'Like, I'm playing, but with this'. Materialization and affect in early childhood literacy

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Abstract

The more-than-human turn in early childhood education has highlighted the relevance of children's intra-actions with their environment, as well as the multiple ways in which worlds and literacies emerge in them. The rejection of representationalism as the single source of knowledge leads to the consideration of affect, embodiment, memories, sound and movement as ways of knowing. The ways in which they manifest in a school context deserve close attention to the tiny details of literacy events. Our research presents a diffractive reading of an event in a school classroom, aiming to understand human and more-than-human intra-actions in this context, the re-configurations of time, space and matter, and the ways in which children articulate entanglements with texts and bodies. We focus on the intra-actions of a seven-year old child with a photo of his favourite videogame and the ways in which affect and memory emerge. The child's sounds and movements, the researcher, the photo and the space become entangled to re-configure time, space and matter. Our analysis provides an insight into an event often occurring in schools. We offer some clues to understand it as part of the language and literacy practices of children, and pose the necessity of reconsidering the usual concept of literacy in school.

Keywords

Early childhood, affect, literacies, postqualitative, bodily movement, sound, memory

A more-than-human approach to literacy

Research on children's language and literacy practices has approached children's development from a specific political perspective. This approach, inspired by the

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standards of Western humanism and based on a particular way of being a child, tends to consider children as imperfect subjects, with literacy abilities not fully developed (Lenz Taguchi, 2010; Murris, 2016). This circumstance has been highlighted by Sarah E. Truman (2019), stating that 'a universal "literacy" is a colonizing Project' (Truman, 2019: 9). On rare occasions reflections on the problems generated by the curriculum are found. These problems (or dissonances) arise when children do not match with the white, Western and middle-class values of the curriculum, and lead to rethink language and literacy practices from a *more-than-human ethico-onto-epistemology* (Kuby et al., 2019). Such a rethinking should involve the 'ordinary affects' (Stewart, 2007) present in many literacy processes in childhood, which reject a research approach based on intentionality and rationality of children's actions (Hackett, 2021).

Rethinking literacy from a more-than-human perspective, as relevant research suggests, opens up new pathways for understanding literacy events in early childhood (Hackett, 2021). From a post-qualitative approach, Maggie MacLure (2013) has proposed a non-representational method to research the materialisation of language and literacy. This angle raises a materialist critique of representationalism which, departing from Deleuze (1994), seeks the 'difference, movement, change and the emergence of the new' (MacLure, 2013: 659) in the non-representationalims of literacy events (Lecercle, 2002). In particular, this materialist perspective of minor analysis in the 'thinking-feeling literacy' (Ehret, 2018: 568–569) gains meaning within the analysis of children's actions, as the complexity of children's literacy practices cannot be approached only from significances and codes socially acquired (Murris, 2016). Instead, we should focus more on the human body, as affected by persons, spaces, artefacts, imaginations and daily narratives (Boldt, 2019).

Abigail Hackett (2021), drawing on Margaret Somerville (2013), describes two approaches to knowledge. On one side, it may be regarded as a rational process of logic and order; on the other, it may be considered as a body/place knowledge. This second approach implies ways of knowing through the body and the difficulties of its representation as a semiotic code. We can therefore consider children's events from a different perspective. This approach aims to overcome discourse analysis (centred on the individual human subject) and to move towards non-representational analyses 'that map out how bodies are produced relationally' (Thiel and Dernikos, 2020: 485).

In this article, our charge is to concentrate on a classroom experience, in contrast to previous research which has centred in other settings (a playground, countryside, garden, home, etc.). The construction of a literacy event in childhood arises from the intra-action of bodies' movement, the space and the

matter of this same environment (Daniels, 2019). Hence, our research addresses the *practices of mattering* of children's literacy within a specific space and time (spacetimemattering), where children materialise memories through movement and sound (Thiel, 2015). Applying this conceptual frame, we aim to:

1. Explore the means by which human and more-than-human agents intra-act in a literacy event in the school (Hackett et al., 2020b).
2. Understand how children take part in different becomings through the entanglement of bodies and texts (Mazzei, 2014).
3. Analyse the ways in which non-representational knowledge in childhood emanates from the spacetimemattering (Barad, 2014).

Our research delineates a path in which intra-actions of human and more-than-human agents are addressed, as well as agentiality, children's entanglements, and the re-configuration of the spacetimemattering. Ultimately, we present ways in which the agents' affective encounter manifests the complexity and hetergenety of early childhood's literacy.

