fig. 4.3) and offers it to Lucy, "It's a tangle one". This is accepted and the pair continue to play being Mummy pigs eating breakfast (MT17C1).

Ellen and Lucy negotiate which objects best represent the cupcakes in their imaginary play of being mummy pigs – as only certain objects can faithfully represent something else; it is not a random selection (Vygotsky 1966). Both children hold on to their masks, signalling their role in the expansion of the fairytale of *The* Three Little Pigs. Using the three little pigs' table as their bedroom and potentially as the first part of the fairytale (where the mummy pig is growing up her pigs), requires more resources than were provided on the table. Ellen, by finding an object to use within the centre, is in keeping with the curriculum supported child-initiated play and learning approach advocated (Department of Education and Training 2016). It is also in keeping with the watch and listen approach of the staff observed during role play (MT17C58.4), and as discussed by the Director, "I really like standing back and watching children, even their role-play, even what they use, say a banana is a telephone...you can get a lot of understanding from where they are at and where their development is at in role-play" (MT17C1). Importantly, this example illustrates how the theme of peer play was strongly influenced by the common narrative collectively available to all, through the teachers having read and re-told the fairytale of *The Three Little Pigs*.

Fig. 4.3 "It's the tangle one" cupcake for Mummy pig



#### 4.4.3 Adult-Initiated Play-Inquiry

Also found in the study was how staff actively modelled and supported the process of changing the meaning of actions and objects to give them a new sense (Vygotsky 1966). A play-inquiry was introduced to expand the children's learning experiences and extend their role-play. The staff introduced the children to the idea of designing and making homes for the three little pigs from different materials. The teachers actively encouraged the children to find materials in their environment that could be used in the role-play with peers, as the following example shows:

Making the houses for the three little pigs: Six children are seated on the floor with Belinda their teacher, and two others are at a table close by. They are looking and feeling the materials that are in the centre of the group (pop sticks, sticky tape, masking tape, paper, straws, pencils) as the teacher asks, "How are we going to make a house? What type of house are we going to make first?". Without pausing, Alex says, "What about...arrr". The teacher asks, "What could be the strongest?". Ellen responds decisively, "Bricks". Another child lifts some pop sticks and says, "These could be bricks". Some of the children close by begin to observe what they are going, and some children from the group walk to the shelves looking at materials. Later the children go outside, searching for objects they feel would be suitable for the house made of sticks and the house made straw (MT09C4.23).

A key pedagogical point observed in this study was the establishment of playinquiries that fitted with the narrative. The teacher created an extended narrative as part of the play-inquiry, and the children's engagement became evident when the children went searching for materials to be used for their indoor and outdoor role-play of *The Three Little Pigs*. This acted as a meta-imaginary situation that gave the children a collective play purpose. It made explicit the story structure of the role-play, the nature of the materials, the changing of the meaning of objects to give them a new sense (e.g., materials for the three little pigs' homes), and supported a social collective for the play activity, as is shown in the following example.

Outdoor scene setting: The children are outside with another teacher Alice. The teacher is holding Lacy's hand. They are walking together across the outdoor play area whilst the teacher tells the story of, The Three Little Pigs. Lacy is in role as the first little pig. Most of the older children are following what is going on, even though they are in different parts of the outdoor area. The teacher says to the collective in a projected voice, "Her house is made out of straw". She points to a piece of equipment (A-frame with lattice), and then taps the red lattice that is leaning against the A-frame, signalling that it could represent straw and therefore be the straw house. As she does this, she says to the collective, "We are finding a straw house for Miss Lacy." One child calls out, "There is a wolf in the straw house", confirming acceptance of the A-frame and lattice representing a straw house. The narrative continues, and the children are collectively supported by the teacher at identifying which of the objects in the environment become different scenes and props in the re-enacting of, The Three Little Pigs in the indoor area (MT13C5).

