

## EMBODIED MEANING MAKING: A CASE STUDY INVESTIGATING THE USE OF GESTURE IN THE RESPONSES OF YEAR 1 CHILDREN TO A WORDLESS PICTUREBOOK

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*This research paper explores how embodied communication modes affect the dialogic meaning making of year 1 children when responding to wordless picturebooks. Through observing the paired interactions of children, it appears that children are able to use gesture to navigate between intra-dialogic and inter-dialogic meaning making. A review of the literature identifies talk as a key strategy for meaning making (Mercer, 1994; Alexander, 2011). However, the theory of multimodality is used to support the claim that attention should be paid to how children use embodied modes, specifically gesture, as part of meaning making. It is suggested that this is of significance to year 1 children as they have recently experienced the Early Years Foundation Stage, which supports the use of multimodal resources and responses. Methodologically, this research paper is rooted in qualitative, naturalistic inquiry. This approach was selected for its ability to allow for ‘thick description’ of complex interactions (Geertz, 1993). The research design involved a small-scale, theory-seeking case study that used unstructured video observations. This resulted in multimodal data. Inductive coding, influenced by constructivist grounded theory, was applied to the gestural content of the data. These codes were then grouped into themes that suggested how children used embodied modes to manage space, identify narrative entities, make connections across those entities and to imagine beyond what is immediately present in a visual text. The latter two themes involve creative ‘possibility thinking’ (Craft, 2000). The prominence of creative ‘possibility thinking’ makes a case for recognising the value of embodied modes as part of meaning making for year 1 children. However, it is recognised that the research presented is preliminary and the field of embodied meaning making in primary schools deserves further research.*

**Keywords:** EYFS, Dialogic meaning making, Multimodality, Wordless picturebooks

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## Introduction

### *The research context, the focus of the study and the research question*

Talk is seen as critical to the education process as it is a tool for collaborative *meaning making* (Department for Education, 2014a). Meaning making is where understandings are co-constructed through unique and dynamic interpretations (Postman & Weingartner, 1969). This project is concerned with the *dialogic* meaning making of children in the year 1 classroom. The term dialogic, as used in this paper, is influenced by the work of Bakhtin (1981, 1984). He saw the development of ideas as a process of exchange between voices, both internalised and externalised. However, it is this research paper's contention that meaning making is not limited to talk. The pedagogical approaches of the Early Years Foundation Stage (EYFS) seem to support this interpretation as attention is paid not only to what children say but to what they do as part of meaning making (Early Education, 2014). Thus, in the EYFS meaning making appears to be appreciated as *multimodal*. The theory of multimodality proposes that communication encompasses myriad modes (Jewitt, 2014). These modes include *embodied* content, such as posture or gestures. The term embodied is used here to mean communication practices that, at their point of dissemination, exist through bodily movements (Norris, 2004).

Recent literacy research has drawn attention to the value of multimodal artefacts, such as visual texts, for developing meaning making skills (Maine, 2015). Despite an increased appreciation of multimodal artefacts, multimodal responses are under-researched. In light of this lack, a research project was developed to explore how children use embodied meaning making to respond to multimodal artefacts. The project was particularly concerned with the multimodal responses of year 1 children as they have just completed the EYFS. The focus for this project is how children use gesture as part of embodied meaning making. McNeill (1992) suggests gestures connect internalised thoughts and externalised communication, indicating their suitability for supporting dialogic meaning making. In this research paper, the role of gestures in embodied, dialogic meaning making is explored through children's engagement with a wordless picturebook. The research question to be explored in this paper is as follows: *How is dialogic meaning making embodied in the paired reading of a wordless picturebook by year 1 children?*

## Literature Review

At the outset of this study a review of the literature was conducted. This involved searching the British Education Index (BEI). Figure 1 indicates the searches' key terms. It also details how terms were combined to refine results. Searches were limited to peer reviewed journals published from 1962 until the present day. The earlier date was chosen to reflect the 1962 publication date of Vygostky's *Thought and Language* in English, indicating the theoretical framework underpinning this project.

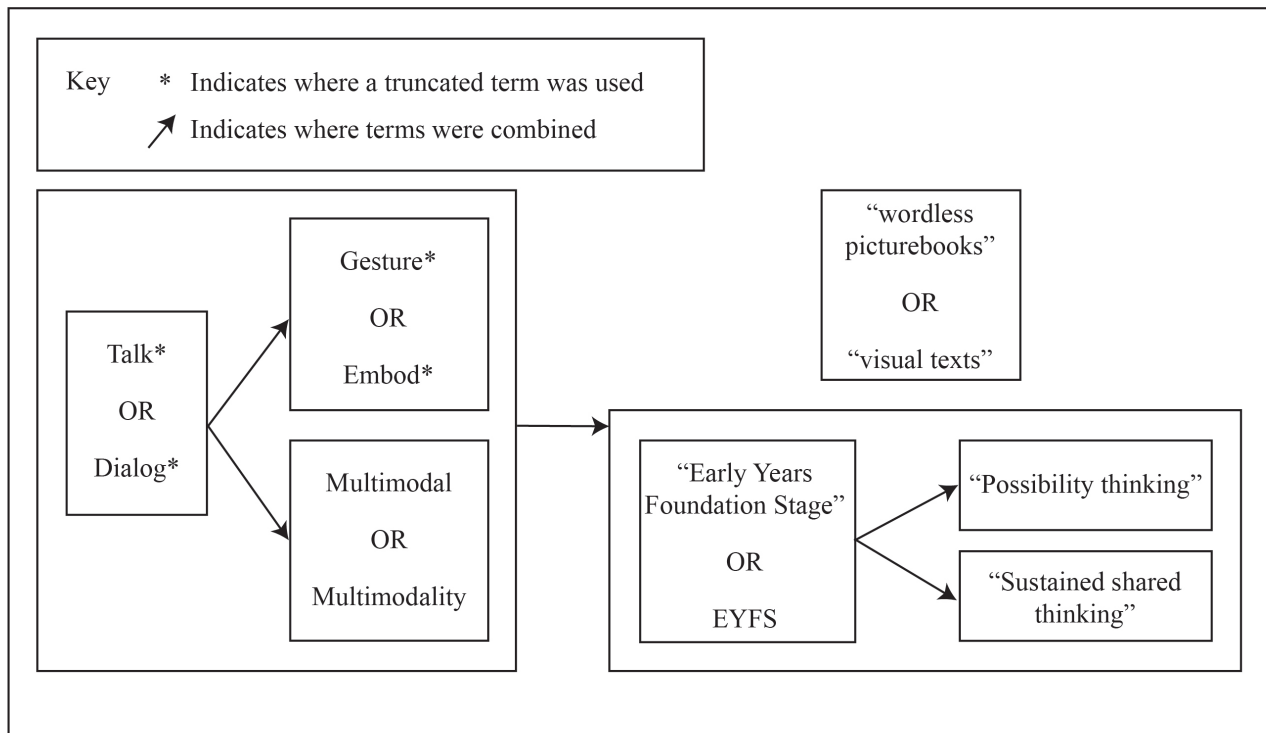


Figure 1. An overview of terms searched for on BEI

### *Underpinning theoretical framework*

Social constructivism holds that all meaning making must first occur on a social level. Vygotsky calls externalised, social meaning making “interpsychological” and later, internalised meaning making “intrapsychological” (1978, p. 57). However, interpsychological meaning making is far from seamless. Instead, a tool is needed to mediate this meeting of minds. Vygotsky (1962) proposes speech. Speech allows children to structure their thoughts about situations into communicable units to be shared with others, which then affect the thoughts and speech of another. Vygotsky (1978) calls this socialised speech. In keeping with Vygotsky’s notion of the interpsychological developing into the intrapsychological, socialised speech develops into ego-centric speech. This is when children talk out loud to themselves. This then becomes silent, internalised speech. Despite the development of internalised speech, socialised and ego-centric speech continue to be of use when a child encounters a new situation. The logocentrism of Vygotsky has led to socialised speech being a concern in the classroom, as is evident in Alexander’s (2011) *dialogic teaching*.

