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## The aim of the game: A pedagogical tool to support young children's learning through play

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### ABSTRACT

Understanding what and how young children learn through their play is central to the enactment of the dominant, play-based early childhood education and care. This paper presents data from a case study of 28 young children's perspectives on learning through play. Application of a cultural-historical analysis method showed how these perspectives may be understood according to Vygotsky's writing on learning through play. This paper suggests “the aim of the game” is a useful way to understand young children's perspectives on their learning through play. The resultant understanding may facilitate educators' observation of and engagement with free play to maximise learning, without disrupting their autonomy – an indispensable feature of play for young children.

### 1. Introduction

Dominant early childhood education and care (ECEC) curriculum is play-based ([Organization for Economic Cooperation and Development, 2006](#); [Stephen, 2012](#)). Yet longitudinal data has suggested that ECEC which balances adult-initiated activity with play results in the best child outcomes, but educators must “extend” around half of that play, allowing children to see new possibilities in their play ([Siraj-Blatchford, Sylva, Muttock, Gilden & Bell, 2002, p. 144](#)). Some research has begun to identify the benefits of structured, or guided play ([Weisberg, Hirsh-Pasek, & Golinkoff, 2013](#)), but educators will find little to assist the more difficult task of extending unstructured play, or the learning associated ([Wood, 2007](#)). Educators around the world experience their role “in a cleft stick” between expectations for free play and academic outcomes ([Keating, Fabian, Jordan, Mavers, & Roberts, 2000, p. 442](#)), underscoring the need for practical ways to extend learning through play towards curricular demands ([Kinkead-Clark, 2018](#); [Ranz-Smith, 2007](#)). The current case study of young children's perspectives on their learning through play provides practical insight into ways educators can extend free play.

While learning through play has predominantly been investigated through psychological and experimental research, it has encountered significant challenges ([Lillard et al., 2013](#)). One under-utilised approach is to ask the very stakeholders undertaking the learning through play ([Sommer, Pramling Samuelsson, & Hundeide, 2010](#)). While young children may not understand learning in the ways that researchers typically do ([Corsaro, 2011](#)), as the producers of the play they may offer unique insight into the internal and private processes involved in meaning-making and learning ([Richards, 2011](#)). While educators are often be privy to this insight in transient and idiosyncratic forms, rigorous analysis of young children's perspectives is likely to contribute to knowledge on best practice for following and extending children's play-based learning. As younger children's perspectives are less influenced by adults'

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(Sandberg et al., 2017; Theobald et al., 2015), particularly before entering school where adult notions of learning predominate, their perspectives have the potential to disrupt current assumptions and significantly progress our knowledge on learning through free play (Tertoolen, Geldens, Van Oers, & Popeijus, 2017).

### 1.1. Knowledge about young children's perspectives on learning through play

Young children's perspectives appear distinct from adults' on the topics of play and learning (e.g., Corsaro, 2011; Sandberg et al., 2017; Theobald et al., 2015). Additionally, play is children's preferred activity (Einarsdóttir, 2005; Howe, 2016), and peer accompaniment most significant to this enjoyment (Kragh-Müller & Isbell, 2010; Rogers & Evans, 2008). Young children may be more likely to consider an activity play when they themselves decide its rules (Ólafsdóttir & Einarsdóttir, 2017). Critically, adult control may impair enjoyment (Nicole, Camilla, Nicholas, & John, 2012; Stephen & Brown, 2004), and stop children perceiving the activity as play (Breathnach, Danby, & O'Gorman, 2017; Howard & McInnes, 2013; Sandberg, 2002; Wing, 1995), drawing into question whether “guided play” can achieve the same long-term outcomes as free play. However, Pyle and Alaca (2016) and Wu (2015) found that the more educators engaged with play, the more likely children were to perceive play as leading to academic learning. The balance between intervening too little and too much in play is therefore likely to be “delicate” (Leggett & Ford, 2013, p. 44), requiring a sensitive understanding of children's learning through play. A contribution to this balance was found in the current findings, which were only understood using a cultural-historical definition of play and learning through play (see Colliver, 2017). That is, after 18 months of analysis using dominant models of learning (e.g., as “acquisition”; Sfard, 1998) and of play (e.g., Piaget, 1962) to understand the current data, the only congruent explanation available for them was found in cultural-historical theory, which also undergirded the framing of the study.

### 1.2. A cultural-historical definition of play

The grandfather of cultural-historical theory, Vygotsky (1978, p. 101), regarded imaginative play as “a leading factor” in early childhood development. Play is defined by the presence of an “imaginary situation” and the rules creating it (Vygotsky, 1966, p. 5)—providing it with its *as-if* quality. Playing “cops and robbers”<sup>1</sup> uses an imaginary situation with police officers chasing thieves. Even in constructing a sandcastle, a player will create an imaginary situation bound by a rule (e.g., “pile sand as high as possible”). Contrasting most others, Vygotsky's definition describes play as “contingent on players abiding by a set of rules” (Bodrova, 2008, p. 359; Duncan & Tarulli, 2003); if “robbers” refuse to run away, or “cops” to chase them, the play dissolves.

It should be noted that while Vygotsky's definition relates to imaginative play, current findings appeared to apply equally to other forms of play, such as physical skill practice and board games the children discussed. This is not altogether counterintuitive, as the condition of having an imaginary situation arguably extends to other forms of play. Early forms like a one-year-old pretending to escape a tickling parent involve a situation where escaping is obviously imaginary (*as-if*). More mature forms like play with pebbles necessarily involve arbitrary rules (e.g., “line up all round rocks”, “throw each into a can from a specified distance”) that create an imaginary situation (Winther-Lindqvist, 2018). For the purposes of this paper, then, play may be defined as activities with an imaginary situation.