The adult-initiated play-inquiry was collectively supported through the narrative introduced to the children prior to the play-inquiry (i.e., reading the story, re-telling the story many times, role-playing the story). The play-inquiry had a purpose – to find suitable materials for the homes of the three little pigs, but it also supported the

development of peer play. The teacher modelled changing the meaning of objects to give them a new sense (Vygotsky 1966). It was also observed when the teacher discussed the materials (strength and construction shape, triangular shapes for structural strength), for the purpose of the particular design brief for the story plot – could or could not be easily blown down. The reciprocity between developing the imaginary play and developing concepts was being enacted in this one play-inquiry. Repetition was common place, and the children and staff continued the play-inquiry over the course of the research period of seven weeks.

# 4.4.4 Adult in the Imaginary Play Situation – In Role or as the Narrator

Different from previous research (Fleer 2015), was the way the adults positioned themselves in relation to the imaginary play of *The Three Little Pigs*. Two different approaches emerged. The common approach was for the adults to act as narrators, as though directing a play, where they are positioned outside of the play scene. The second less common approach, was for the teachers to be inside the imaginary play taking a role in support of the peer play. But as is shown in the example below, the teachers seamlessly moved between these two roles in relation to what was required to support and develop peer play.

Teacher as wolf: On the carpet are three discrete piles of materials, each representing one of the little pig's homes. The materials are all found objects. The children with the teacher have collected the materials and made the homes on the carpet. At each home, is one of the children who is holding a mask to signify their character in the play. They begin the role-play. The teacher Alice is at different times both the narrator and the wolf. She has a dual role. She positions herself outside of the area of the three homes and says, "One day (pausing)...who comes along"?. Sally responds by saying, "Wolf'. The teacher continues, "The big bad wolf. And he comes across (pointing to the house) the first little pig's house, which is made of? (pausing again) ... What's it made of (now kneeling down at the house)?". All the children together the teacher call out "Straw!". The teacher raises the mask of the wolf up to her face, completely covering her face, and says, "And the wolf says, 'Little pig, little pig, let me come in"... The teacher continues in role. The children in character respond to the teacher as the wolf. (MT13C45.20).

Previous research has found that teachers find it challenging to be a part of children's play (Lewis et al. 2019). Yet, this study has shown how important it was for peer play when the adults supported the children's play through being in role, and through the narrative they provided to help keep the whole play structure together to deepen the children's play. There were many examples of children actively inviting the teachers into peer play (e.g. "Can you tell it?"). Contrary to popular belief (Nilsson et al. 2017), the findings of this study support the view that children do want adults to be a part of their peer play.

# 4.4.5 Digital Placeholders and Virtual Pivots to Support Imaginary Play Within Digital Meta-imaginary Situations

With the backdrop of other forms of peer play discussed above, it is now possible to understand the nature of digital peer play that was taking place in the early child-hood setting. In the examples below, the range of ways that peers drew upon the digital device to capture the role-play they had been enacting are shown. In particular, the first example is illustrative of how peers interact together when meeting the digital device for the first time, and learn how to use the app to produce an animation of *The Three Little Pigs*. The second example illustrates the way the peers engage with each other and with the app, where some show others how to use the device to capture an animation of their role-play with the felt objects/figures. The examples are illustrative of the dominant learning motive in the context of children's play motive (Hedegaard 2014), where both playing with objects and role playing are needed for successful peer play with the digital device.

Example 1 – Virtual placeholders and digital pivots for the role-play of The Three Little Pigs:

There are two children seated at small table, and three children standing behind observing closely. On the table is a felt board and felt pieces for the fairytale of, *The Three Little Pigs* (see Fig. 4.4). This activity setting has been available to the children since the commencement of the play inquiry. Today the children are introduced to the digital handheld device which has on it the *MyCreate* app. The teacher Alice holds this device to support the process of learning how to make a slowmation.

