



Teaching activities with toddlers: Considerations on theoretical and empirical grounds

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Abstract

The purpose of this study is to generate knowledge about *what participating in teaching activities requires of children and teachers, and to what extent very young children, such as toddlers, are able to do so*. With teaching recently being written into the Swedish national curriculum for preschool (encompassing children 1–5 years old), there has, like in many other countries, emerged a heated debate on the pros and cons of this and what it may mean for preschool in general and for the youngest children (toddlers) in particular. Therefore, in this study we analyze a series of related activities, theoretically conceptualized as teaching, in order to see what characterizes these activities and what demands they put on participants (toddlers and their teachers). Our elaboration is carried out on theoretical basis (developmental research) as well as on empirical basis (original research conducted in preschool). The empirical data consist of video observations, and these are analyzed according to the principles of Interaction Analysis (IA). Theoretically, the study is informed by Play-Responsive Early Childhood Education and Care (PRECEC). The findings clarify what teaching with toddlers require of teachers and these young children, and what is characteristic of such teaching is differentiated.

Keywords: *teaching; toddlers; PRECEC; preschool*

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Introduction

This study addresses the issue of the youngest (aged 1–2 years old) children's participation in teaching activities in preschool. Teaching is clearly associated with formal schooling, something that children globally meet from the age of 4 to 7 (Bingham & Whitebread, 2018).

In the Swedish preschool curriculum, only recently has teaching been emphasized as a task for preschool teachers (SKOLFS, 2018:50, 2018), even if it has been stated in the Educational Act since 2010 (SFS 2010:800). Sweden follows the so-called Nordic model, which means having a unified system of Early Childhood Education and Care (ECEC) that does not separate between childcare and preschool (Greve & Hansen, 2018). That teaching is incorporated in the preschool curriculum therefore means that teaching is meant to be an activity for all children, for the 4–6-year-olds as well as for the 1–3-year-olds. This has caused confusion among professionals and led to much debate: What is the purpose – should we now have school for toddlers? To teach children goes against the tradition of preschool as a play-based and child-centered institution (Bingham & Whitebread, 2018; Eidevald & Engdahl, 2018; Pyle & Danniels, 2017).

The contested nature of the relationship between teaching and the youngest children in preschool actualizes the need for research and more specifically, as we will argue, a need for gaining insight into the processes of teaching with young children and to theoretically conceptualize teaching with these participants in contemporary ECEC. This kind of knowledge is required to nuance the debate and policy-making when it comes to teaching, and further, school readiness (Bingham & Whitebread, 2018). This heated debate is not exclusive to Sweden; it is reportedly prominent not only in other Nordic countries more generally (e.g., Broström, 2017), but also in other parts of the world, e.g., Australia (Fleer et al., 2018). Scholars from different points of departure argue that infants and toddlers have been overlooked in research and that there is a particular lack of knowledge about this age group (Greve & Hansen, 2018). While the relationship between teaching and the child's later schooling provides a background of our discussion, it is imperative to understand that teaching is not exclusive to schooling, or indeed to educational institutions. Teaching, as conceptualized in terms of PRECEC, denotes a mutually constituted activity where someone attempts to challenge and support someone else to see, or realize, something that is new to him or her. This responsive activity is by the more experienced participant (typically the preschool teacher) a conscious effort to facilitate learning, and these actions are made in response to the learner's response (cf. Barnett, 1973). Hence, this kind of practice is not exclusive to schools, rather it denotes a mutually constituted activity having certain characteristics that could be seen also among friends, between a parent and a child, or other participants, such as shifting between and relating imagination (*as if*) and culturally established knowledge (*as is*). (We will elaborate on the concept of teaching within PRECEC later, in light of our empirical investigation).

The present study aims to contribute with knowledge about *what participating in teaching activities requires of children and teachers, and to what extent very young children, such as toddlers, are able to do so*. We will approach these issues both as a theoretical question, taking pedagogical and psychological research into account, and as an empirical question,

providing an in-depth analysis of empirical data where a preschool teacher work with children aged 1–2 years of age in a series of teaching activities.

Research on teaching with toddlers

This research field is dominated by studies addressing teaching toddlers with special needs, such as autism (e.g., Fey et al., 2013; Vedora & Grandelski, 2014), including training and testing different methods for facilitating language development and/or prosocial behaviour. There is also another prominent strand, in part overlapping with the first one, investigating teachers' beliefs about teaching toddlers (e.g., Berthelsen & Brownlee, 2007; Clarke et al., 2019; Recchia & Eun, 2018). This research is typically based on interviews or, to a lesser degree, questionnaires. Hence, this research builds on secondary data sources (capturing how teachers talk about and reflect on teaching) rather than a first-hand account (i.e., video or audio recordings of interaction in actual teaching activities). The latter is, in contrast, what we will build on in the present study. Hence, the difference between the present study and the dominant strands of research on toddlers and teaching are methodological and research focus.