The affective turn in literacy

Drawing on the theoretical articulation of Deleuze and Guattari (1987), affect has been defined as the capacity of human and more-than-human bodies to affect and be affected (Massumi, 2002), and has been considered as an ontological capacity of bodies (Thiel and Dernikos, 2020: 485). This notion of affect draws on the Spinozan understanding of mind and body as one single substance, and on the social perspective of affect proposed by Deleuze (1988). As Hemmings (2005) describes, Massumi's relational approach to affect has its roots in this neo-spinozan perspective. Seen in this way, affect has a relational and bidirectional dimension, and it is not possible to be understood without this reciprocity. The materialisation of affect, according to Massumi (2015), requires an affective encounter and involves the interaction between matter and memory. In consequence, the 'affective event' (Massumi, 2015) is built in childhood as an emergent affect with a material-discursive dimension, and it assumes a whole past emerging in the event (Thiel and Dernikos, 2020).

The study of the language and literacy practices in childhood should address these processes not only as something rational, but also as an affective matter (Ehret and Leander, 2019). Affect is part of the *inhuman literacies* (Truman, 2019), described as manifestations of rejection to the *humanist logic* in an educational context, with the capacity to disrupt the dominant narrative of schooling. This

dominant narrative of schooling should be analysed by literacy researchers with the aim of identifying how dominant literacies define a way of life, a singular condition of world construction (Dernikos, 2020; Mishra Tarc, 2015). Furthermore, the school gives place to lines of flight which integrate literacies as a resistance to the inclusion/exclusion politics that imposes school literacy as 'ways of knowing/being' (Truman, 2019: 111). From a more-than-human perspective, the materialisation of literacy through affect or bodies allows an understanding of the children's stress and breaks with the school's ways of knowing/being (Truman et al., 2021). Thus, children create new 'orders of knowledge' from the creation of events when they tell another story, open new emergent and unexpected literacy events, or refuse to take part in a task set by the teacher.

Attending to the singularity of the event, as described by Massumi (2015), children's language and literacy practices are entangled in the event, and become in the emergent, ephemeral and contingent act of literacy (Burnett and Merchant, 2020). Children's literacy events in the classroom, as approached by Daniels (2019), Dernikos (2020), Kuby and Rucker (2020), Nordström and Kumpulainen (2021) and Thiel (2020), among others, display the various ways in which children's discourse is configured in sounds, artefacts, memory and sensoriality. Consequently, it is hard to separate the elements conforming language and literacy practices in the event, as all of them are 'in co-composition' (Niccolini, 2019). In sum, the literacy event in childhood is built from

> These bodily and affective aspects of everyday life are frequently under-played or erased by universalizing and abstracting accounts of literacies. Re-conceptualizing early childhood literacies as more-than-human offers the opportunity to explore and acknowledge the materiality of language (MacLure, 2013) and literacy practices, as they emerge from and between leaky, porous, unbounded human and non-human bodies (Hackett, 2021: p. 7).

The analysis of literacy events in the frame of the _affective turn_ in education (Dernikos et al., 2020) must embrace the 'intensities of the ordinary' (Stewart, 2007), in order to take into account non-representational elements of affect, such as texture and intensity among children's embodied experiences (Bennett, 2010). In this sense, children's voice is built through the entanglement of human and non-human elements whose intra-action (Barad, 2007) unveils literacy events in the light of minor inquiry (Lenz Taguchi and St Pierre, 2017; Mazzei, 2017). This entanglement leads to a concept of literacy as the sum of the affective relations of animate bodies concurring in the literacy events (Snaza, 2019).

Embodied literacies

Research on childhood's literacy practices has adopted diverse approaches when addressing its relationship with body, as has been shown by the works of Perry and Medina (2015) and Thiel (2015). Among them, more-than-human perspectives have the suppression of the split between mind and body as a commonplace. Rejection of the Cartesian dichotomy between mind and body (Barad, 2007; Bennett, 2010) and the levelling of human and more-than-human matter enable researchers to overcome the understanding of language and literacy as a solely mental process. Instead, the world comes out as created in the intra-action between the human and the more-than-human (Hackett and Somerville, 2017; Hvit, 2015; Kuby et al., 2015).

In a general sense, the body has been regarded as a social text whose actions acquire meaning in diverse contexts (Luke, 1992; Wohlwend, 2021). The broadening of the concept of literacy practices has conferred new roles on spaces, artefacts and bodies in childhood (Kuby et al., 2015). This renewed notion of literacy practices has provoked a reflection on the learning process in childhood, now regarded as emergent, entangled and embodied, and built on non-representational features of events (Hackett and Somerville, 2017). According to this view, children's movement and body build new literacies and meanings, as highlighted by Daniels (2019), and Hackett and Somerville (2017). However, such a proposition – the child as bodymind – implies the materiality of the body in place, where memory(ies) of places/bodies are constitutive of the body itself (Hackett et al., 2020a).