### 1.3. A cultural-historical description of learning through play

While Vygotsky's descriptions of how children learn through play are spread across several works (e.g., Vygotsky, 1966, 1978; Vygotsky & Luria, 1930/1994), his four connections between imagination and reality (Vygotsky, 2004) are briefly described here because the children's perspectives in the current data were predominantly framed within the imaginary (see Section 3), and canvas a cultural-historical understanding of learning through play (Karpov, 2005). The first connection describes how the imaginary is always a reconfiguration of ideas drawn from reality. Even the most fantastical products of the imagination [e.g., Milne's (1926/2004) “Winnie the Pooh”] are merely different parts of reality (bears, human thought) reconfigured using the “distorting” action of imagination (Vygotsky, 2004, p. 13). As such, imagination is limited by the wealth of experiences (from reality) from which children can draw (Fig. 1). For example, in playing firefighters, no two children have had exactly the same experiences (of smoke, heat, etc.), nor will the “distorting action” of their imagination reconfigure it the same way (p. 13).

The second imagination-reality connection asserts that understanding any communication about reality requires us to use our imagination (Vygotsky, 2004). If a woman describes snow to a man who has never seen it, he must use his imagination to comprehend that reality (*Relationship B* in Fig. 2). Even if he had experienced snow first-hand, he would still reconfigure those experiences (A) to imagine what she is describing (B).

Vygotsky described other learning through play as children play out and thereby learn about adult experiences, “imagin[ing] what [s]he has not seen... from another person's narration” (Vygotsky, 2004, p. 17). When playing “Piglet”, children are drawing on others' (an author's) depictions. Research suggests play provides such opportunities to understand new perspectives (Wang, Wong, Wong, Ho, & Cheng, 2017).

Vygotsky's third imagination-reality connection describes how imaginary concepts and emotions impact players' realities. While we know that a sad novel is not real, the emotions and physiological responses they evoke (tears) *are*. One allure of play for children is

<sup>1</sup> Words belonging to the imaginary are in quotation marks.

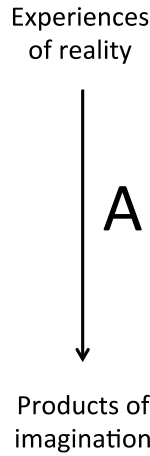


Fig. 1. Relationship A: Imagination draws on reality.

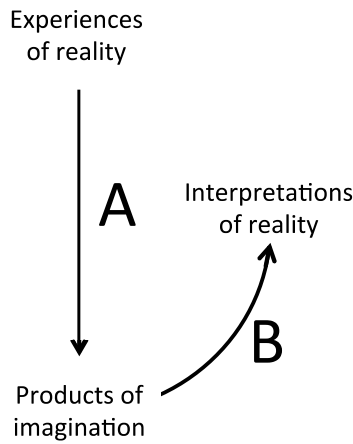


Fig. 2. Imagination influences interpretations of reality.

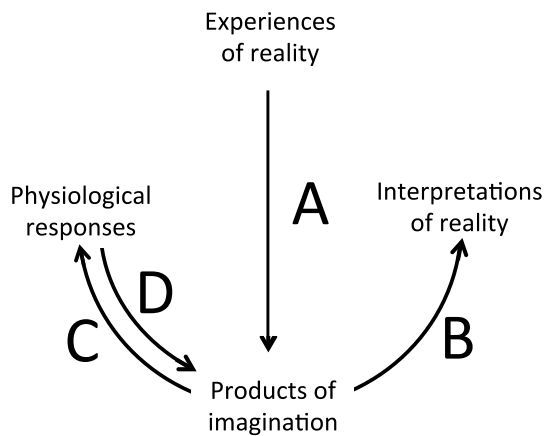


Fig. 3. Imagination evokes and is influenced by real physiological responses.

that the imaginary situation creates real emotion; the rules of the imaginary situation determine what children do in play, and this may sometimes lead to emotions such as power, fear, or a sense of achievement (C; Fig. 3).

In seeking to realise an ungratified desire through play, children must also self-regulate other desires. When a child has a desire to play Piglet, rules associated with that role restrict behaviour (e.g., talking as Piglet does, taking small steps). Thus, to realise the main rule or purpose of her play (to be Piglet), many real-world desires (to run quickly, act bravely) “are ruled out”, overridden by

imaginary preconditions (Vygotsky, 1966, p. 7).

The imaginary situation is also *influenced* by real physiological responses: as “emotion seeks specific images corresponding to it” (Vygotsky, 2004, p. 17). For example, when we are scared, we tend to imagine fear-inducing images (like ghosts) (Evers et al., 2014). Thus, playing out experiences evokes emotions that assist children to elaborate further features of their imaginary situation (e.g., Piglet’s anxiety making him accident-prone; D, Fig. 3).

The fourth connection describes how imagination creates conceptual products that come to exist *in their own right*, bound by “an internal logic of their own” (Vygotsky, 2004, p. 24). Pooh Bear’s imaginary personality traits (e.g., tranquillity, generosity) have inspired many readers of the self-help title, *The Tao of Pooh* (B. Hoff, 1982), to embody “Pooh-like”, Taoist qualities in real life. Therefore, the final way in which imagination is bound to reality (*Relationships H & F*) comes full circle, linking the two concepts in creation and influence (*A–H*).

Research indicates children can recompose memories to create imaginary companions (A) who act bravely and inspire children to behave similarly (C) in situations where they otherwise feel scared (B, F), allowing different interactions (H) to which others respond accordingly (G, I), as suggested by research showing imaginary companions may enhance comfort (E. V. Hoff, 2004), theory of mind, and emotional intelligence (Taylor, Carlson, Maring, Gerow, & Charley, 2004). Derived from reality, imagination has real impacts.

These four simple imagination-reality connections are offered here to facilitate understanding of young children’s perspectives of learning through play, which can be difficult to interpret (Clark, 2005; Colliver, 2017).

1.4. Theorising perspectives

...the psychological analysis of any expression [is complete] only when we reveal the final and most secret internal plane of verbal thinking, that is, its motivation. With this, our analysis is finished.

