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Taking a dialogic stance in interaction with the youngest children – Supporting concept learning and child agency[☆]

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ABSTRACT

This article explores a conversation between a student teacher (ST) and a three-year-old child using conversation analysis. Through analysis and interpretation, the article describes and discusses the importance of the adult taking a dialogic stance to support concept learning and child agency, even when the child's verbal participation is initially limited. The research question is: *How can adults support the concept learning and agency of young children through dialogue when the verbal contributions of the children are limited?* The analysis shows that the ST takes a dialogic stance by sharing the child's interest in the slug while taking facilitative actions, such as questions and invitations to child agency, and minimal responses and repetitions that confirm and enhance child agency. She supports concept learning by providing information and using scientific words in a situation where the child is engaged and interested. The ST and child thus take turns leading the conversation which results in an engaging learning situation, and the analysis shows how the child's agency evolves from a silent interest to a loud expression of knowledge.

The view of children as well as their abilities and possibilities is constantly changing (Hartoft, 2019). Over the last few decades, the view has grown that children are capable of deciding for themselves and that they should be given the possibility to do so as well as play a more active part in their own lives. Supported by educational, psychological and social study research on concepts, such as dialogic teaching (e.g., Alexander, 2020), agency (e.g., Vaughn, 2020) and co-determination (e.g., Hartoft, 2019), these ideas are now also visible in school curriculums and frameworks for early childhood education in many countries. In the Norwegian educational system, such documents now encourage a pedagogy for learning through exploration and conversation as well as giving children sufficient room and opportunity to develop critical thinking and democratic citizenship through co-determination (Kunnskapsdepartementet [Ministry of Education and Research], 2017a, 2017b). However, realising these ideas is considered demanding for the pedagogues, and learning to teach in a dialogic manner is something that requires both practice and awareness (e.g., Alexander, 2020). Facilitating for child agency can be a challenge, especially when it comes to the youngest children, and the pedagogue in kindergarten

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plays an important role in facilitating children's agency by inviting the children to cocreate through play by responding to children's initiatives, thereby legitimising them, coordinating different content of playful interaction and challenging children's understanding through metacommunication (Lagerlöf et al., 2019, p. 44).

In our Erasmus+-project SciTalk (Science talk in teacher education),¹ we aimed to prepare teachers for a practice based on these ideas. In the present article, we do a microstudy into the details of a conversation between a student teacher and a three-year-old child, where the student teacher balances between teaching and leading the conversation and facilitating the child's agency and interest. This article is based on video observation and a transcription of the conversation which took place during a kindergarten excursion in western Norway. The conversation is a case from the PhD project of Author 2. Our research question is: *How can adults support the concept learning and agency of young children through dialogue when the verbal contributions of the children are limited?*

1. Theoretical framework and previous research

The SciTalk project and this article are placed within the theoretical framework of *dialogism* (Bakhtin, 1986; Linell, 1998, 2009). An important principle of dialogism is that utterances must be studied in their context, in the interaction where they are uttered, and not as isolated units (Bakhtin, 1986). Utterances come in many forms and lengths and do not have to be just verbal. Linell (2009, p. xxvii) writes that “[l]anguage does not function by itself; it is interdependent with the world ‘out there’ and with the body, and with human action, interaction and thinking”. He adds that “[m]ore fundamental than language is dialogue (...). Language is simply one of several semiotic means by which humans are in dialogue with their environments” (p. xxvii). In the present study, we are particularly interested in the role of non-verbal communication in the interaction with children and how this feature can be foregrounded by awareness and attention.

Extensive research on and advice for dialogic teaching practices advocate using a repertoire of linguistic forms, such as open-ended questions (Shahrill, 2013; Walsh & Sattes, 2005), productive questions (Elstgeest, 1996) or other specific behaviours, such as the ones used to describe sustained shared thinking (SST)—for example, suggesting, reminding, encouragement to think further, offering an alternative viewpoint, recapping, clarifying ideas and inviting children to elaborate (Siraj-Blatchford et al., 2002). However, there is growing awareness that these linguistic acts are not a guarantee for dialogic teaching. Rather, it is the *dialogic stance* (Boyd & Markarian, 2015) of the teacher that is crucial. Interactional features that are typically associated with more recitational practices, such as IRE-sequences (Initiative – Response – Evaluation), closed questions and instructional language, can also be used with the intent of fostering dialogic interaction (Boyd & Markarian, 2015). Boyd and Markarian (2015) state that “A teacher adopting a dialogic stance listens, leads and follows, responds and directs as she employs a repertoire of talk patterns across varied instructional approaches [...] to guide students to think in elaborated analytic ways” (Boyd & Markarian, 2015, p. 273). It is the intent and effect of the teachers' linguistic actions rather than the linguistic form of the utterance that describes the dialogic stance.