The materialisation of literacy through space and movement (Ingold, 2007; Ivinson and Renold, 2021) possess implications connected with the affective dimension and the creation of non-representational meanings in specific cultural contexts, as pointed out by (Hackett et al., 2020b). The entanglement of matter and discourse in childhood's daily life (Barad, 2007) requires the upgrading of affect between human and more-than-human bodies as the gateway to the complexity of an ever-changing world owing to the 'forces of encounter' (Seigworth and Gregg, 2010: 2). This upgrading facilitates the achievement of children's learning as bodymind, where children affect and are affected by spaces and artefacts through their body (Bennett, 2010). In consequence, our research explores the production of knowledge in childhood, as underscored by Lenz Taguchi (2012) and Blaise (2013), considered through the intra-action of bodies, matter and discourse beyond words.

The relation between space and body's movement among children generates different ways of understanding and knowing the world (Hackett and Yamada-Rice,

2015). Accordingly, *thinking through embodied movement* (Fullagar, 2021) implies a relevant role of affect, based on the experience of space and children's movements, and its effect enables the construction of literacy as event through the entanglement between the human and the more-than-human. Drawing on Deleuze's (1988) study of Spinoza, Hickey-Moody (2013) describes affect as 'traces of interaction: residues of experience that live on in thought and in the body' (Hickey-Moody, 2013: 81). Thus, the construction of learning among children develops through their movement and embodied experience and acquires its whole meaning through the emergence of events and the entanglement of the human and the more-than-human. In sum, our research poses the analysis of 'knowing/becoming/doing the world and (producing) literacies' (Kuby et al., 2019: 6) in childhood.

Sound and movement as world-forming practices

From this new materialist view, Hackett and Somerville (2017) explore the possibilities of reimagining literacy as sound and movement, described as 'world-forming practices' (Hackett and Somerville, 2017: 376). However, the integration of sound and movement within literacy research poses a challenge in the sense that, as pointed by Elwick et al. (2020), they have been traditionally left aside. As Gallagher et al. (2018) claim, 'children's literacy emerges from the unfolding vibrational relations between breath, mouth shapes, vocal cords, ears, cognition, memory, sign systems, objects, materials in the environment, embodied sonic affects, and so on' (Gallagher et al., 2018: 480).

Within this more-than-human perspective, sound has been described as resonance created by vibrations, existing above and beyond human perception, and having the capacity of affect and being affected (Gallagher, 2016; Gershon, 2013; Powell and Somerville, 2020). Research on sound and sonic studies has theorised it from two different perspectives. On the one hand, sound has been defined from a phenomenological frame, as a vibration across bodies. On the other hand, it has been described as a relational force, configuring a network of social relations, suitable to be understood as a semiotic source (MacLure, 2016; Wargo, 2017, 2018; Wargo et al., 2021). In this context, articulated and non-articulated sounds, words, whispers or noise, remain in the same non-anthropocentric level (Gershon, 2013; Hackett and Somerville, 2017). Moreover, non-linguistic sounds – human and non-human – have been valued owing to their capacity to bridge representationalism and non-representationalism (Gallagher et al., 2018), and both are relevant and meaningful in early childhood (Somerville, 2015).

Along with sound, gesture, movement and word have been levelled by Hackett and Somerville (2017), becoming 'knowledge in motion' (Wargo,

2017), and this combination has been considered essential in young children's communication (Yoon and Templeton, 2019). World becomings in body and sound take place in a non-linear and non-structured way and are understood by means of the notion of body's materiality in literacy (Gallagher et al., 2018), as part of the entanglement of 'words, voices, movements, gestures, literacies (etcetera) and sounds' (Dernikos, 2020: 130). Just as sound cannot be understood as a product of human creation nor can the agentiality of movement be human, being portrayed as an unpredictable answer to the world (Hackett and Rautio, 2019; Ingold, 2013; Powell and Somerville, 2020). Thus, human beings become considered as objects among other objects moving in an ever-changing environment (Boldt and Leander, 2017).

The unexpected and non-articulated sound and movement emerging in this affective relationship tend to be regarded as a distraction (MacLure, 2016; Wargo, 2017), and the mandatory silence in school tasks, such as reading, hinders the interconnectivity promoted by the affective power of sound (Dernikos, 2020). Within a more-than-human view of literacy, where emergence is understood as a relational phenomenon (Hackett and Rautio, 2019), distractions are no longer regarded as the rejection to the previously planned, but as lines of flight towards the unplanned (Rautio, 2019). This consideration highlights the emergent, unpredictable, risk-based randomness and autonomous character of children's literacy, 'opening up and letting go – of tongues, vocal chords, arms or bodies perhaps, in order to play one's part in bringing the world into relation with itself' (Hackett and Rautio 2019: 1027).