### *From dialogic talk to dialogic meaning making*

Alexander’s dialogic teaching is significant to this project as it links to Bakhtin’s (1981, 1984) use of the term *dialogic*. Bakhtin states that there is “an elastic environment” that words navigate between speaker and listener, gathering traces of previous usages, intentions and meanings (1981, p. 276). This is the Bakhtinian dialogic imagination: the ability to hear another voice. In so doing, meanings are co-constructed in a manner similar to that proposed by Vygotsky. However, Vygotskian social constructivism is dialectical, as it seeks synthesis through experience. In contrast, Bakhtin’s

dialogic is only ever dialogic if each response evades synthesis and, instead, prompts another response (Wegerif, 2008). Dialogic thinking halts the moment divergent responses halt. There is an issue here, though, if a child is engaged in Bakhtinian dialogic thinking through Vygotskian internalised speech. Externally, it may appear that the dialogic exchange has halted, whereas it has become internalised.

The process of dialogic meaning making is complicated by the theory of multimodality, which highlights that communication is not limited to verbal language (Kress & van Leeuwen, 2001). Instead, multimodality recognises that we make meaning in a variety of ways, including gesture. Thus, multimodality can contribute to dialogic exchanges. Gestures are identified as a mode that can connect internalised, dialogic meaning making to externalised situations (McNeill, 1992). This interpretation is not unique to multimodality. Indeed, Vygotsky (1978) recognized gesture's communicative potential. He noted that children will use a grasping gesture as embodied, socialized communication, indicating to another that they want an object. Understood in light of socialized speech, gestures orientate people towards one another and create a connection between the intrapsychological and the interpsychological. Gestures do this by giving physical form to thoughts (McNeill, 1992). In this sense, embodied modes, such as gesture, affect dialogic meaning making by providing an insight into internalised thought.

### *Multimodality in the EYFS*

Using this understanding of gesture, it is important to offer learning environments where embodied modes of meaning making are appreciated. This seems to be provided in the EYFS. The EYFS emphasises the importance of providing varied learning experiences (Early Education, 2014). According to the Effective Provision of Pre-School Education (EPPE) project, the efficacy of these experiences is improved by 'sustained shared thinking' (Sylva et al., 2004). Sustained shared thinking is when two or more individuals collaborate to develop, extend and evaluate meaning (Sylva et al., 2004). It is significant that this practice is called sustained shared thinking, not sustained shared talk (Siraj-Blatchford, 2007). I contend that this allows for a broad interpretation of how shared thinking can manifest. The Reggio Emilia approach to learning is a precursor to this assertion. This approach proposes that children have 'one hundred languages', or multiple modes of expression, including embodied modes (Edwards, Gandani & Forman, 1998). I argue that these sentiments towards meaning making need to be appreciated beyond the EYFS. Meaning making in the year 1 classroom should not be limited to verbal modes but should encompass a range of modes, including embodied practices (Nyland et al., 2008; Rinaldi, 2001).

### *Picturebooks as multimodal artefacts that support multimodal responses*

A pivotal part of multimodal research has involved analysing visual modes (Bazalgette & Buckingham, 2013). This has involved identifying visual material as texts that can be read

for meaning (Kress & van Leeuwen, 1996; Kress, 2003). Wordless picturebooks are an example of a multimodal, visual text (Arizpe, Colomer, Martinez-Roldan & Bagelman, 2014). *Wordless picturebooks* are texts where images carry the weight of meaning (Arizpe, 2013; Nikolajeva, 2005). Hassett (2010) asserts that a wordless picturebook will garner different modes in response to it. She draws attention to how gesture might be used to support spatial elements of a visual text. For example, the extension of a reader's arm can indicate the dynamic trajectory of a character, despite their static rendering on the page. In this sense, gestures provide a three-dimensional element to a two-dimensional text. This is an example of multimodal transduction, where the mode of communication switches to a new mode during the process of interpretation and meaning making (Jewitt et al., 2016; Kress, 1997). This makes a case for the use of spatially-orientated embodied modes, such as gesture. If the artefact's mode is spatial, the mode of interpretation should have the opportunity to be spatial as well.

## Research Design

### *Methodology: The influence of naturalistic inquiry*

This research project's methodology utilises naturalistic inquiry, within an exploratory case study. Like social constructivism, naturalistic inquiry asserts that "realities are multiple, constructed and holistic" (Lincoln & Guba, 1985, p. 37). Moreover, instead of offering positivist generalisations and causalities, naturalistic inquiry offers "time- and context-bound working hypotheses" (p. 37). By acknowledging that meanings are socially constructed it is not possible to know enough about the prospective research context to design in advance a flawless research plan. Instead, the researcher enters the field with research questions and initial actions but allows subsequent steps to unfold in response to the context and participants. It is for this reason that this research project utilises aspects of grounded theory, which will be discussed below.

### *The context of the case study*

The case study was conducted in a single Year 1 classroom within a suburban primary school, during guided reading sessions. The research involved six children completing an activity in pairs. This being a theory seeking, exploratory case study a purposive sample of the class cohort was selected. All members of the class were given the option to participate in the research. Of the 17 class members, 11 wanted to participate and had the necessary permissions. I purposefully chose to focus on the observations of six children who reflected a range of attainment and communication competencies. Initially, I was unsure about whether to construct purposive pairings that could lead to informational reinforcement or to construct deviant cases that could provide informational variation (Flyvberg, 2006). However, indicating the project's emergent research design, the children said they wanted to choose their partners. Pseudonyms are used throughout this paper and are as follows (Table 1):

Table 1  
 An overview of the participants and their pairings

<u>Pair</u>	<u>Pseudonyms</u>	<u>Age related expectation (ARE)</u>	<u>Speech, language and communication needs</u>
1	Pippa	Above ARE	No
	Flora	At ARE	No
2	Mila	Above ARE	No
	Thomas	Below ARE	Yes
3	Fran	Below ARE	No
	Sam	Above ARE	No

### The research activity

The research activity was a paired reading of the wordless picturebook *Journey* (Becker, 2013). Each paired activity was recorded using a fixed camcorder. A crucial quality of the data generated was its multimodality. Additionally, the comprehensiveness of the video data resisted prematurely reducing it to codes (Heath, Hindmarsh & Luff, 2010). Instead, the data could be repeatedly scrutinised throughout the transcription process. The data was transcribed using the ELAN annotation tool (Wittenburg, Brugman, Russel, Klassmann, Sloetjes, 2006). This tool creates ‘tiers’ of transcription, allowing for multiple modes of communication to be recognised. Below is a diagram that identifies the transcription and coding tiers I created (Figure 2).