The teacher says, "We have to take lots of pictures because when the movie plays, it plays very quickly". The teacher moves one of the felt objects into place, and asks, "So what happens when the little pig builds a straw house? Sally answers, "The wolf comes along". Sally removes the felt tree to make room for the new piece. The teacher says, "Where is the wolf?" Sally finds and places the wolf felt piece on the board in the space she just created. The teacher says, "And we will take a few photos of the wolf and the little pig first". Sally moves the pig into place next to the house. The teacher supports the child's action by saying, "Good idea, put the little pig in the house". Do you want to take five photos Sally? Sally says "No, I don't have..." as she searches through all the felt pieces on the table, to which the teacher says, "You have to find the wind". Sally says, "Yes". The teacher

**Fig. 4.4** Creating an animation of fairytale, *The Three Little Pigs* 



helps Sally by looking through all the pieces. Another child joins in at first observing what is going on, but then participates by joining in with the search. Eventually after a lot of searching the piece is found. Sally then takes five photos of the scene, counting each time she clicks on the camera button on the digital device. The teacher holds the device steady as she does this. The other children are keenly observing this process. The teacher then invites Sally to change the scene ready for photographing, "Then what does he do then? No, no, no not by the hair on my chiny-chin-chin" (small interruption). The teacher draws the children back to making the animation by saying, "So what does the wolf do now?" and answers her own question, "He blows", as Sally moves another piece onto the felt board. Ellen has been observing closely. The teacher invites Ellen to take the photos, saying, "Ellen can you take five photos for me now?". Ellen presses the camera five times, and Sally adjust the pieces, as the teacher says, "So what happens to the house Sally?". This questioning dialogue and active participation of the Sally and Ellen continues until the full animation of the fairytale is compete. The children and the teacher re-tell the story as they view the digital images on screen, recording the narration. The 'movie' of their object directed role-play is now complete (MT13C38).

In this first example, the children have chosen to participate in the making of an animation of *The Three Little Pigs*. The story has already been role-played many times using masks, told to the children with a picture book, but also the children have on many occasions told the story to each other using the felt pieces. What is different here, is that the children are digitally recording the story they have previously embodied and told to each other using felt figures/objects. The device acts as a digital placeholder of their story – something that is new and appears to be of great interest for the children. What is being conceptually introduced to the children is that their fairytale can also be documented digitally, that they can create the scenes as photographic images, acting as directors of the play to produce an animation of the role-play. The device and what is recorded, also acts as a virtual pivot for new action, such as when they participate in the process of manipulating the app to produce the animation, to record their narration, and to set the speed of the image presentation. In this way, children are engaging in a new form of activity that can support their development in new ways – peer play includes the use of digital placeholders and digital pivots in digital imaginary situations (see also Fleer 2014). How children begin to appropriate this new activity, is the focus of Example 2.

Example 2 – Peer narrators in meta-imaginary situations:

The teacher Belinda invites Jason to sit in the chair and hold the digital device, saying "Jason come over here. You sit in the chair, and the ladies [research assistants] will tell you what do to". She moves Jason's hand to the device saying, "You can touch it. You need to take photos. The other children will change the scene (pointing to the felt board), and you have to press that button. OK?". The teacher leaves. Sally points to the camera button and says to Jason, "That one, the camera button". Jason places his finger on the button, and Sally says, "Yeah that one." Sally instructs Jason on taking the photos whilst the other children look closely. Jason says, "Now what?". He observes Sally as she takes the felt piece from the pile, and says, "The stick house. No, the wolf comes along". Sally looks into the bag of felt pieces, and says "All you have to do is get grandma's house, there..." as she places the felt house on to the felt board. She pats it down and then looks into the bag saying, "OK wait" [before taking a photograph] as she finds the grandma and places that next to the house, saying "There!". Jason looks on as she sets up the scene placing all the Three little pigs onto the felt board before he presses the camera button. Jason with some initial

Fig. 4.5 Digital peer play in action – reciprocity between learning and playing



support from the research assistant to steady the device and to hold it still, takes several more photographs after each scene change. The scene change is signalled by Sally saying, "Now the next part". Jason also removes the pieces from the felt board and helps set up the next scene (MT 17 C32).