Regarding its relation with the school context, sound has been defined as 'foundational to educational experiences' (Gershon and Appelbaum, 2018: 357), and as a modulator of the classroom experience, attending to its relational dimension (Wargo et al., 2021). Dernikos (2020), for example, has studied the colonisation of sound in the classroom space describing the 'white male ways of sounding' in the academic context, as well as its relevance in the school literacy. The existence of acceptable and unacceptable sounds is clearly understood by children, as noticed in their reactions in the classroom. The exercise of power through sound in schools (Dernikos, 2020; Gallagher, 2011; Thiel and Dernikos, 2020) is also extended to movement (Kirby, 2020) in a praxis of stillness which ignores the materiality of the classroom and of the bodies in it. As described by MacLure (2016), one of the goals of early childhood's schooling is the shutdown of mind and body, perpetuating the Cartesian dichotomy. On the contrary, children's sound and movements create, in their more-than-human world, new spaces (Hackett and Somerville, 2017). The suppression of boundaries between mind and body, essential to the more-than-human

approaches, help the understanding of literacy through the entanglement of bodies and affects, instead of narrowing it to the development of vocabulary and grammar skills (Hackett et al., 2020b). From this point of view, texts and bodies do not pre-exist their encounters (Hackett and Rautio, 2019), and embodied texts emerge in their relations and intra-actions (Boldt and Leander, 2017).

Our research

Research context

From 2017 to 2019, Alejandra and Fernando were involved in a research project focused on the literacy practices of children schooled in working-class neighbourhoods. Part of the project took place in a school in the south of Spain and involved 25 children aged five and six. All of them had Spanish as their mother tongue and were of Spanish heritage, except two girls, whose heritage was Moroccan and Peruvian respectively. During one year, we went to the school every Wednesday, and joined the daily routines of this group in the classroom, taking part in their tasks, games, readings, etc. The researchers' presence in the classroom and the data gathering methods have been part of the research itself (Law, 2004). The collected data have acquired an empirical dimension, based on experience (actions, perceptions, feelings, etc.), as recommended by Denzin (2019).

By the end of the academic course in June, we proposed the children create a map where they could associate their literacy practices with the spaces in which they usually took place. They had been given cardboard, divided into four sections (home, school, neighbourhood, community) and a set of photographs displaying different rooms in a house, school and library scenes, daily routines, and digital devices and games. They were asked to choose some of them and stick them on the cardboard in the space they considered it fitted best. Some of the children carried out this task in a separate room, so they could chat with one of the researchers as they performed it. These conversations and tasks, lasting up to 45 min each, were video recorded. We deliberately chose the children we wanted to talk with. Our criteria were their different approaches to literacy, their communicative skills, their confidence with us, and a balanced proportion between boys and girls.

From all the conversations held, in the following vignette we have captured part of the conversation between Alejandra and Eric. We had pre-designed the conversation to address his literacy practices at home, and this conversation was meant to be our focus of analysis, based on its video recording and our field

notes. By the moment Eric carried out his task, it was nearly noon and he and Alejandra were alone in the room. As Alejandra talked with Eric, she was aware of the many communicative strategies he displayed, maybe empowered by the freedom of being let alone with and adult, apart from the rest of the group, in a silent classroom where the sounds of the other spaces came faintly. Somehow, that made him feel special, and he soon took the responsibility of the conversation. He moved around the room when he needed it to exemplify some character from a game, asked Alejandra about her private and daily life, or made jokes. Alejandra let him freedom to conduct the flow, moving out from the pre-designed structure of the conversation. In the course of the conversation, Eric was showing how, as Davies (2014: p. 12) affirms, 'children open themselves in multiple ways' when being listened to. Somehow, the whole conversation context – being apart from the rest of the group, talking about himself, leading the conversation- enabled us to see Eric's world from his own perspective (Yoon and Templeton, 2019). From all the conversation, however, the most salient passage took place when Eric found a photo of his favourite videogame, Fortnite, and started to 'read' it as if it was a text. In the field notes, and in the meetings of the research team after this task, this 'reading' was carefully described and approached, as it could be a fine example of the multimodal understanding of texts. Later on, when the research team watched the video recording, in a similar way as the one described by Hackett and Somerville (2017), the nature of this passage as an entanglement emerged. The memory of Eric 'playing' with the photo and his 'reading' became 'sticky data' and, as described by MacRae et al. (2018), got stuck in our thoughts, memory and sensing. In these revisions, the researchers assumed our role in this agentic assemblage (Bennett, 2010). Considering us as agency led us to feel the intensity of the actions and the effect of the agencies participating in this event. As far as we rejected the interpretation and the intentionality of actions, we were invited to join the 'vital materialities' (Bennett, 2010) and the new becomings of matter in the event's intra-actions (Jackson and Mazzei, 2012).

Fornite in the classroom. A vignette

Eric is a talkative boy, and our conversation flows smoothly. He is seated in front of a school desk with all the materials (cardboard, photos, glue, markers, etc.) on it. The camera is in front of him, but he pays no attention to it. I am seated on a school chair too low for me at his right, so there is no physical barrier between us. It's nearly noon, the sunlight comes through the windows, and Eric is starting to feel tired.