Dewey (1997) describes how children make sense of the world around them by observing as part of being in the world. Observation is defined as “exploration, inquiry for the sake of discovering something previously hidden and unknown” (Dewey, 1997, p. 194). He says that children experience by doing something and reflecting on it while constructing their perception of the world in physical interaction with material, social and mental surroundings (pp. 156–158). According to Fischer et al. (2002), this observation or attention can be broken down into three phases in a typical situation when a preschool child is interested in something in nature. The initial phase is what they call *experience*, and the child is probably not receptive to questioning or explanation during this phase. The child just needs to experience whatever it is they are interested in, and their verbal contributions are often utterances like “Look! Look at that! Wow!” In this phase, they are processing their experiences in a sensory and emotional way. The next phase is called the *exploration* phase, during which they seem more focused. During this phase, they seem to close out the rest of the world as they explore and experiment, perhaps using tools to facilitate this process. The third phase is referred to as the *reflection* phase. During this phase, the child feels a need to reflect on what they are doing/exploring; they are often ready for input from adults and ask questions or listen to information and explanations. Fischer et al. (2002) conclude that, during the first two phases, the adult should probably stick to co-wondering and co-experiencing, and only when the child reaches the reflection phase should they ask questions and offer explanations (Fischer et al., 2002, pp. 138–145).

As children observe and develop interests, an important role for the adult is to actively create opportunities and environments that allow for the expression of the children's *agency*. Agency can be understood as “the capacity of individuals to act independently and to make their own free choices” (Sairanen & Kumpulainen, 2014, p. 143). The concept of agency has received growing interest over the last few decades (Ahearn, 2001; Bandura, 1986) in educational research about teacher agency (Biesta et al., 2015) and student agency (Vaughn, 2020) as well as recently including younger children (Borg & Samuelsson, 2022; Choi, 2020; Hilppö et al., 2016). In the educational context, it is commonly wished that “Agency is something that education should recognise and develop” (Sairanen & Kumpulainen, 2014, p. 143) and this is often expressed in curriculums and frameworks for both kindergarten and schools (see, for instance, the Norwegian steering documents for kindergarten and school, Kunnskapsdepartementet [Ministry of Education and Research], 2017a, 2017b). Sairanen & Kumpulainen also stress “the importance of recognising and promoting children's agency in the

¹ SciTalk is an Erasmus+-funded project with participants from four universities in three countries (Norway, Germany, and the Netherlands). The SciTalk project focuses on everyday conversations about natural science that can occur during everyday school or kindergarten activities, such as excursions to the woods, town, or seaside, playing outdoors or conducting experiments indoors—all the settings wherein adults experience nature/science together with children. The aim of the project is to promote student teachers' use of exploratory talk on scientific issues with children aged 3–9 in kindergarten and primary school to and develop a methodology for teacher education to better prepare STs for such talks.

educational process” (p. 144).

The Finnish educational researcher Jan [Varpanen \(2019\)](#) agrees that the concept of child agency is a popular one in research on early childhood, and he goes as far as to say that “it is seen as vital in studying childhood” (p. 1). However, his review of how the concept *children’s agency* is used in early childhood education research shows that the concept carries different and sometimes incommensurable meanings and uses depending on the theoretical tradition it is used within. A basic tension in the discussions about agency is the question of whether agency is something that exists within the individual as intention and will or as something that emerges between people in social interaction. His analysis shows three main theoretical resources as grounds for different conceptualisations of children’s agency, which are 1. Sociology of childhood, 2. Sociocultural theory and 3. The post-structuralist approach.

Our approach can be placed under the second category of sociocultural theory. From a socio-cultural perspective, “agency can be understood as relational, contextually situated, and emerging from interactions between the child and their social context” ([Sairanen & Kumpulainen, 2014](#), p. 145). This means that agency is not something that a person has or does not have. It is something that is dependent on the social context. It also means that the adult can actively take facilitative actions in order to facilitate child agency ([Baraldi, 2022](#), p. 116). In a conversation analysis from an educational context, it is interesting to look for both signs of child agency as expressed by actions and utterances made by the child and adult facilitating actions and utterances.

Language learning and development is an important part of everyday life for all preschoolers. According to a socio-cultural view of learning, it is widely accepted that language learning and development happen when the children are in interaction with others, ([Vygotskij, 2012](#)), and even more so when they are engaged in meaningful and engaging activities: “When children participate in language interactions that engage them and they hear the words for objects and phenomena, they can learn what the words represent and they will better remember what they represent and which contexts they can be related to” ([Sheridan & Gjems, 2017](#)). The adult plays an important role in facilitating both language learning and child agency through their everyday conversations and activities with children.

2. Methodology

In this article, we closely study a situation where a student teacher (ST) (a pre-service kindergarten student teacher) leads a spontaneous everyday conversation with 3-year-old children (one child in particular) about a slug during her practicum. The conversation lasts for more than 6 min. In the following, we present the methods used for data collection and analysis.

2.1. Data material

The data for this article is one conversation between a ST and a child chosen from the complete data set collected for the PhD of [author 2]. The complete material consists of 73 film clips from 12 s to 7 min 31 s, at a total length of 2 h and 15 min. [Table 1](#) shows the complete length of the clips in the material:

The case in this article, which revolves around an everyday conversation about a slug, can be characterised as an extreme case in the complete material. This is because it is an atypical conversation in terms of both length and the interactional phenomena present. Most of the clips are of brief moments of interest in a natural phenomenon that might lead to situations that could develop into exploratory conversations, but where the topic is abandoned almost before the conversation has started. What makes this clip stand out is that it lasts 6:23 min; it is the second longest clip, and it contains the longest interaction on the same topic. The dialogue may be characterised as a single topic episode ([Linell, 1998](#), p. 189), that is, an episode where the conversation is about the same topic over time. Another particular feature is the way the child and adult collaborate to develop the topic, taking turns in leading the conversation. Extreme cases can often reveal more information because they activate more actors and more basic mechanisms in the situation studied ([Flyvbjerg, 2010](#), p. 229).