(Vygotsky, cited in Bruner, 1987, p. 6)

The data presented here were part of a larger case study of what Stephen and Brown (2004) term “insider” stakeholder groups’ (i.e., educators’, families’ and children’s) perspectives. A cultural-historical theorisation was used (Hedegaard, 2008; Fig. 5), with an “institutional” level analysis because an individual level of analysis is not appropriate for a group (e.g., young children; p. 17). Hedegaard (2008) provides a framework of three different levels from which people’s perspectives might be analysed. Hedegaard understands people as connected into a system of individual, institutional and societal level activity. Each level is characterised by a different form of activity (Table 1). She argues that these levels can be used to analyse what is happening for people in terms of their particular perspective on a given phenomenon.

The current study examined their perspectives as a group bound by “school [ECEC] practice” and contrasted with other groups (parents, educators) at that level, and not above or below it, at “state” or “individual” levels (see Fig. 5; Hedegaard, 2008, p. 10).

Cultural-historical research analyses activities (what we do) to reveal motives (why we do them; Matusov, 2007), as Vygotsky (cited in Bruner, 1987) asserted. Yet at the institution-level, Hedegaard (2008) shows that activities are analysed as “practices”, and motives, as “values” (p. 17). Analysis of practices is intuitive because children’s practices (e.g., attending childcare, following educator instructions) are what unite them as a group and distinguish them from other groups (such as policy-makers or parents, who perform none of these practices; Rogoff, 1995). The “institutional” level of analysis is appropriate for the perspectives of stakeholder groups such as young children because Vygotsky’s (1987) goal to understand motives fits with his (Vygotsky, 1966) theorisation of play as arising at precisely the time in life when a child’s motives and desires outgrow her capacity to fulfil them through reality (thus seeking them through the imaginary). Play, and the learning resulting from it, will thus be expressed individually as motives but in groups as values (see Table 1), which can be understood via the practices in children’s perspective expression (Hedegaard, 2008).

The focus on practices and values inherently respects the agency of children to act in their world as adults do (p. 12), rather than being defined by age (e.g., as in the label *childish*). Like any other group, they may be understood via their practices (Rogoff, 1995). The case study described here was located within a children’s-rights framing of children’s perspectives, focussing on children’s “perceptions, knowledge and experiences” rather than the researchers’ (Sommer et al., 2010, p. 21). Within the “interpretivist” epistemology of the study, and to which Vygotsky himself subscribed (Bruner, 1987, p. 6), any sincere expression of a perspective is as valid as any other.

2. Methods

The current case study nested within a larger investigation of stakeholder perspectives in a play-based ECEC centre in suburban Australia. Each room opened onto a common playground, wherein children recorded many play episodes. Ethics clearance was obtained from the University’s Human Research Ethics Committee. Parents were given information letters, parental consent forms,

Table 1  
Levels of analysis (Hedegaard, 2008).

Level	Activity	Motives
State	Tradition	Conditions
Institutional	Practice	Values
Individual	Activity	Motives

with “child-friendly” versions for children (e.g., [Dockett, Einarsdóttir, & Perry, 2012](#)). From those 28 participating children whose parents consented (aged 2–5,  $M = 49.2$  months,  $SD = 11.7$ ; 16 females, 12 males), informed and ongoing consent was sought ([Harcourt & Conroy, 2011](#)).

### 2.1. Procedure

Along with field note-taking for researcher reflexivity, the study utilised a method known as video-stimulated recall dialogues (VSRD; [Morgan, 2007](#)). After a two-week “familiarisation period”, the first author introduced the research project to be about children’s play and learning and, during educator-led morning “circle time,” showed children how to use the five handheld Flip™ video cameras, which they could borrow from the researcher any day during the two months of the project when they wanted to document their child-initiated play. Such prolonged field engagement is consistent with Vygotsky’s interpretivist epistemology and his imperative that research builds up a “thick” description of people’s intentions and motives ([Bruner, 1987](#)) In line with child-centred research protocols, as many videos as possible were recorded by children, who were often playing at the same time. To complement any unintelligible videos collected by children still learning how to use a camera ([Bird, Colliver & Edwards, 2014](#)), video data was also collected by the first author, each episode with children’s permission.

Video is a highly descriptive “platform of communication” with non-verbal common referents suited to young children’s reflection ([Clark, 2005, p. 494](#)), and recordings, displayed on a laptop, were used to stimulate group and individual dialogue with the first author several days later, who asked the players, “Are you learning in this play in the video? What are you learning?”. Delaying these dialogues several days after the recordings allowed the children to reflect on their learning more deeply. The VSRD generated 772 comments, which were also video recorded for later analysis. Because video of the dialogues could capture children’s embodied disinterest in the play or questions, data from the half-dozen instances of this could be removed. Field notes documented the first author’s changing interpretation of the children’s play episodes and VSRD comments.

### 2.2. Analysis

Application of [Hedegaard’s \(2008\)](#) model, which has been productive in other analyses of children’s perspectives (e.g., [Tertoolen et al., 2017](#)), provided a protocol with which to deductively analyse 131 VSRDs (mean VSRD duration = 33.01 s,  $SD = 93.67$  s) for practices and values. Without this, an inductive analysis of the themes mentioned in the children’s 772 comments, made findings circular, such that children stated they were “learning to be a pirate” when watching videos of themselves pretend playing pirates (see [Colliver, 2017](#)). As an example of the deductive analysis, a young child’s perspective that he was learning “[h]ow to fix cameras” (Flynn, 5:54#6) would be coded for practices (e.g., stating the rules of play) and values (e.g., of the imaginary situation).

Validity was ensured by checks for disconfirming evidence (of which none were found; except six comments about learning “nothing”; e.g., Marie, 29#51), prolonged field engagement (2 months), and rich description common to much ethnographic research (here provided with contextual analysis and descriptions derived from the field notes). These three criteria ensure validity within an interpretivist epistemology ([Creswell & Miller, 2000](#)). The unanimity of 771 comments across 28 participants also triangulated findings.