These examples of practices within the play activity setting, supported the children to stream in and out of the imaginary play, and this in turn actively supported their meta-imaginary peer play – as captured in Example 2 and Fig. 4.5 Children are both learning and playing in the process of using the digital device to capture the action as digital placeholders of the scenes. The app allows the images to act as pivots in their play, as they manipulate the scenes to turn them into an animation, and finally together the children create their meta-imaginary peer play of *The Three Little Pigs*. This was only possible because the digital peer learning and play, took place within the broader context of an embodied experience of peer role-play and through hearing the fairytale read and narrated. That is, the peer play and storytelling with the felt board, laid the conceptual foundations that made it easy to engage in the process of learning to use the app and digital device for re-telling the story as an animation. Locating digital play within the broader system of play practices has not been previously discussed in the literature on the use of apps for producing animations.

#### 4.5 Conclusion

Digital everydayness is now part of most European and European heritage children's experiences (Danby et al. 2018). Using handheld digital devices with multiple choices from a proliferation of apps (Arnott 2017), are normalised practices in many homes, and increasingly so in early childhood settings. Examining what this means for how peers play together in early childhood settings is important for better understanding what these devices and apps afford for children. In order to explore this problem, this chapter followed a group of young children and their teachers during the development of a range of imaginary peer play situations focused around the fairytale of *The Three Little Pigs*.

The outcomes of this study were informed by a dialectical conception of digital play (Fleer 2014), rather than theorising digital play within a dichotomous relationship with other forms of peer play – conceptions which appear to have inadvertently arisen as researchers grapple with how to explain the nature of digital play. In this cultural-historical study, digital peer play emerged and was understood within all the play practices operating in the centre.

A key finding of this study, was that peer play was enriched when teachers were part of the meta-imaginary situations in all the forms this took in the centre. Teachers provided the narrative glue that held the story line together for the children, allowing peers to continue to play within the fairytale narrative frame, whilst the adults selectively supported the play through filling in textual and action gaps. Further, it was found that the adults initially changed the meaning of actions and objects in both the material and digital play settings, and this expanded the narrative and developed the complexity of the play in all its forms. The play-inquiries initiated by the teachers supported this process. The teachers focused the children's attention on the materials and collectively modelled and engaged children in consciously changing the meaning of objects to give them a new sense relevant to the story line. The children also appeared to initiate play scripts that were complementary to the collective story line, as the example of the Mummy pigs showed. This example showed the negotiation of a selection of particular materials to support the play. In addition, this example showed how the children appropriated the known characters, using these to create their own drama within the collective play. What is theorised, is how the meta-imaginary situations of peers appear to take place through both the embodied experience of role-playing and the digital capturing of the imaginary situation in the fairytale.

In sum, key drivers for the development of *digital peer play* in early childhood settings appear as a streaming between the various play practices of: peer-initiated play, adult-initiated play-inquiry, adults in the meta-imaginary play situation (digital placeholders, virtual pivots), and peers in roles as the directors of digital meta-imaginary play situations. These drivers are conceptualised holistically as a systematic model of *digital peer play* (Fig. 4.2). The dynamic nature of *digital peer play* and how it evolves over time through a common narrative, must be theorised within a holistic system of a variety of forms of play practices. The study outcomes contribute to scholarly understandings of the expansive nature of play and the key role the adult has in developing *digital peer play*, going beyond the existing play and learning strands (Fig. 4.1) found within the curriculum model adopted in Australia.