In the case conversation, an ST talks with several children but particularly one child, and the shared focus between the ST and that child (and sometimes several of the children) is kept during the whole period, despite several disturbances and situations where the conversation might have come to an end. The child is intensely interested in exploring the slug and shows her agency by keeping the focus throughout the episode, imploring the ST to do the same. The ST supports the child’s agency by allowing the child to keep her focus through sharing her interest and helping her explore. The conversation also sticks out in the material because it contains long

Table 1
Overview of the complete length of the video clips in the data material.

Length clips	Number of clips
10 s – 59 s	30
1 min – 1 min 59 s	18
2 min – 2 min 59 s	10
3 min – 3 min 59 s	8
4 min – 4 min 59 s	5
5 min – 5 min 59 s	0
6 min – 6 min 59 s	1
7 min -	1

periods of nonverbal, multimodal interaction. The periods without verbal contributions last up to 42 s. The most noticeable feature about the dialogue is neither the productiveness of the questions asked, nor the efficiency of the talk moves made, but rather the attention paid to one topic over a relatively long time span.

The data collection was carried out in September 2020 during one of the gaps between full COVID-19 lockdowns as part of the SciTalk project. Four STs participated in the study during their practicum, and each student was visited twice for approximately 4 h each day from 9 am to 1 pm. The STs were told not to plan any specific didactic talk or action about nature but rather to try to catch everyday situations with potential for talk about science or nature. The children in the four kindergartens were aged 2–5. Due to COVID-19 restrictions, during all the kindergarten visits, the filming was done outside the kindergarten in the woods or at the shore. During the visits, a GoPro camera was attached to the researcher to capture the possible interactions in a rapidly changing environment.

The most common way to use a GoPro camera in research is to attach it to the participant being studied to get the subject's perspective (Pink, 2015). However, a GoPro can also be a good choice for capturing the interaction between participants, which can be accomplished by putting it on the researcher who is not in the interaction. Of course, one needs to be conscious about the impact of the researcher's interpretation when the camera is turned on and what might be missed from this angle.

2.2. Data analysis

We were particularly interested in how agency is exercised in verbal and non-verbal ways by both the child and the ST in the case conversation. Therefore, we chose a conversation analysis focused on this. According to Gunnarsdottir and Bateman (2017, p. 36),

Conversation analysis is an excellent tool to examine what is important [to young children] because it can capture all the nuances in their interactions, which can also give us an opportunity to showcase their agency through shining a light on their complex interaction with others.

We used the Jefferson Transcription System for the conversation analysis, with a few alterations. This transcription method focuses on the conversation process as it appears for the interactors (Skovholt et al., 2021, p. 108). The detailed transcriptions give an impression of both verbal and non-verbal interaction contributions (including pitch, tone of voice and pauses) and when they appear in the conversation process. Not all aspects of this system are relevant to our research interest and, therefore, some are left out of our transcription; these are mostly details of sounds with little or no effect on the meaning of the utterances. As we are particularly interested in the non-verbal contributions to the interaction, we included our observations about what is being communicated by body language, gestures and other actions in a separate column next to the transcription. We numbered each turn instead of each line and used question marks to indicate questions because we found this makes the transcript easier to read. Even if overlapping speech might make it difficult to determine when one turn starts and another begins, this was not a significant feature in this conversation and was not a problem in the turn numbering. Our method of analysis can be characterised as a conversational analysis tightly focused on agency exercised in verbal and non-verbal ways.

Author 2 made a first transcription of all 73 video clips in her material using regular Norwegian spelling with only a few non-verbal marks, such as @@@ for laughter and (.) for a short pause. Afterwards, Author 1 went through the transcription of the case conversation, listening carefully to the video to make sure all the words and pauses were transcribed correctly, filling in with comments and explanations of other non-verbal contributions and then translated it into English. Next, Author 2 made a first CA transcription, following the Jefferson system, except for numbering the turns instead of the lines in the transcription. Both authors then went through the transcription again, correcting small discrepancies in understanding and transcription. The result is a thorough transcription including verbal and non-verbal contributions to the conversation.

The conversation was then divided into episodes based on what is happening in the conversation. Each episode was then analysed by both researchers individually through repeated reading, interpreting and coding of both verbal and non-verbal contributions made by the participants. We then discussed each episode to determine what moves could be coded as displaying concept teaching [CT] (when the adult focuses on concepts or words), concept learning [CL] (when we think the child is processing or using (new?) concepts or words), child agency [A] (when the child takes the lead in the conversation or expresses a desire to explore) or facilitating child agency [F] (when the adult makes moves to facilitate or support child agency). It is not always possible to determine exactly where and how these interactional features take place, and there are different ways of interpreting what is happening. In what follows, we present our transcription and coding, followed by an explanation and our interpretation of what is happening while the different contributions are being uttered.

2.3. Ethical considerations

The film clips were made through an action camera attached to the researcher. Hov and Neegaard (2020) warn against attaching action cameras to children, as this may violate their privacy. The choice of attaching it to the researcher was made both for these ethical reasons and to capture the interaction from the researcher's point of view. For the same ethical reasons, the camera was not continuously turned on. Rather, it was turned on whenever a talk, which, in a wide sense, could be linked to science or nature, was about to start between the ST and the children. It was turned off when the topic was changed or ended. Of course, the activities and interaction may have gone on after the camera was turned off, but the researcher observed that, most commonly, something new drew the participants' attention away, and the topic was changed or ended after a short while. The parents of the children gave consent to film, and the children were informed about the filming on a level that they could understand. Most importantly, the children were

never disrupted in their playing or activities to come to filming sessions. They could move around independently of the filming. The project was deemed to follow the Norwegian Centre for Research Data's (then NSD, now Sikt) guidelines for research on children.