Suddenly, he identifies in a photo a screenshot of the videogame Fortnite: Battle Royale. 'It's Fortnite, mate', he says with surprise. From this moment, the photograph captures all his attention. He stares at the photo smiling, holding it with both hands in front of his face. He then takes the photo with one hand, and moves the other hand's fingers through its surface, while producing soft sounds with his voice. Although I have never played Fortnite, I have the feeling that Eric interacts with the photo as it were the game itself, with the same movements and sounds. At the same time, I realise that Eric has forgotten the task we were carrying out. The photo has attracted his attention in such a way that the mapping has disappeared, and he seems moved to another world. Although I really do not worry about Eric getting distracted for a while, I try to redirect his attention to what we were doing asking: 'Are reading and writing useful for playing? Yes?' Eric pays no attention to me. He goes on murmuring and starts talking to himself:

-Eric: Oh, so he has three of wood … and 179 of bricks and 313 of, of iron.

I say nothing. As he has started to speak again, I decide to wait and give him time to come back to the classroom. Then he finally looks at me and points to the photo:

-Eric: This is the save-the-world.

I can feel his coming back to the classroom in his gaze and speech, he wants to be understood, so I go with him into the game displayed in the photo:

-Alejandra: That game, I know it.

Eric takes his eyes off me, holds the photo with both hands in front of his face, and continues explaining:

-Eric: He has 1500 life, the save-the-world.

I try to accompany Eric into the game, so I assume that his explanation is some kind of invitation, and I follow it.

-Alejandra: Where does it say that?

Eric puts the photo on the table and says seriously:

-Eric: Here, in the green.

-Alejandra: Ah, fine. And what is this?

-Eric: This is when he rescues people.

-Alejandra: Ah. And this down here?

-Eric: Eh, these are the materials.

He looks at me when he answers my questions. We continue talking about the game and the image:

-Alejandra: And this one here …

-Eric: … fights the storm.

-Alejandra: This is what you told me about before, the storm?

Eric nods and continues:

-Eric: So, in save-the-world it says … Do you know why it says fight the storm? [He taps the photo with his finger, looks at me, and raises his hand] Because zombies appear in the storm.

-Alejandra: Fine, so that's why it's important to fight the storm, so the zombies can't reach you.

-Eric: So in Battle Royale if the storm takes you, it take your lives away.

As he says so, he is looking to the photo and me alternatively. He then looks away from me, and seems captured by the photo again, saying:

-Eric: Noooo zombies appearing.

I cannot say if there are zombies in the photo, or if they exist only in Eric's imagination. Maybe he feels so confident with our conversation that he is starting to imagine what comes after. Eric and I continue talking about the game and the elements displayed in the photo. Eric laughs and leans back on the chair. It seems to me that he is losing his interest on the photo. I prepare to lead him back to our task, when suddenly he takes his gaze away from me and fixes it on the photo again, holding it as if it were a touchscreen, and fidgeting with his fingers as a player. His sound and movements remind me what he did at the beginning, when he encountered the photo for the first time. He looks at me

smiling and says: 'Like, I'm playing, but with this'. We end up sticking the photo on the cardboard, trying it to stand up as if it were a screen with its keypad. Eric smiles.

From a qualitative to post-qualitative analysis: A diffractive reading

The research project hosting this vignette applied the theoretical and methodological framework of the New Literacy Studies (Gee, 2015; Pahl, 2014). According to that, the task proposed to the children aimed to represent their literacy practices through a mapping (Clark, 2011; Pahl and Rowsell, 2013), and its coanalysis should enable us to understand their daily literacy practices (Pahl and Rowsell, 2020). Our first analysis of this vignette relied on a multimodal transcription following Tanner (2017), comprising the non-verbal elements of the communication noticed in our conversation with Eric. However, a later review of this transcription revealed the limits of the representational method to present the complexity of the event (MacLure, 2013; St Pierre, 2016). Thus, some of the more relevant features of the event, such as the intensity, the child's agitation or his sounds, could not be properly presented in the multimodal transcription, as previously noted by Gallagher (2016), and Hackett and Somerville (2017). We therefore went back to our recordings, trying to deepen the analysis in terms of these features, and we noticed a multiplicity of tiny details (the characteristics of Eric's soundings, his movements, and their relation with his linguistic discourse) that moved us to reconsider our results from a 'minor inquiry' perspective (Mazzei, 2017). In this return to our recordings and field notes, it became clear that the initially missed soundings and gestures provided challenging insights of the conversation (Somerville, 2015). In this sense, attending to the sonic materiality of the conversation amplified our perception of what happened, as noted by Wargo et al. (2021). We also faced the complexity of capturing them as data (Wargo, 2018) and levelling them with the visually obtained information (Wargo et al., 2021).