Teacher–infant dialogues were studied in an education and care setting by White et al. (2015). Three features were found to characterize such dialogues: (i) teachers' initiations for dialogue where more successful, in terms of infants' responses, when they used both verbal and non-verbal forms of language; (ii) when initiated in both verbal and non-verbal language, responses were more likely to also contain both kinds of language use; and (iii) the forms of language used where 'mirrored' by the other partner, whether the infant or the teacher. The White et al. (2015) study is in part similar to the present one, primarily in building on partly the same theoretical ground. However, in the present study, rather than mapping the forms of language used, we analyze the process of communication, and with a particular interest in a theoretically informed concept of teaching with the youngest children in ECEC. In another study of infants–teacher interaction, Jung (2013) investigated what roles teachers take in children's play. How the teachers shifted between a number of roles where illustrated and collaboratively illustrate features of "playful caregiving" (p. 197). The present study differs from the Jung (2013) study in looking at a mutually constituted and related series of activities rather than how teachers enter into and take different roles in infants' play.

From the premise that "from the start, the child becomes readily attuned to 'making a lot out of a little' by combination" (Bruner, 1983, p. 29; cf. Engdahl, 2011; Lindahl & Pramling Samuelsson, 2002), interaction between ECEC teachers and 1- to 3-year-old children were studied. In these activities, the participants had access to buttons (of many kinds, shapes, colours) and containers, and the analysis clarifies how the objects were semiotically

mediated and what activities evolved. Arguing that different learning is afforded children contingent on semiotic mediation, a repertoire of activities is reported, including aesthetic ones, labelling, finding out what can be done with the buttons, attending to similarities and differences between specimens, counting, and showing. Intersecting these different activities was a more fundamental distinction, schematically presented in terms of “Static: As is (relative size, colour), The objects per se, conventional, Stay in what is at hand (the objects),” on the one hand, and “Dynamic: As if (pretend play, looks like, metaphorical speech), The activities afforded by the objects (including aesthetic qualities: tactile and sounding), A-conventional (creative), Associate, (re)connect with what is outside the current situation” (Pramling & Pramling Samuelsson, 2010, p. 28), on the other hand. A conclusion critical also to our present study is that this implies that teaching is not restricted to culturally-established knowing (*as is*), but also can encompass pretense, fantasy (*as if*).

Some meta-studies have also been published; one covers Swedish studies of toddlers in preschool where the following topics of research can be found: children’s learning, values in everyday interaction, and preschool culture (Johansson & Emilson, 2010). Another strand of research on toddlers in ECEC concerns what has been labelled “toddling style” (Løkken, 2000) and adults’ position towards this (Quiñones & Pursi, 2020), leading to an emphasis on the importance of adults participating in play with children. In other overviews of research on toddlers in preschool, a gap in knowledge is identified concerning didactic questions about the youngest children, and a particular challenge that is identified regards theorizing the relationship between learning and play (Bjørnstad & Pramling Samuelsson, 2012; Greve & Hansen, 2018). In the present study, we will contribute to illuminating didactic questions with our interests in teaching activities and aspects of play.

Summarizing the major findings of a research project on toddlers in preschool in New Zealand, Dalli et al. (2011) emphasize that among teachers working with this age group, there was a strong emphasis on that children’s development unfolds naturally and that the teacher’ role meant “writing herself out of the learning equation” (p. 6). Children’s independent exploration was seen as the benchmark for educational activities. Furthermore, the participating teachers perceived their work with toddlers to be based on intuition and feeling.

Two studies, albeit with a different focus than the present study, are of particular interest in this context. Kawakami (2014) traces the foundations of teaching behavior in humans. Based on audio-recordings of free play from Japanese preschools, 17 children were followed over time. Documenting all toddler behaviors directed towards the observer during these sessions, “toddlers’ teaching behaviors” (p. 174) were categorized. The toddlers’ behavior addressing the observer increased with each block. The toddlers displayed such actions as showing, pointing, vocalizing, verbalizing, and teaching. Verbalizations grew dramatically, as would be expected from children’s development during these years. Explaining was observed in children as young as 17 months. In a follow-up study, also based

on audio-recordings of toddlers in free play in preschool, Kawakami and Takai-Kawakami (2015) investigated the competences of these young children as social beings. One-year-olds and children under the age of 12 months were observed. The toddlers' peer-directed behavior was analyzed. These behaviors included caring, altruistic, and teaching behaviors. Teaching behaviors were only observed in the one-year group. The findings consist of a differentiated set of social behaviors, including showing toddlers playing with imaginary entities. Two conclusions drawn, "the development of peer-relationships was reflected in language development," and "toddlers are 'caregivers' and not just care-receivers" (p. 111; see also, Cooper & Quiñones, 2022).

While these two studies concern the teaching that toddlers do, rather than what we will study, how children together with a preschool teacher participate in teaching as a mutually constituted activity, they are relevant in showing that already these young children do engage in imaginary activity (*as if*), and particularly, their abilities and willingness to respond in a considered manner to their peers and adjacent adults.