3. Results

On the excursion, a kindergarten group is on an autumnal walk in the woods; it is raining, and everything is wet. Five children, approximately 3 years old, one ST and one pedagogical leader (PL) are gathered around something one of the children has spotted and has become interested in. A child suggests that it is a baby slug, and that is the cue for the researcher to turn on the camera (Table 2).

3.1. Is it a baby slug?

In this situation, the topic of the episode is established—the recently discovered slug. Andy labels the slug as a baby slug, but Rosalita claims that the slug is big (turn 3). Her tone is determined and shows her intent to explore the slug further by squatting down next to it. The ST responds to the claim about it being a big slug by repeating and acknowledging that claim, thus facilitating the child's agency. The tone of this utterance is light and upgoing, something that can indicate she is tuning in to the child and establishing a common focus.

The ST poses a question about the colour of the slug (turn 6). The form of this question is a closed question with a specific correct answer, which is a linguistic form often used in recitational interaction. However, in this context, this closed question does more than just elicit a factual response; it serves as a strategic tool to sustain engagement and involvement from the children, particularly from Rosalita, who appears deeply interested. By posing a question about something observable in the context, no previous knowledge about slugs is required. It keeps the focus on the topic, and any child can answer the question in the here-and-now-situation, keeping the conversation open to further talk about the slug. Rosalita, who seems to be the most interested child, answers “black”, and this is confirmed by the ST, who repeats her answer “black” in a light voice. This repetition not only acknowledges Rosalita's contribution but possibly also reinforces her role in the dialogue, promoting her sense of agency and participation. They are now engaged in a conversation about the slug, but neither of them continues with verbal contributions for the time being. The joint focus is momentarily broken in the 30-s pause that follows, as both adults get to their feet, distracted by the other children, while Rosalita remains squatted down, observing the slug. The conversation could easily have ended there, as the PL, eager to manage the whole group, warns them that they must return to the kindergarten soon for lunch. Rosalita shows agency by insisting that they study the slug further. By a verbal contribution (turn 11) she gets the ST to turn her focus back to the slug. They keep exploring it by using a stick, and the interest of two other children (Andy and Aurora) helps maintain the focus. Andy still talks about the baby slug, perhaps because he did not catch the claims about the slug being big or possibly because he disagrees. The PL seems to confirm his utterance about it being a baby slug by

Table 2

Excerpt 1. (00:00–01:53).

Speaker	Transcription	Code	Observation and
1	PL Is there a baby slug here? Where do you see the baby? I don't see a baby.		((The PL, ST and some children are gathering around something on the ground. The PL is responding to something one of the children said just before the camera was turned on, probably that they saw a baby slug.))
2	Child x No (.)		
3	Rosalita A bi:;g [slug.]	[A]	(She squats down next to the slug.)
4	Andy [and here was a baby]=		
5	ST Yeah, that was a big slug (.)	[F]	
6	ST ↑What co:LOUR was the slug?	[F]	
7	Rosalita Black.		
8	ST Black.		
9	PL [hmm.]		((Both adults wait as the children observe the slug.))
10	ST [hmm.] (30)	[A]	((The PL, ST and four children remain sitting and 'hmm-ing' before three children leave because another child is calling for them, and the two adults get to their feet. The PL and the children who left the slug start another conversation about mushrooms in the background. The ST and Rosalita remain in the foreground. Rosalita squats down, looking towards the slug, while the ST remains standing, looking indecisive.))
11	Rosalita But look, a slug i:nside,	[A]	((The ST gets back down on her knees, picks up a stick and directs her attention to what the child is looking at.))
12	ST Is this the slug? (15)	[F]	((The ST uses a stick to touch the slug or the mushroom next to it. The ST digs with the stick into the mushrooms. The PL is talking in the background, saying that they have to go back for lunch soon. Andy comes over and squats down beside the ST with another stick, holding it towards the slug and the mushroom.))
13	Andy Baby-slug.		
14	PL Mhm.		
15	ST ↑I don't think there is a baby slug here.	[F]	
16	Aurora Mhm (5)		
17	Aurora Wow, there it IS. (42)		((Aurora and Peter squat down next to Andy, who is sitting next to Rosalita. A conflict starts between Peter and Aurora; Aurora hits Peter, who starts crying loudly. The PL is comforting them and negotiating the situation. The ST sits poking with the stick and has the attention of Rosalita and Andy before putting the stick down.))

mhm-ing, but her mind is elsewhere, trying to keep an eye on the whole group; with children in several different locations, she is not focused on the slug.

