

Chapter 13

Collaborative and Dialogic Meaning-Making: How Children Engage and Immerse in the Storyworld of a Mobile Game

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Introduction

In this chapter I argue that we can learn much about the complexity of children's literacy practices by investigating their engagement and immersion in the digital storyworld of a mobile game. By analysing the language that the children use as they play together, insights are given into how they collaborate with each other, but also how they position themselves as game players and how they respond to the narrative aspects of a game. Drawing on reader response theories (Benton 1992; Iser 1980; Rosenblatt 1994; Sipe 2008), and theories about dialogic learning (Alexander 2008; Mercer 2000, 2005; Wegerif 2011) as frameworks for exploring the children's encounters, an analysis is enabled that looks beyond the technology of the mobile device into the dialogic interactions that exist between games/texts and players/readers, and the transactions that support the meaning-making process.

The chapter employs a sociocultural framework, which Black and Reich (2013) describe as ideal for exploring the detail of children's engagement in virtual worlds. This perspective considers meaning to be created individually and between people, and literacy events to be influenced by their contexts and shaped by the prior knowledge and experiences of those involved. Focus on these features is the foundation of sociolinguistic and sociocultural discourse analysis approaches (Gee 2008; Gee and Green 1998; Mercer 2005; Mercer and Littleton 2007), as they examine language and interactions within their cultural context, often focusing on communicative situations, events and acts (Hymes 1972). Importantly, these approaches include qualitative and observational studies of how individuals use language to shape meanings (Mercer 2010).

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Particularly useful framing is provided by Gee (2015) who proposes a unified discourse analysis methodology. Stemming from an earlier sociolinguistic foundation (Gee 2008; Gee and Green 1998), he describes ‘interactive, response-based, turn-taking conversations as the fundamental form of human communication and action in and with the world’ (Gee 2015: 117). For Gee, this conversation extends beyond oral and written communication and he turns to gameplay as a ‘communicational form’ (p. 1). Beavis (2013: 58) too argues that games represent important examples of how, ‘literacy is reconfigured and redesigned in digital times, and of the intersections between textual experience, meaning-making and the socially situated nature of play’. I argue that regarding digital gameplay as a current and relevant mode of literacy is an essential part of examining children’s twenty-first-century textual experiences.

Playing or Reading

The issue of whether we play or read digital games has been argued before (see for example, Beavis 2013; Mackey 2007; Mukherjee 2015). Burnett and Merchant (2014) argue that binaries are not helpful in understanding our engagement with digital worlds, and instead suggest that we should embrace complexity and consider the affordances of examining different literacy practices across modes. If we are able to move to assume that there are parallels in the making of meaning from a variety of textual modes, though each mode might afford enrichment through different means, then we can enhance our concept of what it is to be literate and extend our repertoire of teaching for children who encounter a multitude of textual experiences on a daily basis. Whether engaging with a mobile narrative game is more ‘playing’ or ‘reading’ is then secondary to the consideration of the fluid movement between discussing video-watching to game playing to finding, for example, recipes for cooking. Their engagement with ‘the world around the game’, or paratexts (Beavis 2013, p. 66), meant that the children in the study regularly watched walk-throughs of games, or fan videos (*Minecraft* and *Stampy* videos on *YouTube* were mentioned by most children). For them, this was part of the game experience not extra to it, and their collaborations in game worlds easily and fluidly included these paratextual experiences.

In the after-school sessions the eight children played together in pairs, with their gameplay and talk captured through video and audio recording. Additionally, they were invited to make notes in their own notebooks, where they could add any reflections or drawing that they were moved to include. At the end of each session, we discussed their responses to the game, and wider opinions about gaming in general. As a sociocultural study, thus some contextual understanding of the players was gained, in order to better understand the schematic understandings (intertextual, domain-specific and general) that the children were bringing to the text (Anderson and Pearson 1984; Cairney 1990; Douglas and Hargadon 2000). The recording of the gameplay allowed for an analysis of the language that the children were using as

an indication of the collaborative meanings that they were making and how they interacted together (Mercer 2005; Mercer and Littleton 2007). Appropriate ethical processes were followed: informed consent for recording was sought and all children are given pseudonyms in this chapter.