Theorizing teaching

The theoretical framework referred to by the acronym PRECEC (Pramling et al., 2019) consists of a set or systematically related concepts, including *responsivity*, *teaching*, *play*, the distinction between *as if* and *as is*, the inherent tension between *temporarily sufficient intersubjectivity* (Rommetsveit, 1974) and *alterity*, and the *freedom to* (van Oers, 2014) of play.

Basic to PRECEC is *responsivity*. This concept refers to participants – for example preschool teachers – being responsive to children on an action-for-action basis. If participants interact verbally, this would be an utterance-for-utterance basis (and represented in transcripts as turn-by-turn). However, participants' actions may or may not be conducted with verbal means. In the context of the present study, with toddlers, other forms of participatory actions may be premised to be critical to how activities evolve (see also, Kultti, 2013). The concept of *responsivity* highlights communicative processes, with communication conceptualized as making common (Pramling & Säljö, 2015) and encompassing actions carried out with other semiotic means than verbal language exclusively.

Teaching is in this perspective understood as an activity co-constituted by participants' responsive actions, where they coordinate themselves enough to be able to go on with a joint activity, and which has certain characteristics: Critical to the kind of teaching theorized in terms of PRECEC is that participants – preschool teachers and children – go between and relate *as if* and *as is*. What is here referred to as *as if* denotes what Vaihinger (1924/2001) has also called conscious fictions. One example of a conscious fiction is *play*. However, it is important to realize that there are other activities than play that exemplify *as-if* thinking, for instance theorizing in science and fiction (literature). The distinction

between *as if* and *as is* is inherently related to how play is approached from this theoretical point of view. Recognizing the futility of trying to define, in a traditional sense, play in a way that encompasses all forms of activity referred to by this term and being exclusive to these vis-à-vis adjacent phenomena (see e.g., Sutton-Smith, 1997, for a classic meta-discussion of this issue), we choose *not* to define what play is (as something in and of itself, *sui generis*). Instead, in PRECEC *play* is considered *as the participants' concern*. That is, what the participants – children and preschool teachers – themselves *indicate to each other* (and thus also make discernable to the analyst) that they take *as* play or not is taken seriously. Participants signal how they take – intend – their actions as play or not play by speaking and in other ways acting in terms of *as if* and *as is*, respectively. With this analytical stance, we cannot ask whether an activity observed *is* (really) play or not. Instead, we ask and analyze what the participants themselves *take* the activity they engage in *as*. This is therefore an analytical stance that does not make us rationally blind to unexpected forms that play can take (what falls within respectively outside a particular definition of play) and allows us to be analytically responsive to the *participants'* (children's and teachers') *perspectives*. Hence, the participants themselves, importantly including the children, are positioned as agents (subjects) rather than objects of study. Teaching is within the framework of PRECEC understood as a communicative activity (Pramling, 2022). However, while participation in all communication is potentially educative (i.e., we always learn something), not all communication constitutes a case of teaching. The concept of teaching, in this theoretical account, implies communication with particular features, as clarified above (and developed in the referred literature).

Developmental foundations for participating in teaching activities

Conceptualizing teaching as a mutually constituted activity (with certain characteristics) raises the question of what participating in such activity requires of children, and to what extent very young children, such as toddlers, are able to do so. We must therefore look into the developmental foundations for being able to take part in teaching. What is today well-established knowledge is that children are not born as blank slates (*tabula rasa*), but are socially responsive from birth (in fact, it could be argued, already before being born). From the very beginning, the infant is socially responsive to the responses of the primary caregivers, in what has been referred to as proto-conversation or “communicative musicality” (Malloch & Trevarthen, 2009): responding in a to-and-fro manner. However, in order to be able to participate in the cultural activity of teaching, something else has to develop. We know this from the developmental research of Michael Tomasello (1999). Studying toddlers engaged with an object, at the age of approximately six months, he was able to show

that if another person entered the situation, the toddler either ignored the person, continuing to be engaged with the object, *or* abandoned the object and focused on the person. Hence, children at this age are able to participate in a *dyadic relationship*. When observing toddlers at the age of approximately twelve months, it was found that they were now able to continue engaging with the object *and* to engage with the person entering. Hence, they were now able to participate in a *triadic relationship*. When the young child is able to make other participants in interaction attentive to the object that she/he wants the other person to see, through pointing and/or sound making (e.g., “da”), and when the other participant responds and confirms, *joint attention* is established. Being able to take part in a triadic relationship, it could be argued, metaphorically speaking constitutes the molecule of teaching. That is, two (or more) persons are mutually engaged in something third. Without such coordination, teaching as a cultural activity cannot take place. Hence, developmentally, toddlers can engage in teaching, as here understood, from approximately twelve months of age. These observations also remind us that teaching is not necessarily carried out with verbal means (by all participants). However, even if the young child (the toddler) does not speak, teachers may well (also) use verbal means in such activities. Note that this does not say anything about group-size or anything else related to the formal setting of teaching in ECEC; the only claims made here are about the nature of communication among participants in a teaching activity. It could theoretically be communication between a caregiver and a child, a teacher and a group of children or among peers. However, our interest is directed to teaching in the setting of preschool and the task of the preschool teacher, since this is a setting – in Sweden, where we conduct our study, but also in many other countries – framed by a curriculum and an explicit task to teach also the youngest children.