The situation is quite dynamic, and it is noteworthy how Rosalita appears to be particularly interested in the slug, maintaining her focus on the topic amidst potential distractions. She keeps looking at the slug from the same position, and the ST picks up on her interest. She stays on her knees like the child. This mirroring of Rosalita's physical position by the ST is a non-verbal form of support and validation of the child's interest, which can be an important aspect of fostering engagement, and the verbal contributions that the ST makes in turns 12 and 15 can be seen as facilitative actions, "questions and invitations that encourage children's agency and production of narratives" (Baraldi, 2022, p. 116). By encouraging Rosalita in this way, the TS facilitates more of the agency Rosalita has shown by insisting on studying the slug further, as she asks Rosalita if this is the slug she is interested in (turn 12) and acknowledges Rosalita's claim that it is not a baby slug (turn 15). She supports Rosalita's interest in the slug by asking questions about it. This first passage is both a negotiation about whether the slug is a baby slug and a cooperation between Rosalita and the ST in establishing a joint focus on the topic of the slug (Table 3).

3.2. A slimy and jelly-like slug

In the first part of this passage, Rosalita shows agency by keeping her focus on the slug while the commotion goes on around her. The researcher and the ST appear to align with her interest, as they redirect their attention towards her, which could suggest that her interest in the slug shapes the course of the interaction.

The ST makes several verbal moves to develop the topic of the slug and support the concept learning of the child. She encourages Rosalita to study the slug closely by turning it over and describing it. First, she uses the word slimy, but as that does not prompt any verbal reaction from Rosalita, she uses the term jelly-like. This shift from "slimy" to "jelly-like" might be an attempt to use a more familiar and concrete term, which could resonate more with Rosalita's understanding and evoke a more vivid sensory image. For the first part of this excerpt, there are quite long periods without verbal contributions by the child. For the first minute, Rosalita says nothing but signals through non-verbal contributions that she is still interested, and her agency is also visible through the non-verbal contribution; she moves closer and uses the stick for a bit before handing it back to the ST. These actions demonstrate her continued interest and engagement, even in the absence of verbal contributions. By handing the stick back to the ST, she non-verbally indicates her desire for the ST to continue the exploration, showcasing a form of non-verbal agency.

In the last part of the excerpt, Rosalita's agency is visible once again, this time also explicitly, as she directs the ST to explore the slug in certain ways by asking the ST to touch the slug and then to turn it back the right way. This shift from observation to directing action signifies an important moment in the child's agency. It indicates Rosalita's growing confidence and curiosity, as she moves from a passive observer to an active participant, guiding the exploration. At the end, Rosalita gets up, looks around her and sits down again. Her action of getting up, looking around and then sitting back down could suggest a moment of reassessment of her options regarding whether to join other children or continue with the current activity. Choosing to sit back down and focus on the slug again highlights her sustained interest in the topic and her decision-making in her learning process (Table 4).

Table 3

Excerpt 2. (01:53–03:06).

The ST, Rosalita and Andy still have the same focus after the conflict. The ST is starting to investigate what kind of properties the slug has and is talking about what she is observing.

Speaker	Transcription	Code	Observation
		[A]	((Rosalita moves closer and picks up the stick that the ST put down. The researcher squats down to get closer to the situation. Rosalita hands the stick back to the ST and folds her hands in front of her.))
18	ST Do you want to touch the slug? Should we turn it over? What does it look like (.) underneath? (6)	[F]	((The ST touches the slug with the stick, lifts it a little, while Rosalita and Andy are squatting next to her. The PL in the background talks about going back to the kindergarten. Andy thumps his stick against the ground.))
19	ST Is it slimy underneath? (3) ↑ Here's what the slug looks like underneath (10) Have you seen something like this before? (.)	[CT]	((Rosalita watches but says nothing. There is noise in the background as the PL is talking about making a bonfire.))
20	Rosalita Hm.		
21	ST Have you seen something like this before? (2)		
22	Rosalita That's the slug. (.)		
23	ST Yes. This is what it looks like underneath, (2) †jelly-like (3) it is slimy, (4) Can you see it moving?	[CT] [A]	((Rosalita remains in the same squatting position, rocking slightly back and forth, watching the slug intently.))
24	Rosalita Hmm. (.)		
25	ST †There, he is moving.		((Moves the stick back and forth, pointing it at the slug))
26	Rosalita Can you touch it? (.)	[A]	
27	ST Yes		((Uses the stick to touch the slug))
28	Rosalita Can you turn it over,	[A]	
29	ST I can do that, (7)		((Turns the slug carefully over, using the stick))
30	ST †Like that (6)		((Rosalita gets up, looks around and sits back down again.))

Table 4

Excerpt 3. (03:06–03:36).

The ST and Rosalita talk about a slug in a different situation.

	Speaker	Transcription	Code	Explanation
31	Rosalita	That slug. †I saw a slug on a walk, (.)	[A]	(Looks at the ST)
32	ST	<u>Di:d</u> you?		
33	Rosalita	Ye::s (.)		
34	ST	What colour was †that slug?	[F]	
35	Rosalita	Orange.		
36	ST	Orange, (4)		
37	Rosalita	I saw a slug on a walk. (.)	[A]	(The child takes a quick glance at the camera and puts her hand on the thigh of the researcher while she repeats her story.)
38	ST	<u>Di:d</u> you? Was it this slug you saw?		((The ST does not look at the researcher but keeps focus on the slug before turning to the child.))
39	Rosalita	Ye::s,		((hesitant))

Table 5

Excerpt 4. (03:36–05:23).

The ST is trying to direct the child's attention to other features about the slug, namely that it has horns (tentacles). The child reclaims control of the conversation.