## 3. Findings and discussion

Findings revealed children’s practice of publicly stating the imaginary situation’s main rule. The corresponding values were that of the imaginary situation of play, and of the act of playing itself. Given the centrality of imagination in these children’s perspectives, findings are discussed in relation to Vygotsky’s four reality-imagination connections, which canvas the main ways he saw play leading to learning. These four connections are not provided as definitive interpretations of the data, but rather as windows into the ways in which young children’s perspectives aligned with cultural-historical theorisations of learning through play. They provide examples of how educators could understand young children’s perspectives on learning and play to better support their integration.

### 3.1. Connection one

One example illustrates children’s reconfiguration of reality in the imaginary, the first connection that [Vygotsky \(2004\)](#) describes. A video made of three-year-olds Belle and Gwen<sup>2</sup> showed them playing quietly in the corner of a sandpit ([Fig. 6](#)) while some older boys played with more physical intensity nearby, observed running through the sandpit and disturbing their more quiet play.

In broad agreement with the perspectives of adult “insider” stakeholders ([Colliver, 2016](#)), field notes detailed the researcher’s perspective:

Using fine-motor skills, Belle is tenderly pinching sand between her fingertips as she carefully holds her sleeve out of the sand with her other hand, showing care and attention to her ‘cooking’ with her friend. The two describe the cooking narrative under their breath, while incidentally discovering the properties of wet and dry sand as it slips between the cracks of the basket.

(Field Notes, 2012, p. 32)

<sup>2</sup> All pseudonyms.

Educators using this common type of pedagogical observation (Broadhead, 2006) may only gain “surface interpretations” of Belle’s play interests without a pedagogical tool with which to understand what she is learning through them (Hedges & Cooper, 2016, p. 306), potentially resulting in planning more fine-motor experiences or providing more play props to extend the play.

When the researcher asked the children themselves what the play was about, Gwen replied, “We’re scaring the baddie boys”, to which Belle added, “We’re going to kill Captain Hook because he’s evil”. The ideas of scary boys and killing Captain Hook appeared unconnected until the researcher asked children themselves about the play:

- [Researcher:] How are you doing that?  
 [Belle:] These are spicy things so he’ll die if he eats these [\*pointing to an ice cube tray filled with sand\*].  
 [Gwen:] There’s poison in there. I put chilli.  
 [Researcher:] Oh! Do you think that’ll kill him?  
 [Gwen:] Yeah.  
 [Researcher:] So what’s his food look like?  
 [Belle:] He eats only children.  
 [Researcher:] So how are you going to poison him if he eats only children?  
 [Belle:] We have to hide and see if he eats it [\*pointing to ice cube tray\*] if he thinks it’s food.  
 [Gwen:] He’ll have a try and he’ll be dead really quick.  
 [Researcher:] Is that the poison food [in the ice-cube tray]? [Belle nods]. And what’s that in the basket?  
 [Belle:] That’s his poison coffee. (Belle, 43#3)

Here the imaginary play appeared to be drawing on a wide range of ideas from children’s social realities: physically larger, more rambunctious boys sharing the outdoor area, “Captain Hook’s” intimidation of children, retribution through poisoning someone, and chilli being spicy. These ideas were otherwise not apparent from the observations about fine-motor skills and physics of wet sand.

The VSRD process provided opportunities to reflect on the meaning of Belle’s perspective. Subsequent dialogue prompted by her video-viewing (VSRD) occurred a few days later, and later analysed for “practices” and “values” (Hedegaard, 2008, p. 17). Answers to the researcher’s suggestions such as those below (e.g., “no”) indicated how definite children’s perspectives were over the two-month data collection.

- [Researcher:] In this video, what do you think you’re learning?  
 [Belle:] I’m learning to kill Captain Hook because he’s evil.  
 [Researcher:] You mean you’re making a story about Captain Hook?  
 [Belle:] No, we’re just killing him. We’re pretending he’s there.  
 [Researcher:] You’re pretending he’s there? [\*Belle nods\*]  
 Were you learning how to use the sand?  
 [Belle:] No.  
 [Researcher:] Are you learning anything else?  
 [Belle:] I’m learning how to cook big adult things.  
 [Researcher:] Were you learning how to use spoons and tools like that? [\*Belle nods\*].  
 And you were playing with [another three-year-old], so were you learning how to share?  
 [Belle:] I’ve already learned how to share.  
 [Researcher:] Are you learning anything else? [\*Belle shakes her head\*] (Belle, 12#37)

Hedegaard’s analysis protocol of Belle’s perspective revealed the “practice” (Hedegaard, 2008, p. 17) of *stating* the main action of her play—“killing him”—and the value that had for the continuation of the play. It also demonstrated the girls’ connection between poison and “big adult things” (spicy food, coffee). The first imagination-reality connection Vygotsky (2004) observed was that imagination is a composite of reality, “more nearly recollection than imagination” (Vygotsky, 1966, p. 17). This connection provided one way to understand Belle’s (12–56#37) perspective that she was “learning to kill Captain Hook because he’s evil”, which within dominant conceptions of learning was a non sequitur because they typically assume children cannot learn about the reality (in this case, about “killing”) through imagination, as learning is thought to necessarily involve the acquisition of new knowledge (Sfard, 1998). Colliver and Fleer (2016) discuss how children’s perspectives on learning fit more closely with a participatory model of learning (e.g., Rogoff, 1995). Yet Vygotsky (1997) observed that imagination is central to play, and through play, children syncretise parts of their lived realities into a “picture as a whole to begin to understand each part” (Vygotsky, 1987, p. 299). Imagination is the child’s way of understanding her social world, which drives development and her understanding of the world (Vygotsky, 1979, 1998). Therefore, though not immediately apparent within dominant models of learning (Colliver, 2017), reconfiguring her understanding of cooking spicy food and coffee (presumably from reality), and Captain Hook, poison, and retribution (presumably from fiction), she was indeed “learning how to kill Captain Hook”. The imaginary situation was a context for learning about what these things might mean socially, putting parts of reality together in new ways (Duncan & Tarulli, 2003), just as one discovers new anagrams when playing with Scrabble™ pieces. For example, it is not hard to imagine that, through home cooking experiences, Belle learned not to add too much chilli, which she has equated with the concept of poison and, in turn, the retribution Captain Hook received from the children pushing him overboard in the Peter Pan narrative. The concept of the adult drink coffee appeared to be similar to the division she saw between her younger friends and the older and more powerful “baddie boys”. The “distorting” action of the imagination Vygotsky (2004, p. 13) described has been found to underpin human creativity across time and cultures, and learning to use it may have been crucial to our species’ survival (Eagelman & Brandt, 2017).