In a sense, the child is born into a mediated world (Shotter, 1993), that is, a world that is ordered. She is introduced to and guided into this ordered world by caregivers. However, with the advent of the child’s first language, her experience will be increasingly linguistically structured (Rommetveit, 1985), that is, she will learn to perceive the world in terms of the cultural tool-kit (Wells, 2007) of language (cf. Vygotsky, 1998). Developmental psychologist, Katherine Nelson (1996), succinctly phrases this when she argues:

Thus to a large extent in the course of human childhood, between about 2 and 6 years of age, language and the surrounding culture takes over the human mind. It is during these years that biology ‘hands over’ development to the social world. (p. 325)

While highlighting the critical importance of language to the child’s evolving understanding of the world, it is important to remember that an important principle of modern developmental psychology is that developmental trajectories (e.g., language, cognition, motor development) are inherently related (Zelazo, 2013). This also means that the importance of other modes of participation are not replaced by the advent of language. Rather, the

repertoire of ways of acting (perceiving, making sense, participating) increases (rather than one replacing a former).

Teaching understood as a particular kind of mutually constituted activity highlights communicative processes. Communication can be understood as a field of tension between *temporarily sufficient intersubjectivity* (Rommetveit, 1974) and *alterity* (Wertsch, 1998). As clarified by Rommetveit (1974), intersubjectivity is negotiated and at best temporary, partial, and sufficient for participants to go on with a joint activity, rather than being engaged in separate ones, talking past each other. Intersubjectivity, from this perspective, can also be understood as the “attunement to the attunement of the other” (Marková, 2003, p. 252). Furthermore, intersubjectivity, Rommetveit (1974, p. 56) argues, “has to be taken for granted in order to be achieved.” In tension with this communicative process, there is always differences between participants’ point of view, experience and ways of participating, what Wertsch (1998) calls *alterity*. Within the framework of PRECEC, alterity is further specified to stand for actions to take an activity in what other participants indicate to be an unexpected direction (Pramling et al., 2019). Some intersubjectivity is necessary for participants to be able to engage in a mutual activity (e.g., playing together, taking part in teaching) and some alterity – and responding to alterity – is critical in order for activities not to stagnate, only repeat. Hence, how participants negotiate to temporarily establish partial intersubjectivity and how to respond to alterity will be critical to how activities develop and what participants can learn in and from participating in these.

The empirical study

The empirical data we will use to examine teaching activities *in situ* with toddlers is from a combined research and developmental project conducted in Swedish preschools (Pramling et al., 2019). The basic design of the project was to let preschool teachers themselves document activities in their own practice using computer tablets. Regularly (5–6 times a year) the teachers and researchers had meetings at the university. On these occasions, the researchers gave lectures on conceptual resources for analyzing teaching and play, and the teachers brought their recordings and worked in groups, together with other teachers and researchers, discussing the activities observed. After the meetings, the researchers transcribed the recordings and conducted the analyses. In this study, we have focused on one of the teacher’s documentation in a late phase of the project, meaning that she was well familiar with challenge in focus at the time: to develop knowledge about teaching in response to play. At a previous meeting we had discussed the important aspect of following play activities over time, and to the next meeting, this teacher contributed with four short recordings of sequences, each lasting 3–7 minutes, recorded during a period of a few weeks,

that she found to be related with respect to the content. She was part of a group in the project that had an explicit interest in the arts, and in her case particularly music. The children at the preschool where she works are 1–3 years old. The participating children in the study are all under two years: “Anders”: 1.10 (one year and 10 months) “Rosa”: 1.8, “Billy”: 1.10, “Ville”: 1.10, “Ronny”: 1.10, and “Valter”: 1.7. A colleague of the teacher handled the computer tablet, while she herself interacted with the children. In the first recording, one child participated. This child was an active participant in the following activities too, where he was joined by four other children.

Transcription and analysis

The recordings have been transcribed verbatim in full. Visible actions such as bodily gestures and facial expressions are written in brackets. In translating the transcripts, great care has been taken to mimic the nature of the original utterances; when necessary, explanations are provided. The transcripts and the video recordings are complementary in the analytical process, that is, when analyzing, both transcript and video recordings are scrutinized. In deciding the level of detail in the transcripts (for a discussion, see, Davidson, 2009), we have taken into consideration two aspects. Firstly, analytical purposes – what gestures, for example, are becoming central for the interaction (i.e., what participants respond to) – and secondly, readability. The later aspect is central in conducting research close to practice, as in the present project, where teachers are involved in the entire research process. This is also a guiding principle for enhancing *pragmatic validity* in research (Nuthall, 2004). The video-recordings of the activities allowed us as researchers to take a step back, in a collaborative manner critically scrutinize, and discuss the recordings together as a way to ensure ecological validity (Derry et al., 2010). The procedure for the analysis follows the principles of Interaction Analysis (Wallerstedt et al., 2022). This means that we analyze interactions *in situ*, as unfolding, responsive events. In this study, the analysis is focused on the teacher’s and the children’s participation in teaching activities and how they, for instance, establish “joint attention” (Tomasello, 1999). Central is to scrutinize how the participants are coordinated, or not, in their communication, theoretically framed in terms of if and if so how, the participants manage to establish temporarily sufficient intersubjectivity (see above, Pramling et al., 2019; Rommetveit, 1974).