	Speaker	Transcription	Code	Explanation
40	ST	Look. Do you see the horns,=	[CT]	((Turns to look at Rosalita))
41	Rosalita	Huh=		((Gets up on her knees, leans in towards the TS))
42	ST	On the slug. Do you see that there are horns on the slug, (2) Can you <u>see</u> that? (3)	[CT]	((Engaged. The ST turns enthusiastically towards the child twice.))
43	ST	Can you see that? (.)		
44	Rosalita	I see the hole. See it. (2) There is a hole.	[CL] [A]	((Pointing at the slug. The ST turns to look at Rosalita again.))
45	ST	†There are holes on the slug too.	[CT] [F]	
46	Rosalita	Huh,		
47	ST	There are holes on the slug (2) And it has two (.)† horns, Look at the horns then. (2)	[CT] [A]	((Uses the stick to point to the horns and turns to look at the child again.))
48		Do you want to come over here, (.)	[F]	((Moves a little bit to make room for the child closer to the slug. Rosalita moves a bit closer.))
49	Rosalita	Do you want to touch it,	[A]	
50	ST	I can touch it, (.) Do you see the holes. Do you see that the slug has a hole up there.	[F] [CT]	((Looks at the child, using the stick to point))
51	Rosalita	Hmm?		((Rosalita sits up on one knee and leans forward to see better.))
52	ST	The slug has a hole up there.	[CT]	
53	Rosalita	LOOK, L:OOK AURORA AND PETER. LOOK. THE SLUG. HAS BIG <u>HO::NS</u> (3) Look, it's orange, (3)	[A] [CL]	((She turns and shouts to the other children to get their attention. The word sounds closer to horns than holes, and she puts her hands over her head imitating horns. Pointing. Several of the other children gather around.))
54	Peter	AU AU AU AU AU AU!		
55	PL	Did you fall a little,		
56	Rosalita	Look. [The slug has ho::ns.]	[A] [CL]	
57	Aurora	[I CAN'T SEE ANYTHING.]		
58	PL	Maybe we can walk around here. Then, you'll see better.		((To Aurora, leading her around to the other side of the slug.))
59	Aurora	THERE ARE A LOT OF STICKS		((Shouts, and after the last word screams at the top of her lungs.))
60	PL	If you go close to Andy here, you'll see. Do you want me to go with you around? Come here.		
61	Aurora	I don't want to (.) come AROUND.		
62	PL	Don't you want to see there?		((Lots of pushing and shoving as the children gather round the slug. Peter squats down and looks interested in the slug.))
63	ST	Can you see that the slug has horns?	[F] [CT]	
64	Peter	Yes.		
65	ST	Do you see a hole up there?	[CT]	
66	Peter	Yes. Hole up there.		
67	ST	Yes, the slug has holes.	[CT]	
68	Rosalita	Look, Aurora! The slug has hons on his hon. On top of the slug there. Look. There! There it is. Look. There it is.	[CL] [A]	((Rosalita turns to Aurora, who is standing behind her, and points. Aurora pushes her way into the circle and squats down next to Rosalita.))
69	Aurora	I see it. There it is. There it is.		((Aurora pushes Peter, who falls over, and he starts crying loudly.))

3.3. I saw a slug on a walk

In this excerpt, the child once again takes the lead in the conversation, initiating a talk about a previous experience with a slug. The ST tries to encourage this by asking questions, but the question about what colour the slug was does not work as well in this situation as it did the last time. The situation they are talking about is no longer here and now but something only one of the two experienced. There is a short pause, and then Rosalita repeats her previous statement, turning towards the researcher. This can also be seen as a sign of her agency, as she insists that she has seen a slug on a walk and expects some kind of response. It is unclear whether Rosalita simply wishes to include the researcher in the conversation or if she seeks a response other than the one the ST gives her, but she takes control of the conversation by this contribution. In answer to the question about what colour the slug was, Rosalita says the slug she saw before was orange. Therefore, it is a bit surprising that the next question posed by the ST is whether she is talking about the same (black) slug as now. The hesitant 'yes' in turn 39 can be interpreted in several ways. Perhaps Rosalita feels obliged to confirm the ST's question or perhaps she is uncertain if she has interpreted the question correctly. It might also be that, for some reason, she is talking about the ongoing walk in the past tense and is uncertain about the colours. The topic is not really developed any further in this excerpt, and the child's previous experience with slugs is not built upon. However, the common focus remains, and the conversation does not break down, even if there is some confusion about the colour of the slug(s) (Table 5).

3.4. A slug with horns and holes

In the first part of this passage, the ST develops the topic of the slug further, focusing on properties and labels. She directs attention to the horns of the slug, while displaying genuine interest and enthusiasm. The child seems fascinated, but it is not clear whether she knows what horns are. Instead, she makes her own observation, using a word slightly phonologically similar, holes, pointing out that the slug has holes, thus also showing agency. The ST confirms that this is correct, that the slug does have holes, but it also has two horns (actually, they are tentacles, and this is where the slug has its eyes. In Norwegian, the word for tentacles is *følehorn*, literally meaning sensing horns. Perhaps the ST thinks this is too difficult a word for the 3-year-old, or perhaps she does not know the word herself). She then picks up on the child's observation and acknowledges her contribution, as she next points to the holes and comments on them.