The 'minor inquiry' perspective implied a conceptual and methodological turn (Ehret and Leander, 2019; Mazzei, 2017), and allowed us to move in the complexity (Burnett and Merchant, 2016) of the event, described as unstable, brief, dependent on its context and immersed in an ongoing transformation (Kwa, 2002). At the same time, addressing 'minor inquiry' permitted us a diffractive reading of the vignette, paying attention to the intra-action of the agents in it, and the way in which they build the literacy event (Hackett and Rautio, 2019). From this lens, 'felt' emotion (Ehret, 2018) emerges in the

vignette, which captures elements conforming Deleuze's relational ontology (Deleuze, 1994), as well as the connections and ties between the human and the more-than-human, bodies and objects, as an ongoing process. The photo, Eric, the game, Alejandra, their memory, the past and the present, words, movement and gestures, are part and agents of this event. This rethinking has led us to build our data from a more-than-human perspective and to centre our analysis on Alejandra's experience and reflexivity of the event. Therefore, the vignette draws on 'interview-based data' and embraces intra-active responses through words, bodies and spaces, and has been regarded diffractively, looking for 'creative and unexpected provocations' (Murris and Bozalek, 2019: 873).

Our data analysis takes Barad's concept of onto-epistem-ology (Barad, 2007). As she says, 'Onto-epistem-ology – the study of practices of knowing in being – is probably a better way to think about the kind of understandings that we need to come to terms with how specific intra-actions matter' (Barad, 2007: 185). This methodological frame assumes that discursive practices and matter interact in the construction of knowledge. In our case, this ontoepistemological approach implies a development of knowledge through bodymind, in order to reach different emerging realities and potentialities created by the intra-actions between the *agency of matter* and *human agency* (Lenz Taguchi, 2012). As pointed out by Jackson and Mazzei (2012) in their comments about Barad, the analysis of the literacy event's intra-actions relies on the entanglements of its material and discursive elements, which build the subject in this event in a singular and emerging way (Jackson and Mazzei, 2012: 122).

More-than-human intra-action

The representational task proposed to Eric – the mapping - proved to be unsuitable to generate new knowledge, from the moment the child had to choose among a set of photos previously selected by the researchers. This initial triage actually limited Eric's literacy practices, and presumed a certain approach to literacy, as highlighted by Hackett et al. (2020b). On the contrary, as we focus on the intra-actions between matter, space and discourse, a diffractive approach (Barad, 2007) to this event unveils the great complexity of literacy in the school. The pressure of the school setting and its model of literacy, based on the development of reading and writing skills, appears in our reading as unable to hinder the sociocultural features of Eric's home literacy (Hackett et al., 2020c). In this sense, our focus in a part of the conversation led by Eric enabled us to near his viewpoint and emergences (Davies, 2014; Yoon and Templeton, 2019).

From the school perspective, this affect (described as intensity by Da Silva Iddings and Leander (2019)) could be considered as a distraction, or as a non-explicit refusal from Eric to finish the proposed task (Truman et al., 2021). In this way, this event presents the features described by Rautio (2019) when depicting distractions in the school: 'distractions can be evaluated as distractions towards something not planned, yet of potential worth pedagogically' (Rautio, 2019: 233). Our event took place in front of and with the researcher (Alejandra), and manifested in a succession of human and non-human relations, material and immaterial, with multiple space-temporalities, of 'things coming to be' (Ehret, 2018: 570). In our diffractive reading, we explore the way in which human and more-than-human agents intra-act in the school, and how entangled matter emerge and cohabit in a specific setting (Law and Mol, 2002), far beyond building representational meanings.

The event in our vignette emerges in an unpredictable way, in the intra-actions of Eric, the photo, the school sonic environment, the classroom, Alejandra, the scissors, the smell of the glue stick, the paper's texture, the narrowness of the chair, the images in the photos or the tiredness of Eric and Alejandra. The encounter between Eric and the photo, captured in Figure 1 implies an action of memory in the sense described by Massumi (2015): 'the inauguration of the event, is that absolute coincidence between the past and the dawning present' (Massumi, 2015: 59). In this present permeated by past, Eric's movements and gestures make sense, as they evoke and materialise his actions when playing, as well as his concentration in the videogame and the intensity of his embodiment. This re-conceptualisation of matter and time expands into the future when Eric anticipates what is going to happen next ('Noooo zombies appearing'), even when they are far from being present, as noted in Alejandra's doubts of what is he alluding to. His embodied experience has its roots in the space of the game and show how time and space do not exist without matter (Barad, 2013), and how events are always connected with past and future events, as asserted by Dernikos and Thiel (2020). In this sense, the intra-actions of this event exemplify the way in which practices of mattering (Jones, 2013) take place and its extraordinary capacity for building and re-building new spacetimematterings (Wargo, 2019).