Research ethics

The study follows prevailing ethical guidelines of the Swedish Research Council. This includes participants (and participants’ caregivers in the case of children) being informed about the research, and that they have the right to abort participation at any time, should they choose to do so. The caregivers were given written information about the project and signed consent forms that were gathered by the teachers taking part in the project. When reporting the study, all participants and settings are given pseudonyms.

Research including observations of the youngest children are complex from an ethical perspective. There is a risk that children under a certain age will not be able to interpret information about the research, and even if the guardians' consent is required, it is important to be sensitive to whether the children want to participate or not. We see a risk in considering children to be too vulnerable to study, since society then loses the possibility of generating knowledge crucial to improving the lives of young children. If the youngest children are excluded from research, they are denied a place in the production of knowledge. We argue that it is decisive to study children responsibly without devaluing their status at any stage of the research, but also the importance of considering their particular situation. As researchers, we build on an understanding of children as simultaneously vulnerable and competent rights holders, as both in need of protection against exploitation and with the right to participate in knowledge formation (cf. Quennerstedt et al., 2014). In the present study, the teachers themselves filmed the activities. These films were later transcribed and analyzed by the researchers, and stored according to the regulations of the University of Gothenburg. An ambition has been to represent and analyze activities that resonated with the children's cultures of communication, their own concerns and that showed their everyday routines (cf. Christensen & James, 2017). We align with Farrell (2014), that key understandings in research with young children relate to children's competence to participate in research but at the same time making decisions that are meaningful about the ways and to what extent they will participate.

Methodological reflection

The data for this study was generated within a praxis-related project (Mattsson & Kemmis, 2007), meaning that the preschool teachers had a large space for formulating the research problem and directing the focus. Another typical aspect is that the research process is iterative. Before the time for this particular study, we had cooperated with the teachers for a couple of years, when we had elaborated on PRECEC and also on how to deal with musical content in preschool. What is being recorded as research data, and when, is decided by the teacher. This could be considered a strength for the research, since the results become of direct relevance for preschool practice. However, it also causes some limitations. If we as analysts and authors had been present ourselves when the data were generated, we could have gotten a better understanding of what preceded and followed after the somewhat short recordings. We could also have been able to put more effort in conducting observations with higher technical quality, and noting details in when and where the recordings were made. This could have relevance for the possibility to transcribe details of the toddlers' sometimes subtle communicative signs. However, there is always a balance between getting close to a practice with young children, without turning the everyday setting into an experimental situation (cf. Wallerstedt et al., 2015).

Empirical findings

In this section, we present our findings through an analysis closely adjacent to excerpts of transcripts from the activities. Over the four excerpts, we will analytically show how the participants over time establish a mutual activity, an activity that evolves in response to the children's initiative (which, in turn, is a response to something previously introduced by the teachers: particular nursery rhymes). The activity develops through four phases: (i) the child spontaneously relating a board game to a song (a nursery rhyme); (ii) the teacher initiating a continuation activity in which the song becomes a part, and adds beating out the pulse of the song; (iii) the teacher opening up for play, which builds on beating out the pulse on a toy and singing, and the children introducing dancing; and (iv) to play, sing and dance being established as a play activity with additional participants.

Phase 1: The child takes an initiative to play

In the first sequence, represented in Excerpt 1, the teacher has initiated an activity where she and a child (Anders) sit together at a table with a board game on.

2	TEACHER:	Anders, you're gonna play the snail game? (sits down besides Anders, unfolds the playfield and puts it in front of Anders)
3	Anders:	(reaches for one of the wooden game pieces in the carton – a snail –, puts it on the playfield) watch out (and in a singing voice: “so” or “two”, taken another game piece) watch out (takes a third piece, holds it towards the teacher) watch out
4	TEACHER:	Watch out
5	Anders:	(puts another piece on a piece) watch out (holds the piece towards another adult out of view) watch out
6	TEACHER 2 (out of view):	Little snail, watch out that we sang.
7	Anders:	(holds a snail towards the adult out of view and says firmly) watch out
8	TEACHER 2 (out of view):	Yes
9	Anders:	Watch out (still directed towards the adult out of view)
10	TEACHER 2 (out of view):	Can you sing it?
11	Anders:	(puts the snail on top of another snail on the board, picks up another snail and looks at the teacher) watch out (puts it on top of the previous snail, making a tower) WATCH OUT (puts also this snail on top of the tower, turns and accidentally touches the tower, making it collapse)
12	TEACHER 2 (out of view):	Oh