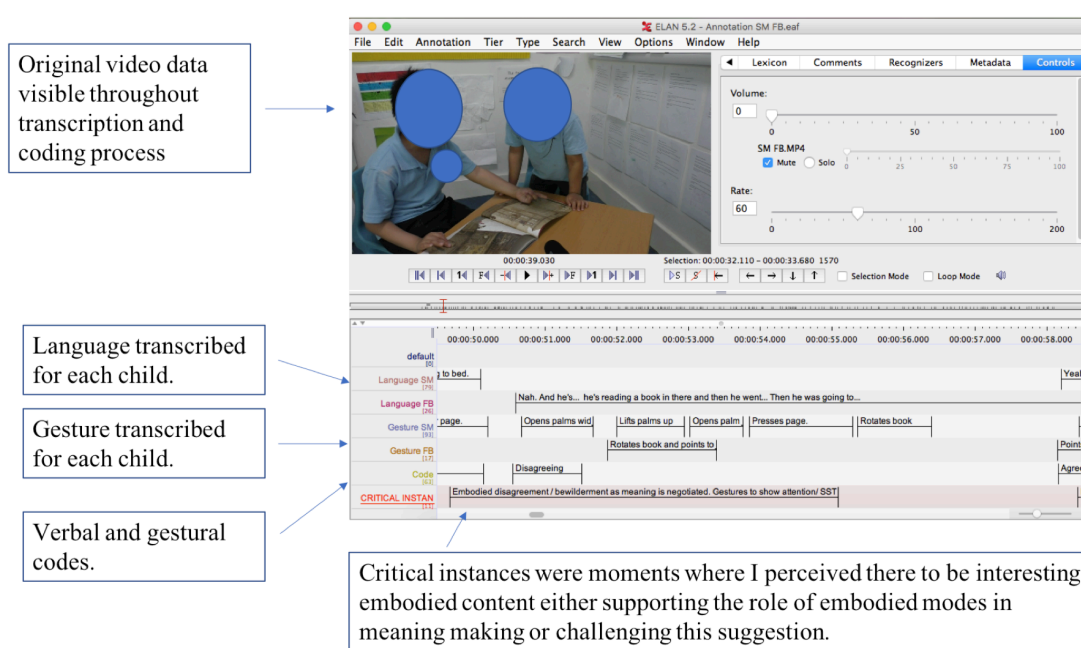


Figure 2. A diagram of annotation tiers used for transcription in ELAN.



Although ELAN was used for the transcription process, the presentation of data in this research project used a different method. The method used for the latter was influenced by Norris (2004), who created a multimodal transcription involving sequential still images with text overlaid. The advantage of this method is that the simultaneity of communication modes can be indicated. I adopted this style, by using arrows to indicate gesture direction, but simplified the presentation of talk, using text boxes (Figure 3).

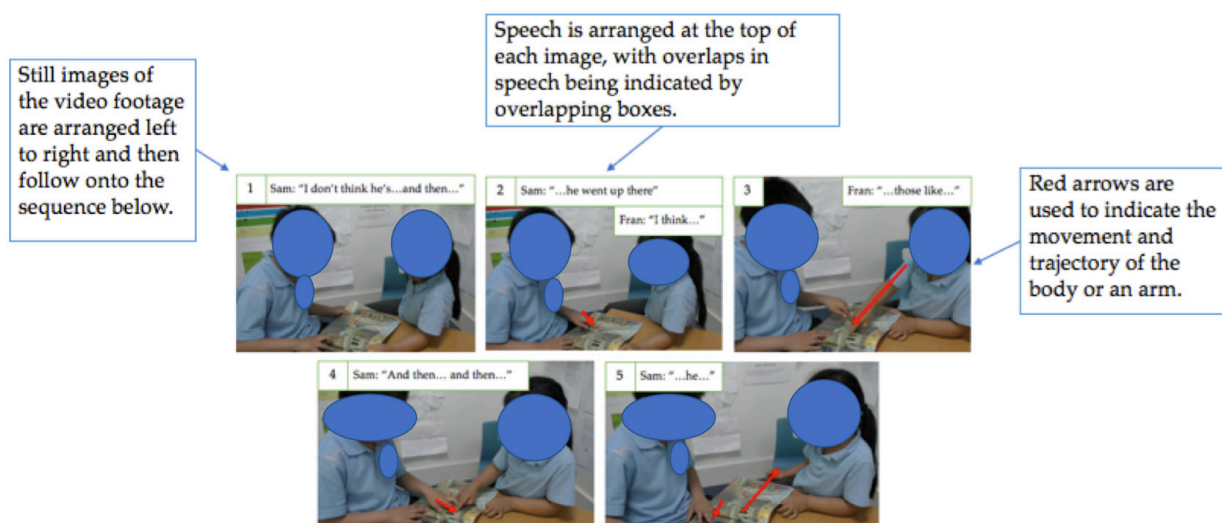


Figure 3: An example of how this project's multimodal data will be presented.

## Ethics

This research project adhered to British Educational Research Association's (BERA) *Ethical Guidelines for Educational Research* (2011, 2018). BERA (2018) stipulates voluntary informed consent as a prerequisite for participation in research. When working with children, BERA advises seeking the approval of "responsible others" (p. 15). I sought consent from the school's head teacher and the children's guardians. Seeking consent from adults on behalf of children is a preliminary step as children have the right to directly express their views on aspects affecting them (United Nations, 1989). Therefore, researchers need to facilitate children "to give fully informed consent" (BERA, 2018, p. 11). For this project, this involved circle time discussions with the children about the research. I stressed to the children that they could decide if they participated and that they could change their mind and stop being part of the research at any point (BERA, 2018). Additionally, I explained that details would not be shared and that anything said or done during the research would not be attributed to them (BERA, 2018). The issues of confidentiality and anonymity are heightened with video content due to identifying features such as uniform logos (Robson, 2011b). For this project such identifying features are obscured and all names are pseudonyms.

## Grounded theory and inductive coding

Once the video recordings had been transcribed, the coding process began. This process was influenced by constructivist grounded theory, which asserts that knowledge and, thus, theories can only ever be

subjectively constructed, not discovered (Charmaz & Bryant, 2011). The influence of constructivist grounded theory on this project’s research design meant that pre-existing coding schemas, such as the Scheme for Educational Dialogue Analysis (Hennessy et al., 2016), were rejected. Instead, inductive, open coding was used (Creswell, 2012). The language used in coding is not neutral. Instead, it indicates research values. To raise my awareness of my own assumptions, I repeatedly reviewed the data and the codes assigned to it. The codes and the definition of the codes used for the data are given below (Table 2). At the outset, the data was transcribed for both verbal and gestural content. Additionally, codes were allocated for both verbal and gestural content in order to facilitate interpretations of how gestures support dialogic meaning making. However, this paper will foreground the gestural content of the data.

Table 2  
*Codes and their definitions*

<u>Codes</u>	<u>Definitions</u>
Commanding space	When the whole body of limbs are angled to block the movement of the other child.
Creating distance	When the whole body or limbs are angled away from a space.
Following partner	When the whole body is angled towards the other child, reducing the distance between them.
Showing uncertainty	The elevation of one of both upper limbs in either an upward or peripheral direction.
Directing	Moving the hands so as to conduct the movements of the other hand.
Pointing	Extending the arm towards a distinct object, affirming existence and location.
Linking objects	The movement back and forth of a finger or hand between two or more objects.
Tracing motion	Moving a finger or hand over a section of the book to indicate how an entity moves.
Enacting	Moving either the whole or parts of the body to act out the story.
Illustrating	Broad movements of the hands so as to express abstract qualities.



## Findings

### *Presentation of the data*

In the first instance, the codes assigned to the data and their frequency will be provided (Table 3). Despite this research project being a qualitative inquiry, the use of a quantitative approach to the data at the outset helped me to identify significant aspects of the data, both in terms of increased and reduced frequency, and what aspects warranted further qualitative analysis. Table 3 shows that pointing was the most frequent code across the pairings, indicating a concern with identifying the features of the wordless picturebook. However, within this task, one pair of children showed an additional preference for another set of actions, namely linking objects and tracing motion. This suggests an interest in creating connections between features.