The game that the children played was *Monument Valley* (ustwo 2015), a simple narrative mobile game that involves players moving a princess, Ida, around a magical, geometrically challenging, Escher-like world (see Fig. 13.1). In the game, Ida encounters crows who squawk at her, sometimes blocking her path and a friendly four-block figure called Totem who assists her by reaching places she cannot go alone. Along the way, she occasionally meets a ghost-like figure who berates her, but also gives clues about her quest, and the backstory which informs it. The website describes the game as ‘an illusory adventure of impossible architecture and forgiveness’ (ustwo 2015).

Fig. 13.1 Ida and a crow in the world of *Monument Valley*



As the vehicle for a project exploring children's collaborative meaning-making and their immersion in a storyworld, *Monument Valley* was ideal. There is a sense of narrative in the game, but there is little exposition and much ambiguity, prompting discussions about motives and causes. Who needs to be forgiven, and why, is only gradually revealed and even then the story is open to interpretation. The game has 'ongoing learning', 'intuitive knowledge' and 'incremental' principles (Gee 2007) in its design that enable players to overcome increasingly complex problems as the game progresses, thus it is rewarding and challenging. It offers opportunities for critical thinking and creative problem-solving, highlighting the different gaming orientations that players have as they move through different scenes and, as the game calls them, 'chapters'.

The transcripts of the recordings were coded to explore the children's comments about their immersion in the storyworld, their engagement in the strategic play of the game and how they negotiated this together. Initially this meant open coding before analysing the relationships and patterns for more detailed thematic coding. However, this was not a formal grounded theory approach (Glaser and Strauss 1967) as pre-existing literature around engagement with narratives informed the categorisations. Urquhart (2013: 39) usefully describes 'middle-range' coding, which may draw on literature and a 'constant comparison' of data themselves for coding purposes. Consequently, this 'theory-seeking' approach (Basse 1999: 62) also acknowledges the existing expectations of the researcher as a sociocultural agent informed by her interpretations of reader response theory and considerations of children's dialogic engagement with text.

Additionally, and in line with the sociocultural discourse analysis approach taken by Mercer (2005), simple word frequencies within the transcribed gameplay were analysed, exploring evidence of critical and creative problem-solving and possibility thinking (Craft 2000), goal-oriented language and words associated with game action. Caution was taken here as language indicators are only potential and cannot be assumed to have consistent meaning out of context (Maine 2015; Mercer 2005). However, they provided an interesting starting point for the analysis of the approaches that the children were taking.

Immersion in the Storyworld

Thematic coding of the session transcripts highlighted that when the children's talk turned to the storyworld of *Monument Valley*, their comments were either 'about' the game from a more removed stance as they tried to make sense of it and work out its goals, or comments that positioned them 'within' the storyworld of the game. Mackey (2007: 141) describes different diegetic levels as the distinction between looking 'through' or 'at' the story, linking to Rosenblatt's (1994) description of the 'lived-through experience' as immersion in the diegetic world. In Sipe's (2008) work exploring children's responses to picturebooks, he describes the lived-through

experience as ‘transparent response’ in which children enter the ‘secondary world’ (Benton 1992) or storyworld on different levels. He found that a transparent response might be very simple, expressing emotion or making a sound effect, and this is certainly true of one pairing, Fred and Michael, as although they said little about the game, Michael often made sound effects and squawked back at the crows, or sang a ‘la la la’ song when he was confident in the movement of the character Ida.

Sipe recognised that a transparent response might be more complex though, and involve either talking to characters directly or assuming their voices. These latter levels of transparent response were very typical of another pair of children, Saba and Molly. As they played the game and their levels of excitement rose, they regularly talked quickly and directly to Ida, urging her to ‘Come on!’ or ‘Wait!’ Saba particularly, assumed Ida’s voice, for example declaring, ‘I’m the queen of the rainbow birds!’ Deeper analysis of Saba’s responses showed, however, that often, as she talked to the characters she seemed to assume an authority or ‘directing’ role within the storyworld. This was especially true of her responses to the crow figures that occasionally block Ida’s way, ‘You see, I helped you. Now you are smart’, and, ‘Come on, little crow boy!’ she declared as she manipulated the geometry of the game to move a crow character. Her enjoyment in this role was highly evident, ‘This is fun. I like it. I like making the crows do stuff, [adopting ‘bad guy’ tone of voice]... so then you are a little minion... I’ll help you!’ Rather than just assuming the persona of a character within the game, Saba seemed to insert herself into the diegetic world as an omnipotent presence, reflective perhaps of the player view in the game which hovers over the action. Furthermore, her omnipotent stance highlighted that being a ‘player’ was in itself a role she was taking. She positioned herself outside, above and within the game with fluidity, ‘flickering’ (Fleer 2014) between the real and virtual world, even within one utterance, as she described her enjoyment to her player partner, Molly, then spoke directly to characters in the game.