Excerpt 1. Finding a little snail (the first activity)

The game has a playing field that the teacher folds out and puts in front of Anders (turn 2). Anders picks up wooden game pieces from the carton. These depict different snails. That Anders repeatedly says “watch out” (turns 3, 5, 7 and 11), indicates that he associates the snails to a familiar nursery rhyme which has been sung earlier at the preschool, called *Little Snail*. The lyrics of the song is “Little snail, watch out / Watch out, watch out / Little snail,

watch out / Or I'll take you." The teacher acknowledges this association through repeating, "watch out" (turn 4) and Anders repeats, "watch out" once more (turn 7), while turning towards another adult in the room (the teacher holding the video camera). She is also responsive to this association, as evident in her naming the song (turn 6) and asking him, "Can you sing it?" (turn 10). Rather than commencing to sing the song, Anders continues picking up snails and repeats "watch out" (turn 11).

The sequence illustrates how the child together with the adult(s) come to share attention on an object. That is – in light of our previous theoretical discussion – he is able to participate in a triadic relationship. This triad is in the activity established through the teacher providing space for a shared activity where she (or in this case, both adults) being attuned to the child's signals, which is a fundamental prerequisite for PRECEC. While this being something already known about teaching, we can here refine this knowledge by empirically see how the activity with toddlers plays out. The child communicates in a few words/expressions, but by sharing a frame of reference – alluding to the nursery rhyme – the participants manage to establish temporarily sufficient intersubjectivity to be able to go on with a mutual activity, rather than talk past each other and being engaged in discrepant activities. The child also participates through embodiment and with the objects (play pieces) available (e.g., in turn 7, where he turns towards the teacher and shows her a snail). The teachers' responsivity to these forms of expression are decisive for establishing a mutual activity in which also the very young participants engage.

Phase 2: The teacher takes an initiative to a responding activity

In the next activity, the teacher sits down with Anders at the same table and also this time she brings the board game. In this activity, there is an inherent openness in that the board game does not have to be used as a game, but will be used as a trigger for singing the song Anders showed engagement in in the previous activity (see turn 14 below). Soon another child (Billy) joins and sits down at the table.

We can here see the typical shifts between *as is* and *as if*, that in PRECEC constitutes a basis for teaching activities. The teacher communicatively frames the activity in terms of *as if* through saying that she pretends that someone ("anyone at home") lives in the carton (housing the game) (turn 2). This could be read as a subtle signal initiating an openness (make believe, *as if*) of play into the activity. Anders picks up an object, a dice (turn 5), which the teacher names (turn 6), and Anders, in turn, attempts to mimic (turn 7). This shows how the prime participants at this stage share attention on something third, a mutual object of reference. The teacher now directs attention towards the snails, which Anders has previously shown an interest in (see Excerpt 1). Anders responds to the teacher's question (turn 8) by, in a singing voice, exclaiming "watch out, watch out" (turn 9). That is, he responds by voicing a strophe from the familiar nursery rhyme about the snail. At this point in the activity, another child (Billy) enters and sits down at the table. He pays attention to

Teaching activities with toddlers

2	TEACHER:	Is anyone at home? Shall we open? What's this?
3	Anders:	Look
4	TEACHER:	(opening the lid) ohohoh, what can this be?
5	Anders:	Oh! (takes a dice)
6	TEACHER:	A dice
7	Anders:	ice [in Swedish says "ärning" instead of "tärning" (dice)]
8	TEACHER:	What are those small figures then (picking up two snails). What are they to resemble (holding the snails, inspecting them)?
9	Anders:	Watch out, watch out (in a singing voice)
10	Billy:	(enters)
11	TEACHER:	Is it a snail we've found in the carton? Do you see that it's a snail (holds two snails in front of Anders). A blue snail and a green snail. How beautiful they were.
12	Anders:	Watch out, watch out
13	Billy:	(holds something towards the teacher)
14	TEACHER:	Yes, it's a dice. This is a game really. But Anders, you were eager to sing Little Snail. Shall we sing about the snail?
15	Child:	Watch out
16	TEACHER:	Yes (starts to beat out the pulse, slowly, with her hands on the table, singing): <i>Little snail, watch out / Watch out, watch out / Little snail, watch out / Or I'll take you</i>
17	Anders:	(joining in at:) watch out, watch out
18	Billy:	They're the car, they're the car
19	Valter:	(enters the situation, driving a car)
20	Anders	(joining in at the last phrase sung by the teacher): <i>I'll get you</i>
21	TEACHER:	When you say the car, Billy, do you mean then <i>I Hammer and I Nail</i> [In Swedish: <i>Jag hamrar och spikar</i> , another popular children's song], I thought
22	Billy:	The car, yes