Up until this point, the child has appeared fascinated but calm, observing and talking to the ST in a low voice and using only short utterances. The ST and the child have taken turns controlling the conversation. However, a notable shift occurs when Rosalita, driven by excitement, loudly calls out for the attention of her peers. This act effectively positions her as the leader in guiding the conversation's direction. She now produces two longer verbal utterances, sharing her new knowledge about the slug having horns, in turns 53 and 68. She uses a word that resembles both horns and holes (ho:ns), but she clearly means horns because she raises her hands to the top of her head and uses her fingers to imitate tentacles, which she now has learned a (not quite precise) word for. It seems that she is successful in her endeavours, as Aurora and Peter immediately gather round and join her enthusiasm. Rosalita shows agency by trying to turn everyone's attention to the exciting fact of the slug's horns, but once again Aurora and Peter start fighting, and the conflict threatens to destroy the slug conversation (Table 6).

Table 6

Excerpt 5. (05:23–06:09).

	Speaker	Transcription	Code	Explanation
70	ST	Should we make some room for Aurora,		((The ST takes Peter onto her lap and comforts him, making room for Aurora, who squats down in the empty spot.))
71	PL	There is room for both of you here		((Rosalita moves further away from the slug, making plenty of room for Aurora.))
72	Aurora	Come in here. Come,		((Waves Rosalita closer; Rosalita comes closer and squats back down.))
73	ST	Should I blow on it a little		
74	Peter	~Yes~		((Tearful))
75	PL	We only need to be good to one another, don't we		
76	Aurora	Yes, yes, yes		((Nodding eagerly))
77	Peter	~Don't~		((Protesting))
78	ST	Should we look for another slug?		
79	Peter	~Ye:s~		
80	Aurora	Me too		
81	ST	Do you want to come too,		
82	Aurora	Mmm		((Consenting))
83	PL	Should we walk a bit further down, then, and look (2) See what we can find,		
84	ST	Maybe that slug will have horns too	[CT]	
85	Peter	Ye:s		
86	ST	Did you see the horns,	[CT]	
87	PL	[There, it stretches out it's horns]		
88	Rosalita	[Ye:s. Look! Look!]	[A]	((Enthusiastically, leaning in to see better))

3.5. Focused until the end

Both adults try to resolve the conflict by making room for everyone to see. The ST comes up with the solution to perhaps look for another slug so the children will not have to fight over the one they have now. The children agree, and the ST suggests that the next slug may have horns too, supporting Rosalita's new knowledge about slugs having horns.

This would have been an ideal moment to develop the topic even further by wondering what the slug might use its horns for, but the situation does not allow for this. They have already spent a lot of time studying the slug, and it is time to go back to the kindergarten. In addition, the conflict between the other children threatens the learning opportunity. However, even with all the screaming and shoving going on, Rosalita's agency is clear as she keeps her focus on the slug until the end with her enthusiastic exclamations at the very end of the clip, insisting that they look at the horns of the slug. This underscores her sustained interest and agency in the learning process. Despite the distractions and conflicts, her focus remains on the slug, illustrating a strong engagement with the subject matter. The camera is then turned off, and the group starts walking towards the kindergarten.

4. Discussion

As is often the case with everyday conversations in kindergarten, the topic of our case conversation is something that has caught the interest of the children, and that they want to explore further. This fact can also be seen as a sign of the value placed on child agency – children are encouraged to follow their own interests and explore. In this case, the slug has particularly caught Rosalita's interest. Rosalita's particular fascination with the slug, marked by her pointing and vocal efforts to draw peers and adults into her sphere of interest, exemplifies engagement in what Fischer et al. (2002) delineate as the “experiencing phase”. Discovering and exploring natural phenomena is an everyday occurrence in kindergarten, and a situation well suited for learning about the world/nature and for concept and language development.

In this early phase, the clip resembles the other 73 clips of the material – a child is interested in something in nature and then there is a brief conversation about it before the topic is typically left and the group moves along. However, in this conversation, it is the child's agency and insistence to study the slug further that turns the episode into something more. We positioned our research and conceptualisation of child agency within what Varpanen (2019) categorises as the socio-cultural theory tradition, a position that suggests an integrated view of subjectivity and intentionality. The only way of studying and analysing intentions is to study the ways they are expressed through social interaction. By analysing both verbal and non-verbal moves in the interaction, we can study how the child acts with intent and signals her wishes, and how the ST facilitates the child's agency by making several of the facilitating actions mentioned by Baraldi (2022, p. 116); *questions and invitations that encourage children's agency and production of narratives* (turns 12, 32, 34), *minimal responses and repetitions that confirm and enhance children's agency and production of narratives* (turns 42, 47), *formulations of children's previous contributions, providing perspective-taking, and supporting children's agency and production of narratives* (turns 15, 45), *comments on and appreciations of children's contributions* (turn 15, 45). In this way, the child and ST take turns leading the conversation and keeping it on track.

The ST asks questions about the slug regarding what colour it is and what it looks like underneath, whether Rosalita has ever seen anything like it before and whether she can see how it moves. Perhaps the fact that Rosalita does not answer any of these questions is a sign that she is still in the experiencing and exploring phase; she might not yet be ready for the reflection phase where questions and information are important (Fischer et al., 2002). The ST also describes what the slug looks like underneath (slimy and jelly-like) and points out that it has horns and holes. This enquiring way of communicating and encouraging observation is in line with what Vandermaas-Peeler et al. (2019) find effective to enable children's own reasoning, but in this case reasoning by the child does not occur verbally there and then as one might expect with older children or in a later phase of attention.