Table 3  
*Codes and their frequency*

<u>Code</u>	<u>Pair 1</u>	<u>Pair 2</u>	<u>Pair 3</u>	<u>Total instances</u>
Commanding space	8	7	5	20
Creating distance	3	4	4	11
Following partner	8	4	1	13
Showing uncertainty	2	2	1	5
Directing	8	4	5	17
Pointing	46	30	21	97
Linking objects	21	5	3	29
Tracing motion	11	6	7	24
Enacting	14	10	3	27
Illustrating	6	3	3	12

### *From the creation of codes to the construction of themes*

Having assigned codes to the data, I constructed four descriptive themes: managing space; identifying entities and negotiating priorities; making connections and identifying causality; imagining and becoming beyond the self. The first theme is concerned with how children use a combination of verbal and gestural modes to orchestrate space. The second theme looks at how children use verbal and gestural deictics to identify salient aspects in the text. The third theme notices how pointing can be refined to connect objects and establish causality. The final theme investigates how the children use enactment, as a form of transduction, to imagine themselves into alternative possibilities. Exemplification of the themes will be provided through the analysis of critical instances. These instances address issues pertinent to the research question and, thus, traverse issues related to dialogic meaning making and sustained shared thinking. Below is a representation of how the codes were assigned to each theme, including where codes appear in more than one theme (Figure 4).

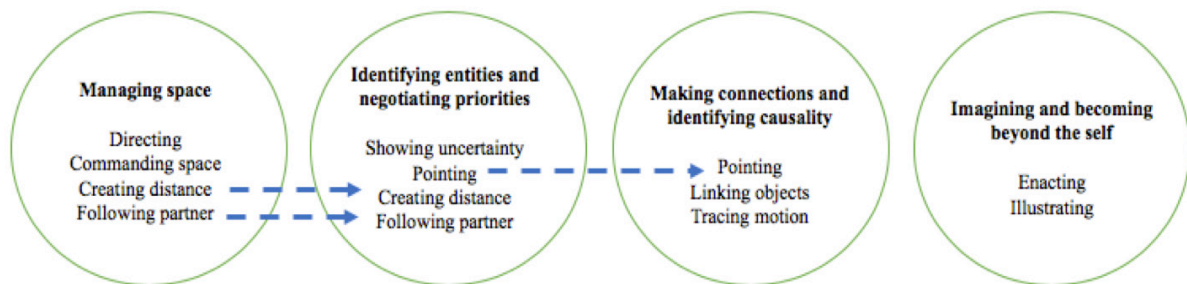


Figure 4. A diagrammatic representation of the assignment of codes to themes.

*Theme one: using embodied modes to manage space and mirror narrative effect*

The code ‘commanding space’ suggests an assertion of social dominance. This interpretation was indicated in the first research activity where, for each pairing, there were instances when one child pushed away the arm of their partner. Figure 5 captures one such occasion. Sam is expressing an opinion at the same time as expressing uncertainty: “*I don’t think he’s... and then...*”. Fran seemingly interprets his uncertainty as an opportunity to offer her own opinion: “*I think ...those like...*”. However, Fran’s contribution is interrupted by Sam pushing her hand away from the book. His embodied contribution acts as a negative case as his pushing gesture seems to limit the potential for dialogic meaning making. This reading is supported by a subsequent rise in volume in Sam’s voice as he returns to where he had earlier trailed off.

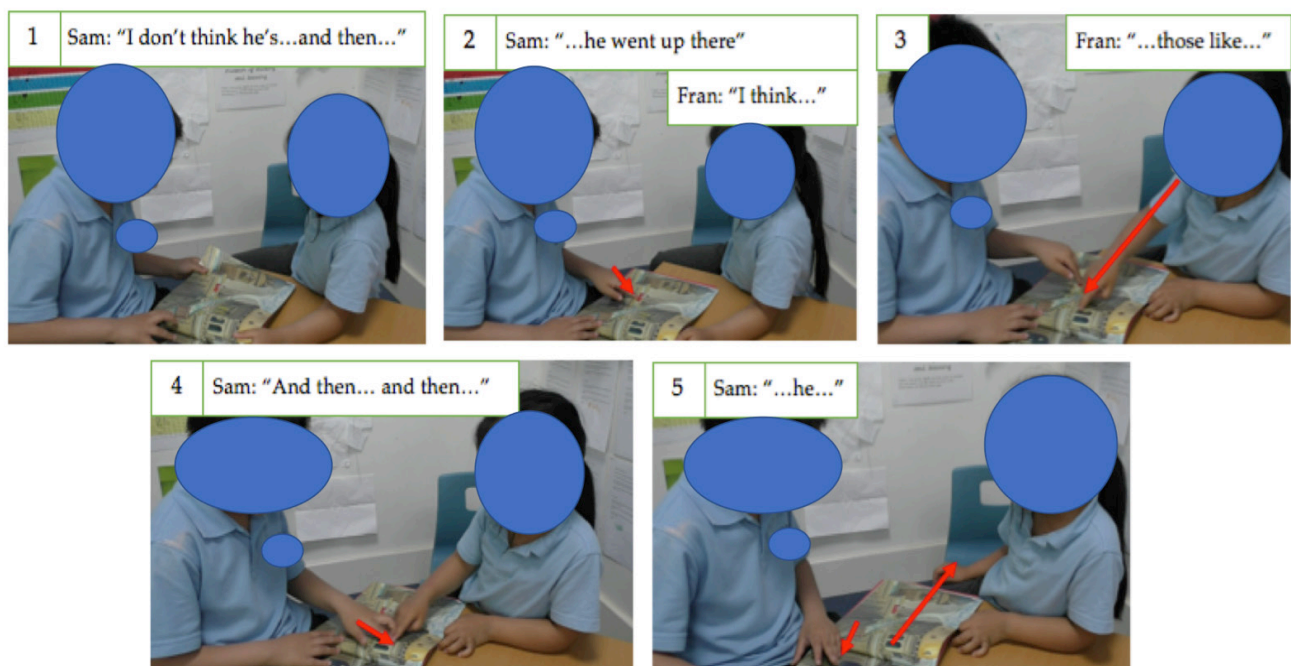


Figure 5. Commanding space for social dominance.

In contrast to this example, there were instances when commanding space appeared to contribute to meaning making (Figure 6). In Figure 6, Pippa instructs Flora not to look at the book, managing the space by folding over a double page spread and using her body to reduce Flora's access to the text.