Excerpt 2. Shall we sing about the snail? (The second activity)

the dice, showing it to the teacher (turn 13). In response to Billy's action, the teacher meta-communicates, saying that "this is a game really" (turn 14). The use of the meta-marker (Goatly, 2011; Pramling, 2006) 'really' subtly indicates that at the moment they engage with the objects as if they were, or indicated, something else (*as if*), that is, not how things really are (*as is*). At the same time as the teacher makes this subtle distinction, she is responsive to Anders' utterance of a strophe from the nursery rhyme (in turn 12), to suggest they sing it (turn 14). Anders aligns with the suggestion, offering, "watch out" (turn 15). The teacher is, thus, responsive not only in the here-and-now (synchronous responsivity) but also to there-and-then (the previous activity she and the child engaged in, as described in Excerpt 1) (diachronic responsivity). What the child then showed an interest in is now proposed by the teacher as an activity. She also meta-communicates this intertextual weaving between the present and the previous activity, and what the child then showed an interest in, by acknowledging that "you were eager to sing Little Snail" (turn 14). What then is required by the teacher in order to engage with the toddlers in teaching activities is a closeness to children's perspective. While synchronous responsivity is extensively studied as an aspect of PRECEC (Pramling et al., 2019), we can here also identify diachronic responsivity as important for weaving together different moments with the children to a meaningful unity.

Later on in this activity, the teacher returns to the song, but now also directs the children's attention through meta-communicating that she simultaneously drums. Even if coordination in the activity, as here in drumming together, only lasts a few moments, it is possible to follow the activities over time to see how they develop. Beating out the pulse while singing is an activity that will subsequently return on two occasions.

Phase 3: A musical content is collaboratively developed among the teacher and child(ren) in the play

In the next activity, a toy – a pound-a-peg – is used to beat out the pulse on. On this occasion, the teacher sits down on the floor in a room where Anders, Billy and another child (Ville) sit at the table. The teacher initiates the activity by asking, “Shall we play something?” The children approach the teacher and reach out for toys on a nearby shelf (with, among other things, cars, blocks, a pound-a-peg, and a ring tower).

15	TEACHER:	Oh, yes, this we're usually playing with. Building towers. Here (hands over the pound-a-peg). What have we got here, Anders? Shall we carpenter?
16	Anders:	Yes!
17	TEACHER:	Shall we? (lights up, looks happy). Should you or I carpenter (while holding the hammer)?
18	Anders:	Yes! (takes the hammer and starts to sing) <i>Little snail, watch out</i>
19	TEACHER:	Oh, is it Little Snail, watch out? While we're carpenter, yes! (flips the pound-a-peg over)
20	Anders:	Watch out / Little snail, watch out (beating along in time)
21	TEACHER:	Little snail, watch out (makes a joyful noise), yes, yes, precisely
22	Ville:	(comes crawling on the floor over the teachers' legs)
23	TEACHER:	Anders, come (lifts up Anders and puts him beside her, while he holds the pound-a-peg). Shall you carpenter and then we sing something to it then, shall we do that?
24	Anders:	Yes
25	TEACHER:	Shall we sing this one (starts singing while beating out the pulse on her knees) <i>I hammer and nail...</i>

Excerpt 3. Using a toy as an instrument (The third activity)

The teacher reaches for the pound-a-peg and rhetorically asks Anders, “What have we got here?” and “Shall we carpenter?” (turn 15). The pound-a-peg consists of short rods attached to a board, to which there is a hammer. With the hammer, the rods are beaten down into the board, which may then be flipped over to start again. This activity is here referred to as carpenter. The teacher invites Anders to decide whether he or the teacher should do the carpentering (turn 17). Anders takes the hammer. The activity now takes a novel course, something that from an analytic perspective can be referred to as alterity (i.e., an action that takes an activity in what other participants indicate they perceive as an unexpected direction, cf. PRECEC, Pramling et al., 2019), by allowing the pound-a-peg to become a percussive instrument for singing along to. That the teacher takes this to be unexpected is indicated by her joyful sound (as if surprised, turn 21). She then weaves together the different alternatives – to ‘carpenter’ and to sing – by suggesting to Anders, “Shall you carpenter and then we sing something to it?” (turn 23). This is also a way of

meta-communicating what they do, and what they intend to do collaboratively. Through this suggestion, she acknowledges the child's unexpected suggestion, and in effect gives it status as a legitimate contribution to the mutual activity and to it evolving in a novel direction (i.e., she is responsive to alterity, cf. Lagerlöf et al., 2019). She suggests they sing the song, "I Hammer and Nail," another well-known nursery rhyme that is part of the repertoire of songs in preschool. While singing, she simultaneously beats the pulse on her knees. Through this example, and from the background of the previous ones, it becomes clear how a teaching situation can start in a spontaneous way, even, in this case, initiated by the child and his attention to the toy as an instrument. But even if the teacher has an open approach (just starting by a question: "Shall we play something?"), her awareness of about previous activities, both what they have played before, and the child's interest in the song, provides a platform for constituting this responsivity-to-play situation as a teaching activity.