Hedegaardian analysis of practices and values of children's perspectives was best understood through Vygotsky's (2004) imagination-reality connections. For example, it is likely Belle and Gwen were extending each other's understandings by contributing invariably unique experiences (Göncü, 1998); The similarity between the danger of putting too much chilli in one's cooking and that of poison may have been contributed by Belle's personal experiences. Seeing these links may assist educators to see the origins of children's learning through play in their family lives (Hedges & Cooper, 2016), using curriculum as cultural broker to extend children's extant knowledge. Vygotsky's (2004) first connection, wherein children reconfigure reality in order to make sense of it through play, was a relevant way of interpreting all 771 comments, suggesting its utility for understanding young children's perspectives.

Moreover, application of Hedegaard's (2008) model to Belle's perspective showed the *practice* of stating rules of the imaginary situation: to make "poison coffee" to kill "Captain Hook". Yet what arose through deductive analysis of the remaining 771 comments was that children's perspectives were always stating the *main* rule, the aim of the play. Almost without fail, each time a child aged two to five explained what they were learning, they stated the "aim of the game". It made sense that children's individual motive in play was at group level the statement of that aim. For example, if Belle and Gwen did not share this rule, they could not share the pretend play. As is evident in the following excerpt, where children vie for different aims of the play, the practice of stating it was central to the play's continuation, revealing the value of the imaginary situation. Thus, as Hedegaard (2008) suggested, the children's practices revealed their values.

Another example came from the play recorded of several "Dog Catchers". Four-year-old Bindi, playing the "dog", was to escape from an enclosed space in corner of the playroom while five boys, playing "the dog catchers", tried to stop her (Fig. 7).

When shown a video of this play and asked about learning, the children's practice was publicly stating the aim of Bindi's game, to be a "dog", with Flynn elaborating the meaning of being a dog was learning how to escape the pound:

[Researcher:] What was [Bindi] the "dog" learning there?

[Sarah:] She was learning how to be a dog.

[Flynn, correcting Sarah:] No, she already knows how to be a dog, she just wants to be a better dog. Because she digs through one of the tunnels, and me and [Kaiya] had to block her way. And then she got out and then we had to chase her and we didn't catch her because she was too quick. But we did actually catch her [in the end]. I actually did [im]pound her.

[Researcher, to Ariel:] What do you think she's learning when she's learning how to be a dog?

[Ariel:] She's acting like a dog and doing what dogs do.

[Researcher:] I see. And what about the dog catchers? What were you learning, [Flynn]?

[Flynn:] Well, we were trying to catch [Bindi], and we were the Dog Catchers.

[Researcher:] So what were you learning about?

[Flynn:] We were trying to catch her – and we did catch her at the end but then she escaped again (Flynn, 4:27#4).

Reminiscent of "metaplay" (Trawick-Smith, 1998, p. 433) where children step out of the play role to direct the narrative (e.g., Flynn stating, "Wait, no, no – you're the bad guy" during astronaut play), different perspectives from children inside and outside the play demonstrate why publicly stating the motive of the play scenario (the aim of the game) would be important for its continuation. Similarly, children also expressed their perspective that the reciprocal role of being a dog catcher afforded the complementary learning "to catch" (Flynn, 4:27#4), "to grab" (Flynn, 17#5) and "to block" (James, 23#5) dogs. The *aim of the game* was complementary for different players, meaning the *practices* (Hedegaard, 2008) in expressing their perspectives were not simply the activity they were describing. Because different players had complementary aims, it seemed important for all players that other players knew each other's; if "the dog" no longer tried to escape, the "dog catchers" would not have anyone to block, dissolving the play—as when a "cop" refuses to chase "robbers". The practice of stating the aim was evident both in the child-recorded videos as well as the VSRDs, and reveals the value it holds (Hedegaard, 2008) because players rely on other players striving towards the same aim (Ermakova, 1987). This shared value meant the children's perspectives appeared to be very consistent when discussing the same play [e.g., James stated the dog was learning "how to get out" (James, 6#5), while in a separate interview Flynn stated the dog was learning "to escape" (Flynn, 3:25#4)], suggesting their perspectives' validity (Freeman, deMarrais, Judith Preissle, & St. Pierre, 2007).

### 3.2. Connection two

The approach-avoid roles reflected in their perspectives suggests children's capacity to understand others' imaginary roles, informing their understanding of dog-pounds, as Vygotsky's (2004) second imagination-reality connection suggested (i.e., Relationships B & E, Fig. 4). Merely observing the play episodes and children's discussion of the topic (say, of dog-pounds), educators may be unlikely to identify the complexity of children's learning through play. However, showing children videos of their play to elicit reflection (VSRD) and analysing their practices and values in relations to the imagination-reality connections (Vygotsky, 2004) affords an insight into this complexity. For example, more detail from Flynn's (17#5) VSRD revealed his, James' and Kaiya's interest in approach-avoid *tactics*:

[When asked what he was learning] You know what we did? We had a very clever idea. We said, all the boys, one going that way [points left] and one going that way [points right] and going in the middle to catch her. And we actually grabbed her.