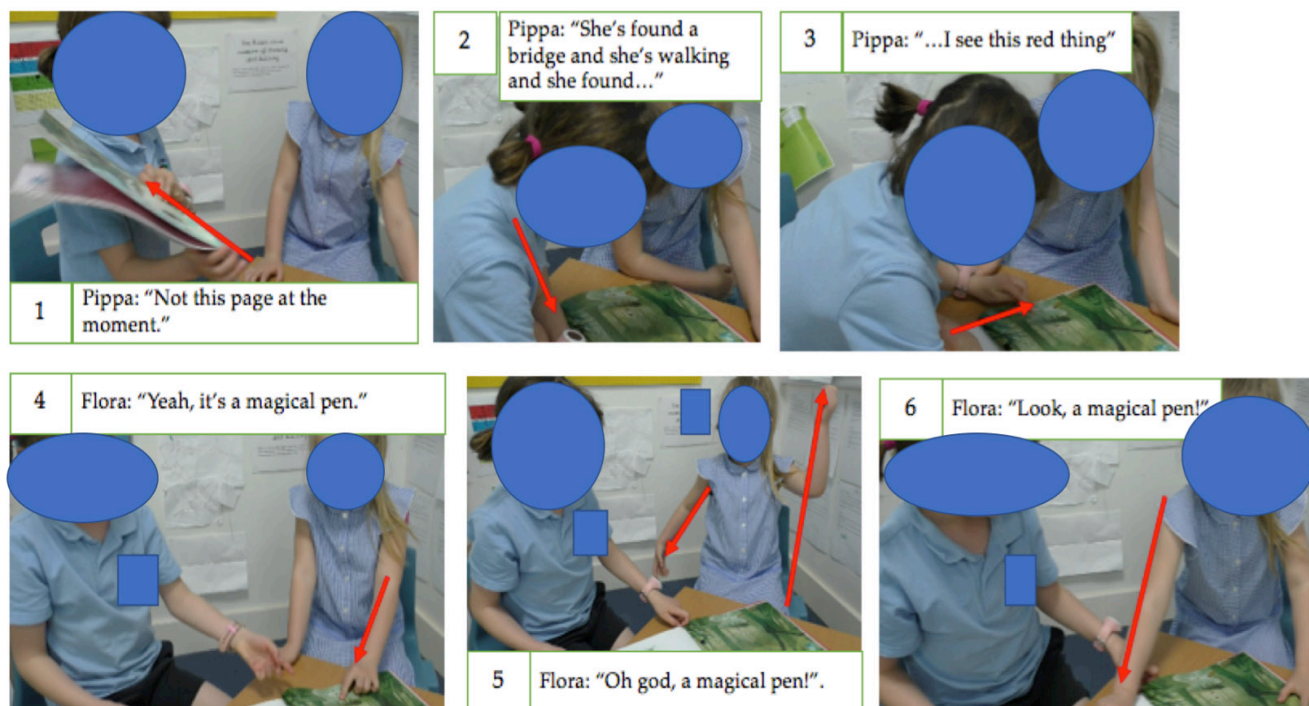


Figure 6. Commanding space for social dominance.

Nikolajeva (2010) notes that page-turning is a key mechanism for creating narrative gaps in wordless picturebooks. On this occasion, the double page spread means the narrative gap is reduced. Pippa appears to have read both images, identified the causal connection between the two and is attempting to enhance the narrative gap between the two images for her partner. In so doing, Pippa extends the book's narrative beyond the two-dimensional page into the three-dimensional space shared by her and Flora. Pippa's attempt to create narrative suspense through commanding the space is supported by her verbal content, with a significant ellipsis: "She's found a bridge and she's walking around and she found... I see this red thing." Throughout this, Flora has followed Pippa by leaning her body towards her partner. Pippa responds to this by creating distance between herself, the book and Flora as she reveals the other side of the double page spread. Flora's response is memorable. She quickly extends her left hand towards the left-hand side of the book pointing at and labelling the red crayon: "Oh God, it's a magical pen". Flora leans her body away from the book as she extends both arms over head in an illustrative gesture, implying narrative significance. Having momentarily withdrawn her body she quickly leans forward and extends her right hand towards the right-hand page, pointing at the red crayon as she implores "Look, a magic pen!". Pippa's commanding of space appears to control the narrative pace, allowing for Flora to place narrative emphasis on the child's act of discovering the red crayon. What is more, Flora's leaning forwards and backwards indicates how following a partner and creating distance can indicate shared attention and shared thinking.



*Theme two: using gesture to identify entities and negotiate priorities*

Verbal labelling and gestural pointing were frequently occurring codes within the data. The prominence of these codes necessitates questioning how they are being used and whether they contribute to meaning making or shared sustained thinking. In one instance (Figure 7), Sam succinctly labels the contents and actions of a page: “*He drops four pieces of paper. Then he did that. And then he did a line. And then he went out the door.*” Sam’s gesture is synchronised with this verbal content, discretely pointing from one aspect of the picture to the next. During this, Fran follows her partner, without moving her arms from her body’s midline, and briefly utters “*yep*”. Although Sam is demonstrating his ability to use an embodied mode alongside his verbal mode to identify salient entities in the text, it does not seem to contribute to dialogic meaning making as there is no clear sign of an exchange between him and Fran. However, it is possible to interpret labelling and pointing as preliminary steps towards meaning making. This is because pivotal entities need to be identified and agreed upon before their significance is negotiated by using demonstrations of uncertainty.

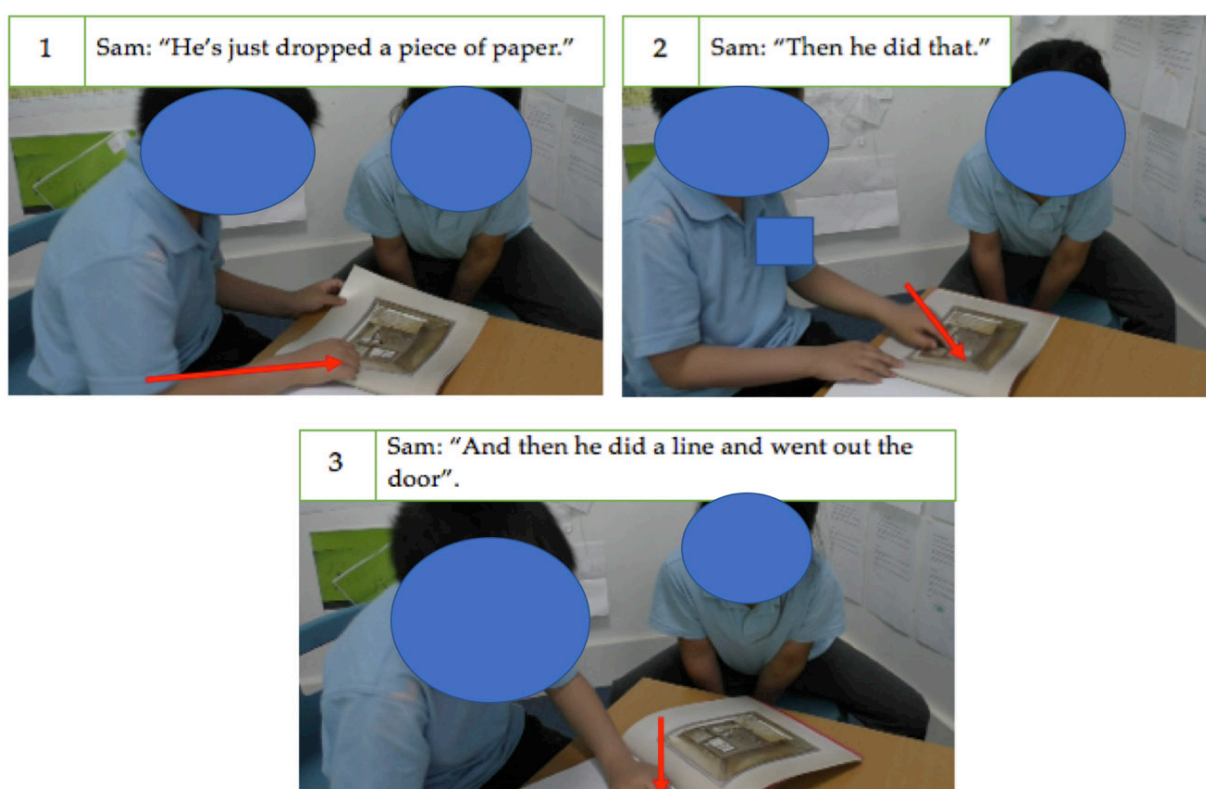


Figure 7. Labelling and pointing to identify entities.

In Figure 8, Sam uses the succinct declarative statement “*And then he's going to bed*” to label the text. He synchronises a pointing gesture with his verbal labelling and then rotates the book towards Fran. However, instead of succinctly agreeing as in an earlier excerpt, Fran replies: “*Nah. And he's... he's reading a book in there and then he went... Then he was going to...*”. In this brief segment, Fran quickly moves from disagreeing, to labelling, via expressing uncertainty. I suggest that Fran’s disagreement

with Sam, along with her expression of uncertainty provides an opportunity for Sam to reconsider his earlier assertion. This interpretation is based on Sam's gestures. At the moment of Fran's "Nah", Sam opens both palms up and away from the midline of his body, showing uncertainty. This gestural moment connects with McNeill's (1992) suggestion that gesture gives insight into moments of discord between thought and discourse. However, Sam remains silent as Fran begins her interpretation, meaning his use of an embodied mode to show uncertainty does not interrupt Fran's verbal meaning making. It is only when Fran herself hesitates and expresses uncertainty that Sam iterates and exaggerates his open palm gesture, combining it with verbal content: "But, what...?". Although Sam is not categorically disagreeing with Fran he is unsure about accepting her contribution. His question and exaggerated gesture prompt Fran to continue and to develop her idea further: "Then he was going to...". When Fran's speech trails off Sam seems to interpret this as an opportunity to reengage, both verbally and gesturally. It seems that the embodied and verbal manifestations of uncertainty by both children in this extract allow them to move from labelling and pointing to negotiating an understanding together. Significantly, it is when one child uses embodied modes, without complementary verbal modes, that the other child can verbally extend an idea without vocal interruption. This indicates how the children are using gestures to support the construction of dialogic meaning making.