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#### References

- Arnott, L. (Ed.). (2017). Digital technologies and learning in the early years. London: Sage. ISBN 978-1-41296-242-1.
- Brooker, L., Blaise, M., & Edwards, S. (Eds.). (2014). *The Sage Handbook on play and learning in early childhood*. London: Sage.
- Danby, S., Fleer, M., Davidson, C., & Hatzigianni, M. (Eds.). (2018). *Digital childhood*. Amsterdam: Springer.
- Department of Education and Training. (2016). Victorian early years learning and development framework. Victorian Government: East Melbourne.
- Fleer, M. (2014). Theorising play in the early years. Cambridge: Cambridge University Press.
- Fleer, M. (2015). Pedagogical positioning in play Teachers being inside and outside of children's imaginary play. *Early Child Development and Care, 184*(11–12), 1801–1814. https://doi.org/10.1080/03004430.2015.1028393.
- Fleer, M., & Ridgway, A. (Eds.). (2014). Digital visual methodologies: Theorising researching with children. Amsterdam: Springer.
- Hakkarainen, P., Bredikyte, M., Jakkula, K., & Munter, H. (2013). Adult play guidance and children's play development in a narrative play-world. European Early Childhood Education Research Journal, 21(2), 213–225. https://doi.org/10.1080/1350293X.2013.789189.
- Hedegaard, M. (2008). Principles for interpreting research protocols. In M. Hedegaard & M. Fleer (Eds.), Studying Children. A cultural-historical approach (pp. 46–64). Berkshire: Open University Press.
- Hedegaard, M. (2014). The significance of demands and motives across practices in children's learning and development. An analysis of learning in home and school. *Learning, Culture and Social Interaction*, *3*, 188–194. https://doi.org/10.1016/j.lcsi.2014.02.008.
- Hedegaard, M., & Fleer, M. (2008). Studying children. London: Open University Press.
- Kravtsov, G. G., & Kravtsova, E. E. (2010). Play in L.S. Vygotsky's non-classical psychology. *Journal of Russian and East European Psychology*, 48(4), 25–41.
- Kravtsova, E. E. (2009). The cultural-historical foundations of the zone of proximal development. *Journal of Russian and East European Psychology*, 47(6), 3–18. https://doi.org/10.2753/RPO1061-0405470501.
- Lewis, R., Fleer, M., & Hammer, M. (2019). Intentional teaching: Can early childhood educators create the conditions for children's conceptual development when following an interest based program? Australian Journal of Early Childhood, 44(1), 6–18. https://doi.org/10.1177/1836939/19841470.
- Marsh, J., Plowman, L., Yamada-Rice, D., Bishop, J., & Scott, F. (2016). Digital play: A new classification. *Early Years*, 36(3), 242–253. https://doi.org/10.1080/09575146.2016.1167675.
- Nilsson, M., Ferholt, B., & Lecusay, R. (2017). The playing-exploring child: Reconceptualizing the relationship between play and learning in early childhood education. *Contemporary Issues* in Early Childhood, 18(3), 1–15.
- Nuttall, J., Edwards, S., Lee, S., Mantilla, A., & Wood, E. (2013). The implications of young children's digital consumerist play for changing the kindergarten curriculum. *Cultural-Historical Psychology*, 2, 54–63.
- Siraj-Blatchford, I. (2007). Creativity, communication and collaboration: The identification of pedagogic progression in sustained shared thinking in Asia-Pacific. *Journal of Research in Early Childhood Education*, 1(2), 3–23.
- Theobald, M., Danby, S., Davidson, C., Houen, S., Scriven, B., & Thorpe, K. (2016). How talk and interaction unfold in a digitally enabled preschool classroom. *Australian Journal of Linguistics*, *36*(2), 189–204. https://doi.org/10.1080/07268602.2015.1121530.
- Verenikina, I., Dervin, L., Rivera, M., & C and Lidbetter A. (2016). Digital play: Exploring young children's perspectives on applications designed for preschoolers. *Global Studies of Childhood*, 10, 1–12. https://doi.org/10.1177/2043510616676036.

Vygotsky, L. S. (1966). Play and its role in the mental development of the child. *Voprosy Psikhologii*, 12(6), 62–76.

Walker, S., Danby, S., & Hatzigianni, M. (2018). Use of digital technologies and cognitive self-regulation in young children. Findings from the Longitudinal Study of Australian Children. In S. Danby, M. Fleer, C. Davidson, & M. Hatzigianni (Eds.), *Digital childhood*. Amsterdam: Springer.

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