The affective encounter presented in the vignette shows the characters of affect as described by Massumi (2015), manifested in the reactions of Eric and Alejandra. The spacetimemattering of this event cannot be understood only as the intra-actions of Eric, but it arises also in Alejandra's co-construction. Eric and Alejandra's words, gazes, silences, pauses and gestures (see Figure 2) intra-act with the videogame and the classroom space and create a fluid space of
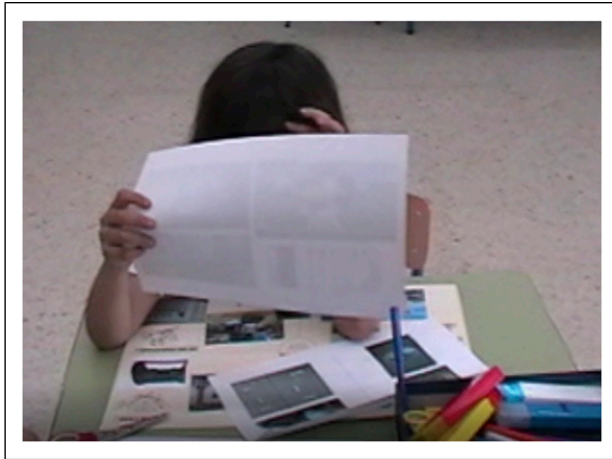
Figure 1. Video capture of the encounter of Eric and the photo.

becomings that navigate from the present to the embodied past and to the sensed future. Thus, following Barad (2013), we consider that 'space and time cannot be separated from matter and the past/present/future are all already entangled' (Kuby and Rowsell, 2017: 288).

The fact that these intra-actions take place in a school environment leads us to reflect on the complexity of the events in the classroom. No analysis of what happens in a classroom may be considered as definitive, owing to the dynamic nature of the material entanglements in educational contexts (Hackett et al., 2020c). Ultimately, the study of the intra-actions of human and more-than-human agencies (Jackson and Mazzei, 2016) dissolves the boundaries between academic and home literacies, since all of them become present through the school's spacetimemattering.

Body and sound as matter

The way in which the photo affects Eric is manifested in his vocal expression and in his movements, similar to those produced when playing. The intensity of the encounter, Eric's initial isolation, invokes consideration of how the encounter affects his body, being a thinking body (Hackett and Rautio, 2019), where sounds and movement resonate (Gershon, 2013; Gallagher, 2016; Hackett and Somerville, 2017). In the encounter, Eric produces a series of sounds and murmurs re-creating the sonic nature of his videogame, becoming part of the game himself. The memory of the game is materialised in the intra-action of Eric

Figure 2. Video capture of the conversation between Eric and Alejandra.

and the photo, and this memory belongs to the body and sound (Hackett et al., 2020b). We therefore assume that there is no split between mind and body, and that the event's emergence through memory transits Eric's embodiment. His body and his mind are a whole, a materiality whose vitality, in this assemblage, relies in matter beyond the human (Bennett, 2010). In this intra-action between the human and the more-than-human, this world becoming of the photo and the child as matter emerges.

Seen in this way, Eric is a bodymind that materialises his past experience in this event. Through movement and sound, Eric re-materialises the photo and transforms it into a text in his explanations to Alejandra, or in a touchscreen able to be played. The reaction of Eric in his encounter with the photo makes us consider them as vibrant matter, imbued by the intensity and vitality of their materialities (Bennett, 2010). These features become the base of literacy as bodily practice (Hackett, 2021).

Alejandra, on her part, bases her relationship with Eric on their verbal interactions, and asks for the representationalism of language (Yoon and Templeton, 2019). Her questions to Eric in their conversation try to bring him back to the initially proposed task, even when she has noticed the impact of this encounter in the child. At the same time, Alejandra is aware that this encounter is not a mere distraction, and that its intensity is far more powerful than the task and has created a world in front of her. As Eric and the photo intraact in their materiality, Alejandra intra-acts with the boy creating a different materiality of the image, and the representational 'translation' provided by Eric differs from his own embodied reaction. The child is required by the adult to

explain and put this newly created materiality in words, a semiotic process often taking place in young children and adults' interactions (Gallagher et al., 2018). Verbal language and semiotic processes seem to be necessary to the child's becoming in the world (MacLure, 2016), although it is seldom required in children's interactions when no adult is mediating. Actually, a closer attention to this encounter's minor details leads us to focus on the soundings belonging to Eric's embodied memory of his videogame. These sounds arise when the photo becomes a game, and intra-act in the image's materialisation. They emerge in the affective encounter in a non-linguistic way, as part of Eric's embodiment, and they are not addressed to the communication with Alejandra (Hackett et al., 2020c). Their emergence takes place in a silent space, apart from the classroom sonic environment (Wargo et al., 2021), where Eric leads the conversation and feels free to give way to sounds and movements that would not be acceptable in a classroom setting (Davies, 2014; Dernikos, 2020; Kirby, 2020). In these soundings, regarded as a mixture of human (Eric's voice) and more-than-human (their videogame origin), the image and the game become entangled with Eric and Alejandra (Somerville, 2015; Wargo, 2018; Wargo et al., 2021).