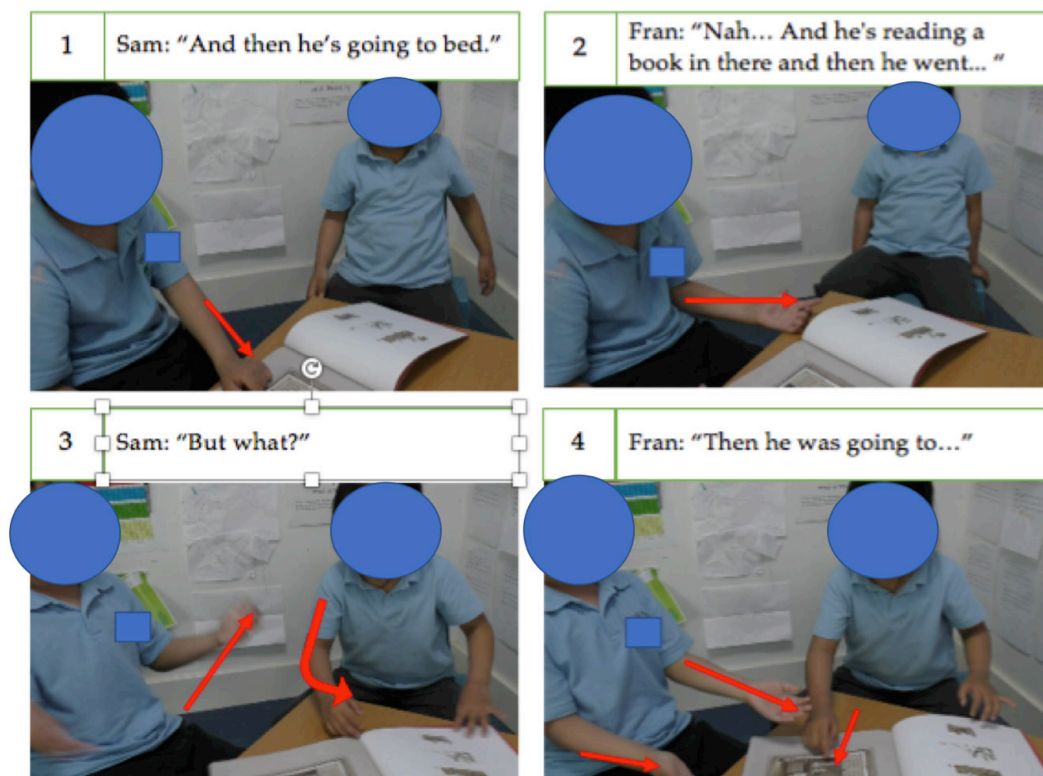


Figure 8. Using uncertainty to develop ideas.

### *Theme three: using gesture to make connections and identify causality*

Within the data corpus there were instances when the children refined the gesture of pointing to indicate character and narrative trajectories. For example, pointing transitioned into tracing motion and linking

objects. This prompts a consideration as to what impact these movements have on meaning making. Nodelman (1988) has suggested that wordless picturebooks are particularly suited to depicting action as opposed to feelings. Nikolajeva reasons that this is because the primacy of the visual mode is “naturally well suited to the description of spatial relations”, whereas conventions of characterisation are harder to execute (2002, p. 92). Using these assertions, it is possible to suggest that tracing motion and linking objects contribute to meaning making by creating three-dimensional representations of action previously restricted to two-dimensional, visual modes.

In Figure 9, Mila starts with labelling and pointing at an aspect of the visual text: “*She’s now at a big...*”. However, Mila trails off and Thomas finishes the labelling and pointing process: “*At a castle*”. Significantly, his pointing transitions to tracing motion as his right index finger follows the flow of a body of water depicted on the book’s page. Mila then offers a clarification to Thomas’ interpretation of the building. She proposes it is a kingdom. She then goes on to justify her opinion by saying “*because, it goes like that*”, tracing her finger over the water. I suggest that Thomas’ gesture of tracing the motion of the water contributed to the pair’s spatial understanding of the picture. In particular, Mila seems to recognise the complex nature of the water network when she says “*then, bla, bla, bla, bla, bla, bla. Like that*”. At this point, she deviates from tracing the motion of the water to illustratively scuttling her fingers across the page. Mila’s scuttling fingers provide a three-dimensional, spatial rendering of this two-dimensional, visual representation. The gestures of tracing and illustrating in this excerpt contribute to understanding the spatial relationships in the text.

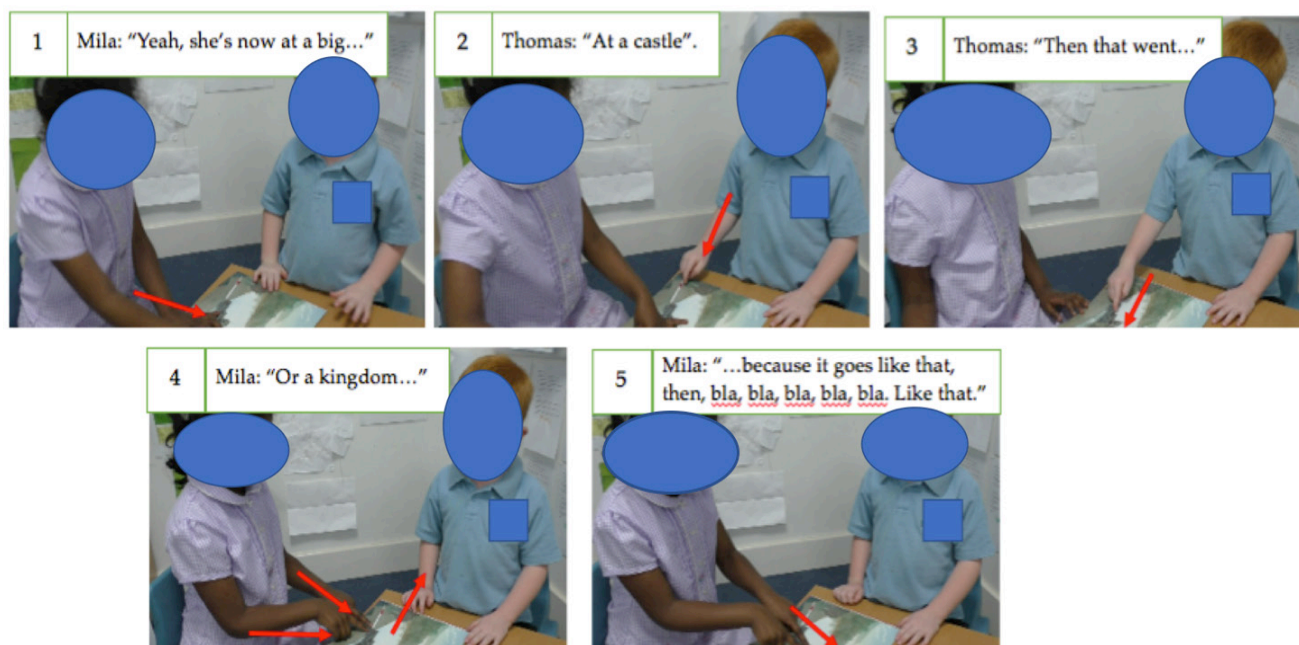


Figure 9. Tracing motion to understand spatial relationships.