Word frequency analysis of the transcribed sessions highlighted that the most common word used by the children in any of the pairings was ‘we’. In-depth analysis of incidences of the word revealed that children used ‘we’ not just to talk about themselves, the players, and their collaboration, but also included the key character, Ida.

In positioning themselves within the game, the children seemed to become its collaborators as they invested in the storyworld and their responses to Ida’s sidekick, Totem, illustrated their desire to connect with the characters. Essentially, Totem is just a tower of four yellow blocks (see Fig. 13.2) and his role is to support Ida’s movements, as by climbing on top, she can reach further. Saba and Molly, however, had an immediate affective response, squealing when he disappeared underwater, with Molly crying, ‘Totem... Totem... Totem where are you?’ and Saba saying, ‘Maybe we will find him again... I’m sorry Molly’, stepping out of her omnipotent role and back into her friend role. When Totem re-emerged later in the game they both shouted out with joy, much to the annoyance of the other children who complained that the girls were giving away ‘spoilers’.

Fig. 13.2 Totem in the world of *Monument Valley*



In one of the post-session reflections, Molly described her feelings towards Totem:

FM So tell me a little bit about Totem and why did you respond to Totem in that way? Molly?

Molly Because he was cute.

FM So you've decided he is a 'he'. What made him cute?

Molly Because he had a big eye.

For Molly, Totem was personified by the inclusion of a moving eye on the top block of his tower-like figure. When he first appeared in the game, Molly said, 'I'm drawing Totem. He doesn't even have eyes. Wait. Oh I want to draw the circles on him. They're like eyes', and it is interesting that she used this personifying feature to explain her attachment in the discussion with me later. In another pairing,

Wes too seemed attached to Totem. His notebook contained profiles of all the characters, and he wrote, 'Totem is an amazing friend and would never let [Ida] down. He is my favourite character and he is so amazing... He is a really loveable character'. His partner Stephen wrote less, but also noted that Totem, 'was the best of friends', and both talked fondly of him in the post-session discussions, when Stephen described how he 'helped' Ida. Rather than just describing Totem's 'cute' features then, Wes and Stephen assigned him human qualities of friendship and loyalty.

These examples demonstrate more than Sipe's transparent responses of speaking in role or making spontaneous sound effects, and are closer to Iser's (1980) notion of 'entanglement' as they illustrate how the children became 'hooked' into the storyworld or secondary world (Benton 1992). Douglas and Hargadon (2000) describe complete immersion in a narrative text as being supported by the schematic expectations of a genre being met, allowing readers to exist within the storyworld and their attention not to be drawn to its structures or frame. In narrative mobile games, drawing on expectations about specific narrative genres from other modes is a reasonable approach to meaning-making. So, in an adventure quest story, that the main hero might have a sidekick or pet is a generic norm. On an intertextual level, even Totem's name echoes similar characters: Toto or Tonto. Whilst these might not be cultural links that the children made, their schematic expectations led them to imbue the figures with certain characteristics they expected from a sidekick—hence Wes's description of Totem being loyal, and Stephen's adoption of a narrative voice in declaring him, 'the best of friends'. At this point, the children were moving beyond transparent response into 'investment in the storyworld'. They were embellishing the simple game characters with personalities and motives, and assuming the character goals as their own. Their dialogic engagement led them to respond to Totem affectively and the game in turn responded by positioning Totem as a character that could 'help' Ida, not through agency, but through being a convenient bridge or tower on which she could stand.