Flynn's learning about other's realities is reflected in his sophisticated alignment of them to strategise a united front against Bindi. Understanding young children's perspectives as the *aim of the game* may assist educators to understand why strategies to capture and control a "dog" might interest and motivate the boys (i.e., as outsmarting others feels powerful, and doing so with others builds a

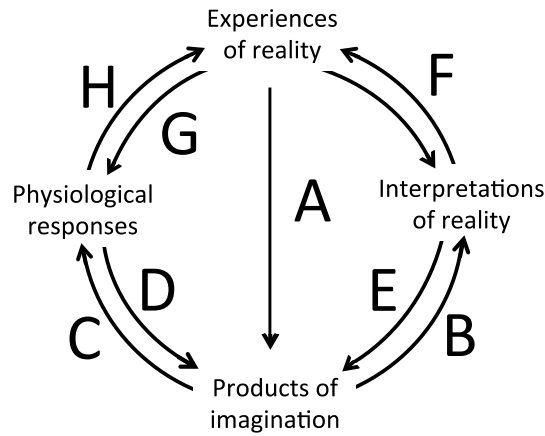


Fig. 4. Imagination's internal logic.

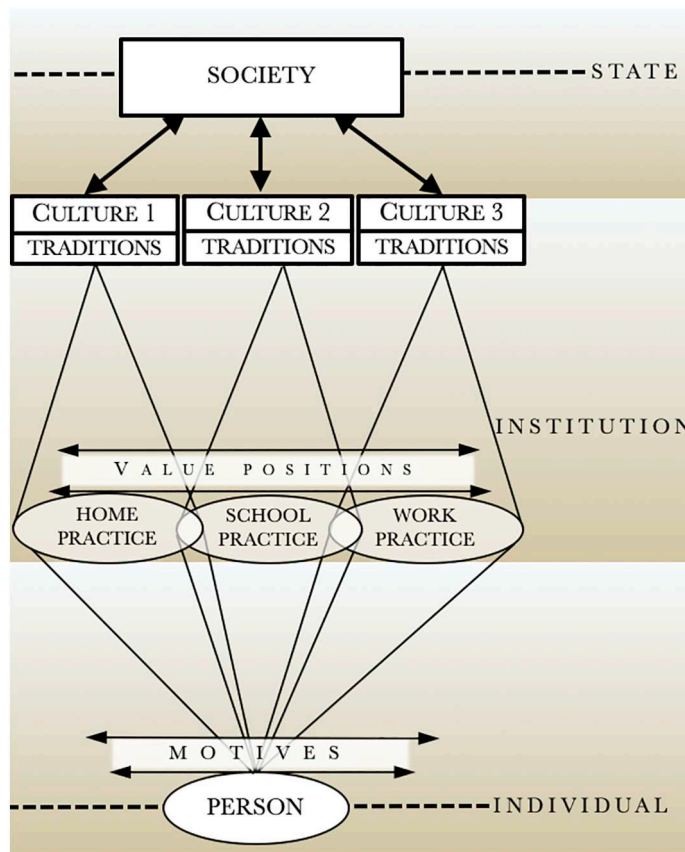


Fig. 5. Hedegaard's (2008) model of perspectives.

sense of belonging), or why finding retribution over more powerful “Captain Hook” might interest the girls (who may want similar retribution for the intrusions of “baddie boys”). Educators understanding Belle’s “deep, existential questions” about killing adults as retribution of power, for example, will have a starting point for extending her real interest at play, sustaining the learning afforded by these interests (Hedges & Cooper, 2016, p. 318). For example, asking open-ended questions about what Belle considers to be a fair retribution for Captain Hook’s power over children, or what Kaiya thinks Bindi experiences when impounded, are rich avenues to extend children’s learning through play (Siraj-Blatchford & Manni, 2008). All findings suggested what children believed they were striving to learn through play was the play’s main rule, or *aim of the game*. While other rules appeared to maintain the imaginary situation as Vygotsky (1966) asserted, the *main rule* (or aim) appeared to reveal what children were aiming to achieve—and learn—through play. Thus, it was intuitive that this was what the children believed they were learning, and that their perspectives





Fig. 6. Belle and Gwen explain their play, killing evil “Captain Hook”.

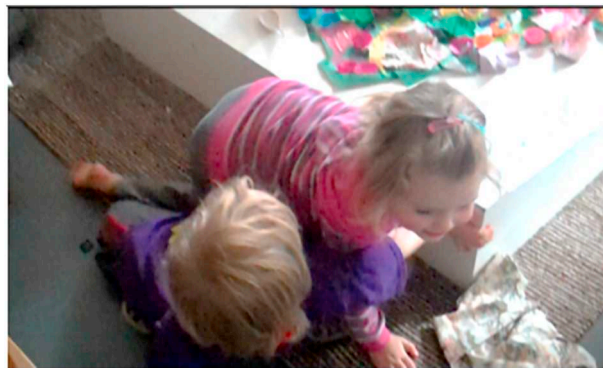


Fig. 7. Kaiya (in purple) blocks Bindi's (in pink) “escape” with his arms. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

provide unique insight into the phenomenon. This true aim is arguably a fair reflection of children's deep interests (Hedges & Cooper, 2016) because the motive of play is its purpose for children. That this aim aligned with what children said they were learning suggests it would provide insight into what aspects of the world they are currently exploring and learning about—precisely what educators need to know in order to extend learning through play. Vygotsky's (2004) second imagination-reality connection explained why, when Flynn saw a video of himself and his friends playing with screwdrivers and broken cameras, his *practice* (Hedegaard, 2008) was to state he was learning “[h]ow to fix cameras” (Flynn, 5:54#6; Fig. 8)—this was his main interest and learning through play. Playing with others appeared to add to Flynn's learning as he also reworked others' various experiences (e.g., Kaiya may have understood “fixing” as using a soldiering iron, which may have been new to Flynn). Similarly, 691 comments from the children (90%) could be interpreted as a reflection of Vygotsky's (2004) second connection, which suggests that children learn about reality through others' imaginary representation of it. Notable exceptions were where play was solitary, and it was not clear if a particular representation in play was being taken up by others.