Although Nodelman (1988) and Nikolajeva (2002) assert the suitability of wordless picturebooks for depicting action as opposed to feelings, one partnership in the research used gesture to identify causality of action but also causality of sentiment. Pippa and Flora used the action of linking objects



significantly more than the other pairings, whereas all pairings used comparable amounts of tracing motion. In so doing, Pippa and Flora were able to explore the cause and effect of actions on character's feelings.

In Figure 10, Pippa attempts to express her opinion about one of the characters: *“Um, I think the girl is sad, feeling sad, because, feeling sad”*. Her use of the word ‘because’ suggests that she is using reasoning language to identify causality. However, the causal relationship she is attempting to establish is unclear. Instead, the quality of her speech is tautologous. In contrast, by paying attention to her gestures it is possible to gain an insight into Pippa's intrapsychological process and perceive the causality her verbal content is lacking. She points to a character and then links this character with a static scooter, her finger moving rapidly between the two. Her gesture fills the gap in her verbal content, providing an embodied complement to the word ‘because’: the child is sad because she is not playing on her scooter. At the end of Pippa's declarative statement, Flora points to the previous page, questioning *“What is that?”*. Flora's pointing and questioning prompts Pippa to follow her partner. Pippa traces her finger between the characters depicted on the page and then drags her finger from them to the earlier character, saying *“These aren't playing with her”*. This time, although lacking the word ‘because’, Pippa's linking gesture can be seen to elaborate on the causality identified earlier. Namely, the child is sad not simply because she is not playing with her scooter, but because she does not have anyone willing to join her in her scooter play. This exchange between Pippa and Flora has shown how gestures can complement verbal content in the identification of causality. What is more, that causality can be linked to feelings and characterisation, aspects of narrative story telling previously seen as minimal in wordless picturebooks.



Figure 10. Linking objects to bridge narrative gaps.

*Theme four: using the body to imagine and extend beyond the self*

Previous research has shown that children are capable of enacting the world presented by a text (Sipe, 2007). When they do so they use their bodies creatively to engage in possibility thinking (Craft, 2000). Furthermore, by using embodied modes to bring the abstract and the visual into the physical realm they are using transduction to make meaning (Kress, 1997; Franks & Jewitt, 2001; Jewitt et al., 2016). A crucial aspect of this involves using physical, three-dimensional space to make meaning from two-dimensional artefacts (Hassett, 2010). In this research project, examples of enacting and illustrating are seen to support sustained shared thinking as well as possibility thinking as a style of meaning making.

In Figure 11, Mila begins by labelling the contents of the book. She uses a hesitant pause to alter the direction of her labelling before letting her verbal content trail off and moving into gestural enactment, replicating the action of a character. Her switch from a verbal to an embodied mode allows her to move from commentary on content to interpretation of the situation. She then seeks Thomas’ agreement of her physical interpretation. Thomas verbally agrees but then, significantly, provides his own enactment of another character. He places his fists under his chin and slumps his body forward.

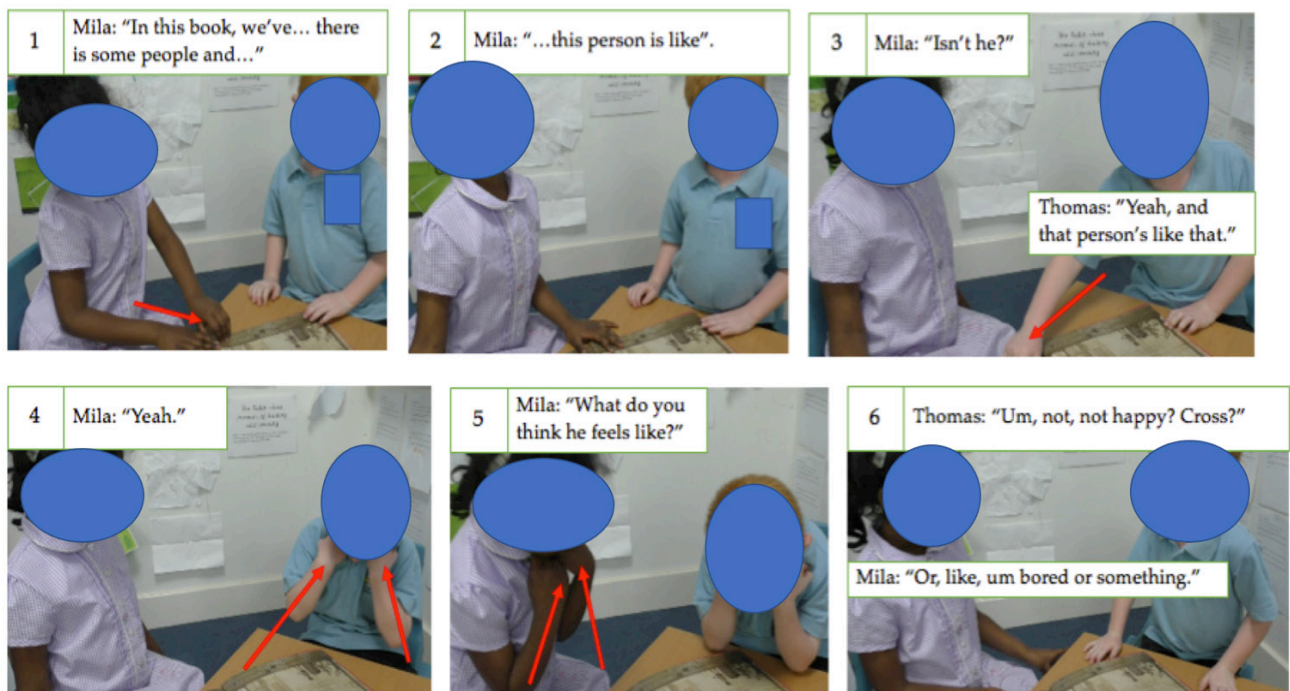


Figure 11. Enacting to interpret latent aspects in a text

Thus, both children have used embodied modes to enact feelings portrayed on the page. Mila then uses this shared physical experience to seek a verbal label for these feelings. The pair come up with the phrases “not happy”, “cross”, “bored”. Mila’s pause and transition to

embodied enactment seem to not only provide silent time for her to refine her interpretation but also provided Thomas with license to approach the text non-verbally. Moreover, the exchange and refinement of enacting gestures between Mila and Thomas seems to prompt their verbal exchange, refining their interpretation of the feelings represented in the text. Through enactment, the children developed an idea about a latent aspect of the text. The example shows how illustrating can induce possibility thinking as gestures make salient more than is immediately presented in the text.

In another instance (Figure 12), Sam has just asked Fran if she has something to say. This follows an early episode where Sam has established a spatial and causal connection between a bird and a flying carpet. Fran leans away from the table opens her arms out to either side to enact flying. Her gesture is expansive, giving it an illustrative quality, indicating the spacious nature of the journey being undertaken. Interestingly, Sam seems to respond to Fran's transition from enacting to illustrating by tracing the motion of an arch across the page. He appears to be establishing a connection between Fran's physical manifestation and the implied narrative in the text. Fran's illustrating is complemented by a transition away from labelling to narrating: *"And then, he flew over the sky and it was night-time and he was going home, back to his home"*. Fran's illustrating seems to have allowed for possibility thinking in the form of her constructing narrative elements that are not depicted, as the page she is responding to does not visually indicate the journey's destination. Fran uses gesture as part of possibility thinking.