In this entanglement, we notice the multiple ways in which the more-than-human affects humans, and how, as Bennett (2010) would argue, matter is lively and can evoke memories and create new spaces and embodiments, becoming new unexpected discourses, alien to the logic forms of representational discourse (MacLure, 2013). Eric's response to the photo, his gestures, movements and sounds, are part of this non-representational discourse, in which matter becomes texts in a non-linguistic or representational way (Hackett and Rautio, 2019). His fingers on the photo's surface re-materialise it as a touchscreen, in the same way as his sounds and murmurings when the photo captures him in their encounter transform the image into a sounding device. On his part, Eric converts the photo at the end of the vignette, when he turns back to it and re-materialises it again, by choice, as he explains to Alejandra ('Like, I'm playing, but with this'). As stated by Yoon and Templeton (2019) Eric uses sounds and gestures to perform his understanding of the world.

Conclusion

Our paper has shed light on the way in which children feel literacy in a school context. Using a diffractive analysis, we have explored the affective encounter and the intensities of bodies and matter. At the same time, this analysis has conferred a relevant role to the non-representations of bodies and has delved into the 'literacy event as living bodies' (Ehret, 2018: 565), where an animated

approach to literacy finds its place (Snaza, 2019). Our diffractive analysis of Eric's material-discursive intra-actions has permitted the rethinking of literacy in the school from a minor inquiry perspective (Manning, 2016), noting the relevance of spacetimemattering in which children's intra-actions happen (Barad, 2013), far beyond the school literacy. Our focus on the entanglement of memory, bodies and sound taking place in our vignette has enabled us to redefine Eric's literacy practices as 'bodily practices' (Hackett, 2021: 15).

The ways of being, doing and knowing literacy vary substantially when connected to the school of the children's homes (Daniels, 2019). The school, even when it restricts the children's free movement spaces (Kirby, 2020), cannot avoid the emergence of the creative event and the unexpected taunting (Murris and Bozalek, 2019). The unexpected event emerges in the non-representational, where the entanglement of bodies and text acquire their genuine dimension. The diffractive analysis presented in this paper has led us to reflect on the role of researchers in the course of the research process, and on the reading of data with theory (Warren, 2021).

Our argument in this article is that the spacetimemattering emerging in this entanglement is linked to memory and spreads to the past, present and future. Therefore, our paper contributes to a deep diffractive lecture of memory (Barad, 2013), where space, time and matter entangle with past, present and future. Our research has highlighted the crucial role of memory in the materialisation of literacy in bodies, movement and sound (Somerville, 2015). Our vignette captures the emergence of an affective encounter in a school context, and takes place in the course of a conversation led by a child. In this moment, when the researchers 'listen to children' (Davies, 2014), his memories, embodiments and understandings of the world arise, conforming an entanglement that materialises his literacy practices. In them, the human and the more-than-human intertwine, as becomes clear when the child's non-linguistic sounds become the sounds of his videogame and arise along with the transduction of the photograph (Gallagher et al., 2018). We are led, consequently, to reconsider the rationality or irrationality (Dernikos, 2020), the acceptance or unacceptance (Yoon and Templeton, 2019), of sound and movement in the school context (Hackett and Somerville, 2017).

We have exposed the complexity and heterogeneity of the material-discursive contexts in the school, especially those related with Eric's becomings in memories, sound and movement (Wargo, 2018). Following Lenz Taguchi (2010), this complexity should be incorporated to the Childhood Education curriculum. Its recognition implies a revision of the concept of school literacy and the idea of literacy prevalent in education, insofar as material-discursive repertoires in the school seldom assume an integrative role, are based

in representational knowledge, and tend to exclude the multiplicity inherent in children's literacy. Drawing on Deleuze and Guattari (1994), our analysis moves into a new ontological, epistemological and ethic perspective of literacy education. This move should embrace, as proposed by Truman, 'a turn to affective and inhuman 'literacy'' (Truman, 2019: 111). In consequence, it should provoke, as pointed out by Thiel and Dernikos (2020), the proposition of new learning strategies based on affect and the intra-action of the human and the more-than-human. Ultimately, our perspective allows for the ethic extent assumed by our research when we attend to the refusal of the child to pursue the proposed task (Hackett et al., 2020c), the densities and textures of affect (Stewart, 2007), the function of videogames in contemporary literacy processes (Burnett and Merchant, 2020), or the complexities of the acceptable or un-acceptable in the school.

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