Engagement with the Strategic Play of the Game

In addition to their description of immersion in narrative text, Douglas and Hargadon (2000) describe engagement as more of a critical and strategic stance and argue its pleasures come from 'a perspective outside the text' (p. 154) and through calling on schematic knowledge from many sources. To enter into a dialogic interaction with the storyworld of the game then also means responding to its design, working out the game goals and accepting its rules and logic, drawing on existing domain-specific knowledge in addition to schemas related to narrative text: to talk 'about' the text. For example, in *Monument Valley*, a key to success is to manipulate buildings so that their geometry reveals new pathways, creating impossible buildings akin to Escher's designs (see for example *Relativity*, 1953). This can be achieved through dragging buildings around until they line up. By chance the children in the project had completed a topic on Escher in the term

before, and the connection was first noticed by Fred, ‘It’s the impossible triangle!’ he declared in the first session. Later, when Wes noticed that each chapter of the game was represented on the side of a building he questioned whether there are only four chapters in the game. When told that there were ten chapters, he exclaimed, ‘It’s an infinity building!’ Escher, impossible triangles, and infinity buildings were mentioned by all the pairs of children at several points throughout their gameplay. The following extract from Anna and Kirsty illustrates their strategic connection to this theme. They had just started Chapter IV which gives the introduction, ‘Water Palace: In which Ida discovers new ways to walk’ (ustwo 2015):

- Anna Maybe she could be upside down
 Kirsty Yeah
 Anna Okay—maybe she can walk without gravity. That would mean she can walk on every single place. Left, right, up, down
 Kirsty Look there’s a bird... Maybe it can turn up to there...
 Anna And then maybe go to there... Oh my god it’s like an optical illusion! So it’s like the way you see it you think it’s a path, but actually it wouldn’t be able to be, because this [gestures] is like on the side. It looks like it’s going there but actually it isn’t.
 Kirsty Yeah—maybe it’s a *new way to walk*, so maybe it will help.
 Anna She’s going to the house! Of course ‘*new ways to walk*’ she can walk on the side!
 Kirsty A little bit like Escher!

The children were not just drawing on their schematic knowledge of Escher’s work here. Their experience as gamers enabled them to draw on domain-specific knowledge which led them to accept the physics of the *Monument Valley*. They were learning about the game design and the learning principles of the game gradually revealed the game goals to them (Gee 2007). The extract is also an illustration of the approach that Anna and Kirsty took to their strategic engagement in the storyworld and shows them as critical and creative dialogic readers (Maine 2015). They demonstrated possibility thinking (Craft 2000) through the use of language such as ‘maybe’, ‘might’ and ‘could’ and more critical reasoning through the use of ‘because’, ‘but’ and ‘so’ (underlined in the extract) (Maine 2014, 2015; Mercer 2000; Soter et al. 2008). They were able to reflect on the clue in the chapter introduction and were clearly pleased that they had been able to interpret it. For Anna and Kirsty, the aesthetic enjoyment of their encounter with Monument Valley seemed to be linked to their strategic gameplay and their ability to pull on their existing schematic knowledge: intertextual (drawing on art works), domain-specific (knowing that the physics of the virtual world might be different) and more general knowledge about the world (understanding gravity).

Wes and Stephen too seemed to enjoy the intertextual connections that they made as they encountered new scenarios and characters. They both recorded their observations in their notebooks and used their knowledge of narratives to support their interpretations of the story. This was true of their discussions about the role of

the crows in the game. Initially the crows block Ida's way and squawk at her aggressively, however as the game progressed and they started to engage more with Ida, the boys discussed their motives:

Stephen Oh look now there are crows walking around.

Wes The crows are walking.

Stephen Let's see what they do. Let's just see what they do. Okay they are crows. They are foes. Crows are foes.

Wes They are blocking our way.

Stephen Block our path. Maybe they are like guards.

Wes Maybe at the end we'll find like the boss of the crows. The crows have the same power as us though: they can walk on walls.

The role of the crows offers a good example of Wes and Stephen's approach. Like Anna and Kirsty, the boys were critical and creative in their problem-solving, but this was more connected to the mystery of the story. They drew on their domain-specific knowledge of games to identify that there might be enemies in the game (with a nicely connected rhyme about foes from Stephen), but also examined the crows' purpose and how they might fit into the big picture of the story, using knowledge of stories and quests (to identify 'guards' and the 'boss of the crows'). The pair maintained this interest in the larger story and later Wes wrote, 'I'm sure the crows aren't bad anymore, but are just defending themselves', showing how the meaning of the story was evolving for him as more was revealed.