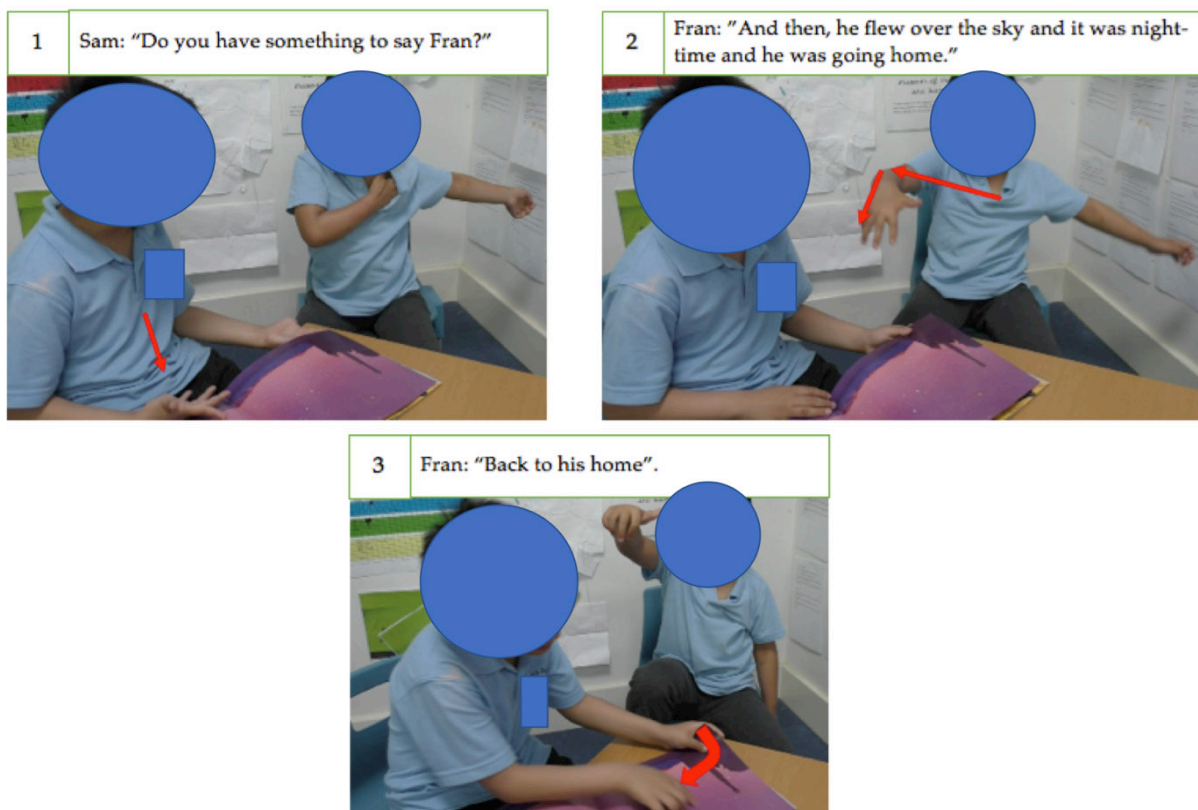


Figure 12. Illustrating to enable possibility thinking



## Discussion and conclusion

### *How is dialogic meaning making embodied in the paired reading of a wordless picturebook by year 1 children?*

#### *Embodied modes link intra-dialogic and inter-dialogic meaning making*

Embodied modes affect dialogic meaning making by providing an insight into internalised thought. Gestures, for example, connect the intrapsychological and interpsychological. Hence, when considering embodied, dialogic meaning making this should be taken to mean ‘intra-dialogic’ and ‘inter-dialogic’ processes. ‘Intra-dialogic’ is used here to indicate how a child navigates their own thought process and connects it with their external environment. ‘Inter-dialogic’ is used to indicate how a child interprets the thoughts of another and connects them to their own. The act of managing space could be seen as counter-productive to meaning making as such movements might hinder inter-dialogic meaning making; when a child uses his body to control space not only does he impede another child’s range of movement he also interrupts the other child’s embodied and verbal contributions to meaning making. However, the children who commanded space in this project appeared to be doing so when also negotiating an idea on an intra-dialogic level. Thus, the children may be attempting to control the discourse space by controlling the physical space, giving themselves time to externalise their internalised speech. Nevertheless, ‘commanding space’ for intra-dialogic meaning making runs the risk of hindering inter-dialogic meaning making.

The themes of identifying narrative entities and making connections are linked as children used pointing, linking objects and tracing motion to traverse narrative gaps, establish unexpressed narrative causality and imagine beyond what was visible. In brief, the children had to make salient that which was not explicitly there, both to themselves and to each other. Thus, the effects of embodied meaning making in this case was to affect possibility thinking as it gave visible representations to abstractions. In turn, this allowed the children to imagine beyond what was explicitly presented in the text. In one pairing a child used her arms to represent a bird flying to its home, imagining a narrative trajectory not present in the text. This imaginative potential links embodied modes to the pedagogy of the EYFS. The EYFS recognises imaginative play as crucial to development (Department for Education, 2014b). The aptitude of children to imagine does not disappear at the start of Year 1. This assertion makes a case for the continued recognition of embodied imagination and meaning making beyond reception. This seems particularly apt, given the increased emphasis on reading comprehension as part of the ‘reading for pleasure’ remit with the National Curriculum (Department for Education, 2014a)

#### *Implications: recognising and valuing multimodal responses*

The research project revealed a range of effects caused by embodied modes, such as establishing narrative and causal connections. Above all, they showed the potential of embodied modes for meaning making and that children are competent at utilising these modes. An implication of this research is that teachers could provide opportunities for children to access multimodal resources and to support multimodal responses. For example, teachers could regularly integrate small world play into literacy learning. This would allow Year 1 teachers to be sensitive to the multimodal learning environment

of the EYFS that children have just left. Additionally, it is crucial that teachers ‘listens to’ children’s embodied modes. This could take the form of integrating enriched provision in the year 1 classroom, where children have the opportunity to engage with a range of multimodal resources and teachers can observe what children do as much as what they say in order to support learning. These suggestions should be able to occur without jeopardising the role of talk as the research project recognises that talk continues to be a crucial communication mode. What is more, the theory of multimodality asserts that modes are not to be analysed or assessed in isolation but in concert as the meaning will be “more than the sum of the parts” (Bazalgette & Buckingham, 2013, p. 96).

### *Reflections: project limitations and suggestions for further research*

This project’s strength is that it has provided an insight into the potential of embodied modes to affect meaning making. Moreover, it has drawn attention to the skills children have of interpreting wordless picturebooks, both for linking narrative entities and imagining narrative trajectories. However, it is important to acknowledge the limitations of the project. In so doing, it will be possible to outline suggestions for further research. A methodological limitation was that this project was a small scale, case study. The cohort sample was necessarily small due to the time-restraints of the project. Moreover, it has been acknowledged, that the selection of the school was a convenience sample. However, this study design limitation enables the suggestion that an alteration to the boundaries of a future case could generate interesting research insights. At the outset, it would be preferable to conduct observations over a longer period of time and with a larger cohort of children. This would allow for a greater body of data for comparison.

A crucial aspect of this project was the assertion of the impact of the children’s recent, previous experiences of the EYFS on their meaning making strategies in year 1. My interpretation of the data suggests that children in year 1 are adept at using embodied modes to make meaning, both intra-dialogically and inter- dialogically. The need to continue to research the effects of embodied modes on meaning making seems particularly pressing when the case has already been made for the value of multimodal texts in meaning making (Maine, 2015). The recognised and supported modes of response need to keep pace with the acknowledged modes of representation. It would be interesting to see whether these embodied modes continue to be used later in primary school. This suggests the possibility of a longitudinal study that could investigate how multimodal meaning making develops and alters during the course of children’s time at primary school.

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