Vygotsky (2004) also described the learning that occurs when a child must adapt her/his understanding of the play topic (e.g.,



Fig. 8. “Fixing” cameras.

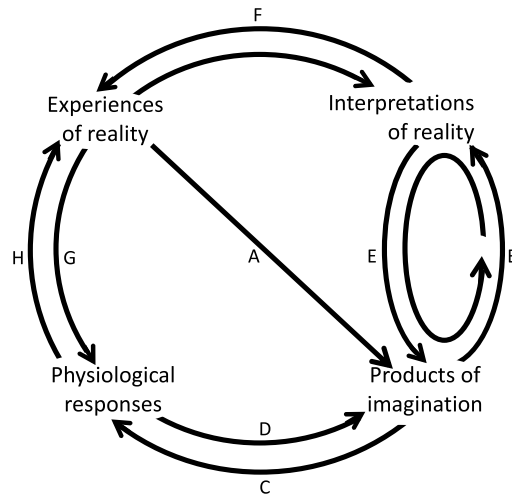


Fig. 9. Lens through which to interpret children's perspectives on learning through play.

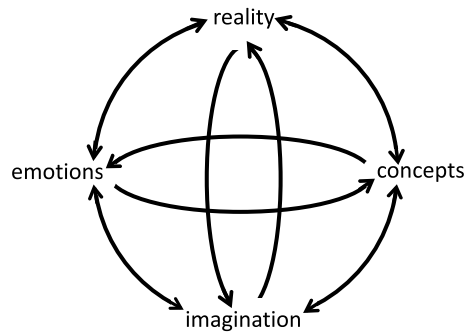


Fig. 10. Dialectic structure of reality-imagination and affect-intellect.

what “fixing” involves), reconciling the unique components other players bring, to fit with the enactment, comparing it with what s/he imagined (based on previous exposure to people fixing contraptions). For example, it may never have occurred to Flynn that parts must be put back in reverse order. The resulting conceptual adjustment would in turn impact the enactment, which may have led to further conceptual adjustments, and so on; multiple iterations of *Relationships B* and *E* (Fig. 9), suggesting a new sense to learning to “fix” cameras, because the enactment itself is a catalyst for—as well as a representation of—his learning. Fig. 9 emphasises this feedback loop between children's enactment and adaptation of conceptualisations in play as a way to understand young children's perspectives on learning through play. Given that their perspectives aligned with the aim of the play suggests their interests were



Fig. 11. Chris and playmates running over each other.



Figs. 12–13. The “dog” caught.

revealed though the reflective process of VSRD. When educators understand children's interests and cognition, children have been shown to learn more (Palincsar & Klenk, 1992). Utilising Vygotsky's four connections as a lens (Fig. 9) may assist educators to understand children's interests and perspectives on learning through play, and—thereby—avenues to extend it.

This lens may be considered a dialectical structure. Vygotsky (1962) saw the reality-imagination opposition—in which reality can build imagination and vice versa—activated during imaginary play. But these oppositions give rise to a similar intellect-affect dialectic where emotions build concepts and vice versa (Vygotsky, 1962; see Fig. 10).

### 3.3. Connection three

Vygotsky's (2004) third imagination-reality connection relates to children's learning to use the imagination situation to incite emotions, fulfilling desires they cannot in real life. For example, when Chris watched a video of himself and co-players driving trucks over each other (Fig. 11), he stated he was learning “how to do stuff which is really dangerous” (Chris, 1:36#9902).

Chris' practice of stating the aim of the game suggested his motive, and therefore principal interest, was danger. Vygotsky's (2004) third connection offers an interpretation of his perspective as an insight of Chris satisfying a desire for thrilling feelings provided by the imaginary situation. Prohibition from real-life dangerous activities may have led him to seek this thrill via play (Vygotsky, 1966), and understanding this provides educators with potential avenues to extend Chris' learning by resourcing and modelling other play experiences that satisfy this emotional need but also other learning (e.g., slacklining over crash mats would encourage balance development).

It is not that the play activities per se provide emotion, but their meaning within the imaginary, which “is always oriented towards the child's emotional needs” and strengths (Vygotsky, 1926/1992, p. 244). Play's purpose determines children's “affective attitude” to play (Vygotsky, 1966, p. 17)—here supported by its value, indicated in children's practice (Hedegaard, 2008). Just as roles have physiological and emotional effects on their actor (e.g., Bokken, Van Dalen, & Rethans, 2006), children play to enjoy these effects (Karpov, 2005; Vygotsky, 1978): a likely explanation for why the imaginary situation was the value evidenced in the Hedegaardian analysis. Even if intellectual aspects of the topic (e.g., driving) piqued the original interest in the play, repeating the play is often motivated by the emotions derived from the imaginary situation (e.g., of excitement, adrenaline, power). For example, children's interest in playing with sticks is likely motivated by the power of the superior leverage and momentum of a longer limb. Such play is often “stopped” in the name of social cohesion (Menning, 2018, p. 5), but educator rules preventing is are likely to be subverted by other, more covert play anyway (Löfdahl & Hägglund, 2006). Educators following interests in “superpowers”, for example, towards benevolent ends may be misguided if they misunderstand the true learning children are striving for in play, which the current data

indicates will be reflected in their perspectives. Using Vygotsky's third connection, educators may be less likely to see such play only as a challenge to their authority or playground rules, and more likely to extend this learning in safer and less disruptive ways. Other, less gender-specific play that Chris' female peers would like to join in with (e.g., imaginary cliff-hanging, tightrope-walking) may provide him with opportunities to understand and respect different children's boundaries and abilities, given his play appeared to only attract male co-players. Risky play provides opportunities to discuss, understand and eventually self-regulate these emotions (Sandseter & Kennair, 2011), so understanding the emotional learning children see in their play (e.g., "to do stuff which is really dangerous") will allow educators to provide experiences that extend and progress that learning. It is arguable that free play is always intrinsically motivated, and therefore emotionally generative, for young children, explaining why this study found 100% of comments reflected this third connection. Such an interpretation may provide educators with avenues to extend learning as they understand young children's comments in relation to the emotions that play generates.