Not all the children took this creative problem-solving approach, however. Initial analysis of the transcripts showed Fred and Michael were far less inclined to use the language of critical or creative problem-solving as detailed about, but far more likely to use 'game action' words such as 'go', 'wait', 'look', 'turn', or 'stop'. In a quantitative analysis of the words used by the children, there was a negative correlation between words associated with critical and creative thinking and these game action words, showing they were unlikely to occur in the same sessions. Fred and Michael were goal oriented, so much so in fact that they spent much time checking to see how far other children had got in the game, to check they were not 'behind'. They talked far less than the other children, with their discussion limited to instructions to each other, or imperatives for game action. As a result they did not talk about the storyworld at all, nor the characters and their motivations. They made few notes in their books: their aim was to finish, and to achieve the goals set by the game.

Collaboration or Competition

Collaborating on an iPad is a physical challenge. The tablet is designed to respond to a single touch, and more than one finger on the screen means that the iPad is unresponsive or reacts unpredictably. As Fred exclaimed at one point in frustration, 'It just doesn't work when we have got two hands!' Playing a mobile game together

means that players have to take it in turns to have physical control of the tablet, and the pairs were interesting in their approach to this. Close analysis of the video and transcripts showed that the children had different techniques for physically gaining control of the game. Anna and Kirsty were easily the most collaborative pair and their most frequent ‘playing together’ coded phrase was ‘Do you want to try...?’ which they both used throughout. It is interesting to note that they also had the highest incidences of problem-solving language, as their tentative or provisional language (for example, ‘maybe’, ‘might’ and ‘perhaps’) also served a negotiating function to enable social harmony (Barnes and Todd 1995; Lyle 1993; Maine 2015; Maybin 1994). The extract in the previous section from Anna and Kirsty’s discussion about ‘new ways of walking’ demonstrates how they were responsive in building on each other’s ideas, using co-constructive talk (Maine 2014, 2015; Rojas-Drummond et al. 2006) to negotiate meanings. Their collaboration with each other is shown through their agreements, and whilst Mercer and colleagues (see for example, Mercer 2000; Mercer and Littleton 2007) might dismiss this as cumulative talk, this agreement formed part of their negotiated meaning-making and successful collaboration.

Wes and Stephen also collaborated well together. They regularly told each other, ‘it’s your turn’, although noticeable when coding their sessions was Stephen’s pattern of suggesting, ‘Let me just check...’, as he pulled the tablet towards himself. Fred used a similar technique, he repeatedly said, ‘Let me just think...’ as he claimed the iPad from Michael. Fred’s actions also had the impact of slowing the action down, and close inspection of his language highlights that he often referred to ‘having a look around’, suggesting that the drive for rushing quickly through the game might have been an orientation for Michael, for whom competition seemed more key than collaboration. At one point, after successfully navigating a section of the game, Michael declared, ‘We win! High five!’ Not only did he seem to be in competition with the other players, he was in competition with the game itself, eager to ‘beat the system’ which he viewed as set up to hinder his progress. On another occasion when Fred was ill, Michael chose to play the game alone, and in conversation about this, he reflected that he was happier doing so.

Analysis of the interactions of Saba and Molly offers some interesting insights into their collaboration. Molly actually had the most effective strategy for gaining and keeping control of the iPad. Watching the videos of her gameplay closely shows how she kept a fast-talking monologue which described her actions almost as a commentary:

Molly: Oh oh oh, there’s a moon! Okay wait, oh oh it’s... look, oh my, look at this. Another turning building. What a surprise, not. Oh, I moved it too much. Okay, if we go through there then... Saba come on, be quick.

When she appeared unsure about what to do, she filled the space with ‘Wait... wait...wait...’ or ‘oh... oh...oh’ effectively cutting Saba out of the action. As the sessions progressed, Saba also assumed this style, with the effect of a rushed urgency to the play and the children vying for control of the tablet. Their talk was not co-constructive, as the girls rarely built on each other’s ideas. Rather, it was a

descriptive list of actions, with Saba's interjections directly to the characters, rather than to Molly. So, whilst it could be argued that Saba and Molly interacted in positive, immersive and affective ways with the characters of the game, their interactions with each other were more negative and at times disputational (Mercer 2000).

Analysis of the data shows that the children who took a more creative problem-solving approach were more successful at co-constructing meaning together, as they verbalised their thinking and could therefore 'interthink' (Littleton and Mercer 2013). Because Saba, Molly, Fred and Michael were more goal-orientated and reactive to situations that occurred within the game, and less exploratory in the diegetic world, they seemed to play alongside each other rather than with each other, taking control of the thinking when they had control of the iPad.