The actions of the ST here function as scaffolding supporting the child's development of agency and concept learning. By using different terms (slimy, jelly-like, horns, holes), the ST puts words to the properties of the slug in a way that the child can understand and relate to. Of course, it would be much easier for the child to grasp these concepts if, at the same time, she got first-hand experience of what the slug feels like by touching it with her hands. Dewey (1997) emphasised that children comprehend their world through observation, defined as exploring and seeking the unknown. Allowing the child to touch the slug first hand would align more with Dewey's approach, and so we were curious about why the ST chose to touch the slug with the stick rather than with her hands. Getting bodily and sensory experience with nature is an important part of building concepts (Ionescu & Ilie, 2018), and perhaps “slimy” and “jelly-like” would make more sense to the child if she was feeling the slug with her fingers at the same time. The ST does most of the talking and labelling, but Rosalita contributes with her observation about the slug having holes. This could also be seen as an expression of her agency, as she does not simply follow the focus to what the ST is talking about but rather makes her own observations. It could also be a sign that she is now in the exploration phase. We can also see that because she seems oblivious to the commotion around her, completely absorbed in the exploration.

Throughout the conversation, Rosalita demonstrates agency by being the active part, although initially without many words. The conversation has five rather long pauses from verbal contributions where the actions of both the child and the ST—turning the slug over and pointing at it—are keeping the focus on the slug. Our ST waits up to 15 s after posing a question, which leaves interactional space for the child to process and/or interact and allows the joint exploration to continue. Sometimes, these long pauses result in a new question from the ST, but in the meantime, we can observe that the child is in control of the exploration by focusing on the slug, using her body language to direct the attention of the ST. Rosalita's utterances in the last episode show that she has been processing the verbal utterances of the ST, and perhaps the long pauses with room for non-verbal interaction and processing of the information have contributed to her understanding of the slug's properties. At this point, she is perhaps in the reflection phase, open to new information

and explanations. At the end, she shouts out what she has learned and observed about the slug. It seems like she wants to teach the other children what she has just learned, and her agency is visible and explicit. Her tone of voice demands attention, and the other children gather round, fighting to get closer to see what she wants to show them.

Our interpretation is that the child's interest and agency are crucial in turning this conversation into a long talk with concept learning potential. At the different points in the conversation where it might have ended, it is the child's interest in further exploration that keeps the conversation on track. However, it is also crucial that the adult is open to and supporting of both agency and quiet observation from the child. The ST in this clip keeps her focus and supports the child's exploration and agency. She uses what Baraldi (2022) calls "The most frequent and important facilitative actions" (p. 116). While doing so, the ST carefully directs the child's attention to the different properties of the slug, articulating these features using language that appears accessible to the child. In this way, the ST is supporting the child's language learning, focusing on concepts and words such as "slimy", "jelly-like", "holes" and "horns".

The transcript shows that this 3-year-old child is capable of engaging in complete verbal interactions, using full sentences to talk about everyday events. Examples of this ability can be seen, for instance, in turn 26 ("Can you touch it?"), turn 28 ("Can you turn it over?") and turn 31 ("I saw a slug on a walk"). However, when it comes to describing the slug, she refers to the slug's features as "holes" and "ho:ns", which can be a sign that she is encountering these words and possibly the concept of 'horns' for the first time, as she mispronounces it as "ho:ns". This new word and concept immediately increase her need to communicate or her interest in communicating because her whole body language, tone of voice, engagement and length of utterances change at this point in the conversation (turn 53). The child gets to her feet, shouts out to the other children in an engaged voice using the word she has just acquired, wanting to share with them her new knowledge about the slug.

Even if Rosalita does not say much in the first two episodes of the conversation, her interest and engagement appear to be strong, and the ST picks up on that and joins the child in her experiencing and exploring phases. In this way, the ST takes a dialogic stance towards interacting with the child, accepting the child's agency and interest as directions to further exploration. We suggest that this dialogic stance towards interaction with children is crucial for the development of both language (concepts) and child agency and that such a stance is not dependent on the verbal contributions of children.

The examples found in this conversation suggest that being open to the children's agency and interest can lead to exploration, reflection, and learning. Adults working with younger children in kindergarten need to be aware of signs of interest and agency from the children and keep interacting with them in a dialogic way in everyday situations, even if the verbal contributions from the children are few and far between. We can see that, even if the child does not respond to the questions asked by the ST, she is interacting through glances, hand gestures, body language and minimal responses.

The main point is that a dialogic stance to interactions with children can be adopted from a very early age and is not dependent on the children's verbal contributions. We suggest that, even before children have verbal language as well as during a period of language learning and development, their input should be considered, even if they do not contribute much verbally. Using emotional and attentional cues, while supported by language, the adult should signal that they share the children's interest and enquiry process and allow the child to take control of the direction and focus of the exploration. The ST in this study does so by mirroring the child's position and gestures, squatting down, studying the slug closely and showing interest by tone of voice and prolonged focus in addition to asking questions and giving information, thus taking a dialogic stance.

By studying this extreme case, we can learn something about the importance of taking the time and opportunity to explore nature through verbal and non-verbal exploration and follow one topic over time to support both concept development and child agency. Adult scaffolding and support in dialogic interactions even with few verbal contributions by children can help them expand their concepts and learn labels (words) for them. It can provide experiences that might be important for the child's sense of agency and trust that their will and interest matter, while also keeping their engagement and natural interest in learning.

CRedit authorship contribution statement

Hege Myklebust: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Inga Margrethe Fagerbakke:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation.

Declaration of competing interest

None.

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