### 3.4. Connection four

Vygotsky's (2004) fourth imagination-reality connection describes how the logic and experience of the imaginary situation can support children's real-life emotional learning. Hedegaardian analysis revealed children's practice of stating the purpose of their play, which may be necessary as players need to reinstate the rules as they continually conflict with "immediate impulse" (Vygotsky, 1978, p. 99). For example, Flynn's (21#9913) perspective, when watching a video of himself play-fighting with others, that "[w]e're learning not to cry, we don't want to cry", appeared to describe emotional self-regulation.

Such self-regulation was apparent in the children's perspective that Bindi was learning "how to be a dog" (Sarah, 4:27#4) when Bindi was finally caught by "Dog Catchers" (Figs. 12–13). She appeared to regulate her tendency to tantrum when not getting her way (evident frequently during data collection), subordinating her real desires (to run away bipedally, tell them to stop, or fight back) to the rules associated with "being a dog". Comparing VSRD data with the videos of children's play showed how Bindi tolerated being restrained by "dogcatchers", consistent with her imaginary rather than real role, suggesting she was indeed learning "how to be a dog" and the self-regulation required. Vygotsky (1966) believed that these achievements in the zone of proximal development (ZPD) pave the way for their employment in future reality. Through experiences with imaginary companions, for example, children can gain internal resources such as confidence, patience, and theory of mind, to affront real situations (Giménez-Dasí, Pons, & Bender, 2016) and understand others (Taylor et al., 2004). The self-regulation Vygotsky (1966) saw children learning through play is associated with early childhood play (Fantuzzo, Sekino, & Cohen, 2004), and many measures of adult quality of life, such as achievement, income, relationships and health (Moffitt, Poulton, & Caspi, 2013). Educators seeing this learning in play are much more likely to value and extend it than those who thought Bindi was only learning cooperation or movement skills.

Thus, even subtler examples, such as Ariel's (4#39) perspective that she was "[l]earning how to look after Mouse" when playing she had a pet mouse, may reflect an experience of practising emotional skills (patience, care) she will use in real life. Vygotsky (1966; Vygotsky & Luria, 1930/1994) also describes how play is a child's first encounter with symbolism, and through this abstract thought.

With an understanding of the children's perspectives on their learning through play, and a lens with which to explain it (Fig. 9), an educator may provide opportunities for other imaginary situations for Bindi to learn to regulate her everyday impatience (e.g., following her "master's" commands, escaping cat catchers), capitalising on her aim to outwit and escape others. Noting Ariel's interest in caring for others, educators could try to pique *other* children's interest in mice or caring, because the regulating force of rules are increased with every additional player (Bodrova, 2008; Vygotsky, 1966). This study found this fourth connection applied to 482 comments (63%). Some 289 comments did not appear to illustrate any obviously emotional learning that may have impacted the child's experience of reality (e.g., when Gwen (1:30#9925) stated she was learning "[t]o dig and pour something out").

Finally, understanding young children's perspectives according to the four imagination-reality connections provides educators with an immediate understanding of how to enter play without depriving children of their motive to play, common in guided play but which can mean young children no longer consider the activity play (Breathnach et al., 2017; Howard & McInnes, 2013). Entering play can increase its learning potential through adults' necessarily richer wealth of experiences to draw on in the imaginary situation (Bodrova, 2008; Fleer, 2015). As the logic of children's free play conforms to their conceptual development (Vygotsky, 1966, 1978), it is important that educators match curriculum content with this logic, as in the Golden Key approach (Kravtsov & Kravtsova, 2011). The *aim of the game* provides educators with both a play entry point but also a rule they must not change when doing so, as it represents both why children are playing (the motive) but also what they are interested in. Educators may use this understanding of young children's perspectives to strike the "delicate" balance between not participating in and overriding play (Leggett & Ford, 2013, p. 44). Simply listening for the practices and values in young children's perspectives, interpreted using Vygotsky's lens on learning through play, is likely enough to understand children's aim, which educators can follow.

## 4. Conclusion

Educators are tasked with the challenge of understanding learning through play in the predominant ECEC approach around the world (Stephen, 2012). While extending learning through free, child-initiated play promises improved long-term outcomes (Siraj-Blatchford et al., 2002), little empirical work provides practical guidance on how this might be achieved. Likewise, educators widely report difficulty in meeting prescribed learning outcomes within play-based curricula around the world (Kinkead-Clark, 2018; Ranz-Smith, 2007).

A case study reported here sought to investigate what 28 two- to five-year-olds' themselves thought they were learning through free play using video-stimulated recall dialogues (Morgan, 2007). While this small, ethnographic study was situated within one



setting, the stark alignment of children's 771 diverse responses to a diverse range of play themes suggests the utility of the findings for other play-based settings with young children.

Their perspectives, framed within the imaginary, were not easily understood within traditional definitions of learning, where acquisition of new knowledge is characteristic (Sfard, 1998). This is because the imaginary mobilises extant knowledge (Vygotsky, 2004). Yet, imagination in play also extends upon this. According to Hedegaard's (2008) analysis protocol, children's perspectives revealed the practice of stating the aim of the game, and the value of the imaginary situation for learning about the world. Findings suggest educators may simply ask children what they were learning in play—potentially aided by a video—and use the four connections Vygotsky (2004) observed between imagination and reality as a lens to interpret the practices and values in their answers. Answers are likely to pin-point the aim and meaning of children's play, and provide a direct window into what they were learning through play and potential ways to extend it, without depriving children of the play motive, which appear central to children's experience of play (Howard & McInnes, 2013).

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