Conclusion

The examples in this chapter illustrate how 11-year-old children collaborated together in the strategic play of *Monument Valley*, whether through problem-solving to make progress, problem-solving to seek understanding about the story, or simply focusing on finishing and completing the game. The 'poem' (Rosenblatt 1994) created between player and game therefore was dependent on how the players positioned themselves, or their game and storyworld orientations. The children engaged in a dialogic interaction with the game, responding to it in either a reactive, goal-orientated way, or with a more creative problem-solving stance. Using reader response theories as a lens through which to view these stances highlighted the children's gameplay as a literacy practice, in which they sought to make meaning in a transaction with the text.

The game's dialogic interaction was formed through 'the space of future action' (Salen and Zimmerman 2004: 67) embedded in its design, so that different actions by the children prompted different responses by the game (perhaps blocking Ida's path with crows, or allowing her through a portal). That said, *Monument Valley* is not an open-world game, and only certain actions will enable progression, so whilst the route taken might vary the outcomes are the same.

In terms of the mobile device itself, I argue that the 'single-touch' feature of the tablet necessitated negotiation for successful collaborative and enhanced the dialogic interaction. Not all of the children were successful in this and there are implications here for classroom learning. In the same way that ground rules for talk (Littleton and Mercer 2007) can be seen as prerequisites for successful oral dialogic communication, some consideration should be given to how to establish successful collaborations when using a tool such as a tablet. However, that the tablet could be up-close and physically 'drawn-in' emphasised moments when the children were deeply immersed in the game as they huddled together bringing the iPad into their personal and collaborative space.

The children's dialogic interaction with the game was also linked to their immersion and investment in its diegetic world. The children imbued the characters with human qualities, and meshed (Gee 2015) their own goals with those of the game's characters, reacting in role and talking directly to the characters in a transparent response (Sipe 2008). They accepted the shifting geometry and physics of the virtual world and committed to the intentions of the game, trusting in its logic and expecting ultimately successful outcomes. This investment can be seen as affective, collaborative and dialogic, as the children accepted the terms of the diegetic world and responded to its actions and characters, drawing on their intertextual, domain-specific and general knowledge experiences to enrich their meaning-making. However, playing together potentially limited the immersion that the children experienced in the game, as their attention was drawn to their interactions with each other. Hence, the strategic engagement may have been more pronounced because of the shared play.

Some comment should be made about gender. The children were chosen as they were keen to be involved and already experienced iPad users. As a very small study, it would be inappropriate to make assumptions about the children's gameplay based on their gender, and indeed, all four pairs acted in some ways that were stereotypical, and other ways that were not. Wes and Stephen, for example, were by far the most detailed in their careful engagement in the storyworld, which might not be seen as typical of boy behaviour, and Fred and Michael were not interested in the narrative storyworld at all, which might be less surprising. Similarly, whereas Saba and Molly had an affective response to the characters in the game, they could be competitive and non-collaborative in their play. Alice and Kirsty, whilst collaborative and engaged in their gameplay, seemed less immersed in the actual storyworld. Rather than assign particular gameplay traits to the children as typical, it is more useful to attempt to build up a complex picture of engagement, orientation and collaboration.

Fleer (2014) describes 'flickering' as a movement between play and reality, or in the case of digital games, the virtual and real worlds. Similarly, Mackey (2007: 141) draws on the idea of 'diegetic border play' to capture the movement of children within and without the storyworld. In fact, the children here seemed to be simultaneously present within the world of *Monument Valley*; above it in their 'direction' of its action (most notable in Saba's interactions); and outside it as they called on their schematic knowledge of other texts (in terms of genre) and knowledge about gaming and expectations of the mode. Additionally they were positioned as paired players, in a specific literacy event and situation (Hymes 1972). Mackey (2007) as well as Douglas and Haragdon (2000) reference notions of 'flow' (Csikszentmihalyi 2002) to describe the unconscious movement between states or stances.

Analysing children's engagement and immersion in diegetic worlds, considering their collaborations and building a picture of this complexity, is a reminder about the importance of the 'close-up' view of children's literacy activities and illuminates language and the co-construction of meaning in action. Analysing literacy practices, which may sit outside mainstream education, is essential in the continuing push at the boundaries of how literacy is conceived in school.

The sophisticated approaches children bring with them from their experiences outside school reinforce the need for changing previous conceptions of literacy. This study enabled both analyses, and adds another tiny piece to the ever-growing jigsaw of research about children's literacy practices in an ever-changing technological world.

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