As the activity proceeds, Anders represents the pulse of the song, in addition to his hammering, through rocking his head. Ville, who has entered the activity, will later on in the activity participate in yet another way, through dancing. The activity is now established in a way that allows the participants to shift roles.

Phase 4: A mutually established activity for teaching responsive to play

The fourth documented activity takes place in the same room as the previous ones, but now contains more children. The activity starts with the teacher asking Anders what to do and then herself suggesting that they can hammer. While she says hammering, she also shows a hammering movement with her hand. Anders shows excitement over this idea, and another boy, Gabriel, gets the pound-a-peg from the shelf. The teacher starts to sing the song "I Hammer and Nail" and Anders hammers on the pound-a-peg, while Gabriel and the girl, Rosa, imitate the teacher's clapping of the pulse. In Excerpt 4, we see how the teacher invites yet another child to try to play on the pound-a-peg.

40	TEACHER:	The Nail King. Can you hammer (gives the hammer to Rosa)?
41	Rosa:	Yes (takes the hammer)
42	TEACHER:	Yepp (imitating Rosa's tone of voice), try
43	Rosa:	(starts hammering and looks at the teacher, waves at her, meets her gaze and makes a sound as if she is trying to say something)
44	TEACHER:	Yes, shall we beat out the time?
45	Rosa:	Yes
46	TEACHER:	<i>I hammer and nail...</i> (beats out the pulse on her knees)
47	Rosa:	(hammering pretty much in time with the teacher's singing, while consistently looking at her; the boys dance in the background)
48	TEACHER:	<i>...and the car drives around.</i> Was it good?
49	Rosa:	(looks at the teacher and gives a big smile) Yes
50	TEACHER:	How good you were at hammering)
51	Ronny:	(has sat down, holding a jigsaw puzzle, [inaudible] (looks at the teacher)
52	TEACHER:	You can sing also

Excerpt 4. "Shall we beat out the time?" (The fourth activity)

Throughout the activity, the participants have talked about and enacted *as if* they hammer or nail on the pound-a-peg. In this last activity, the teacher invites the new child through asking her whether she can “hammer” and handing her the hammer (turn 40). The teacher now shifts terminology for the first time, to a musical one: “Shall we beat out the time?” (turn 44). This way of referring to what they are engaged in constitutes the music in *as-is* terms. In turn 50, she returns to the previous terminology by exclaiming, “How good you were at hammering.” Rosa becomes a participant in this activity through meeting the teacher’s gaze, beating on the pound-a-peg in time with the teacher beating the pulse on her knees to the singing, and in relation to the other children who dance along. The activity is an example of the kind of responsivity characteristic of play-responsive teaching (PRECEC; Pramling et al., 2019). The teacher does not *instruct* the children on how to play. Rather, participants – teacher and children – mutually establish an activity of a kind that engages children in singing, dancing, and different ways of representing the pulse of music.

Discussion and conclusions

With this study, we aimed at contributing with knowledge about *what participating in teaching activities requires of children and teachers, and to what extent very young children, such as toddlers, are able to do so*. First, we pointed out a theoretical foundation as the premise of teaching activities, grounded in the work of Tomasello (1999): At least two persons being mutually engaged in something third. We call this, in metaphoric terms, the molecule of teaching. The mutual engagement in something third constitutes an ongoing communicative challenge to keep up sufficient intersubjectivity among participants in an activity (Rommetveit, 1974), for children as well as for adults. But, as Tomasello (1999) points out, children are normally able to take part in these kind of triadic relationships from approximately one year of age. Hence, based on this, we can conclude that children should be developmentally prepared for participating in teaching activities, as early as from when they are 1 year old (see particularly, Kawakami, 2014; Kawakami & Takai-Kawakami, 2015). However, if equating teaching with going to school (i.e., participating in traditional school practices, such as whole-class instruction where the child has little direct interaction with the teacher due to the group size and ways of organizing activities), toddlers may not be ready for school. Therefore, it is imperative, we argue, to separate the concept of teaching from the concept of schooling. Teaching in preschool does not have to look like what it does in the school classroom; neither does it have to be the same for the 2-year-olds as for the 5-year-olds. The challenge the children face, from what is analytically discernable in the data of the present study, is not to hear the pulse or develop their timing or similar. Rather, their challenge is to make themselves understood with their communicative resources.

In this article, we also wanted to provide examples of *what teaching with the youngest children could mean*, what *its characteristic features* might be. Our findings, thus, contribute to theoretical accounts of the meaning of teaching with toddlers, something that has been found to be lacking (see Bjørnstad & Pramling Samuelsson, 2012; Greve & Hansen, 2018, for discussions) and only recently starting to emerge in more closely adjacent fields of study (e.g., Alcock, 2016). From the empirical examination of a series of related activities from a preschool, we can conclude that teaching activities – as understood from the theoretical point of view of PRECEC – with toddlers can be characterized by *three critical actions by the teacher*. By teachers carrying out these actions, toddlers can become participants in meaningful teaching activities.

Firstly, the communication between children and the teacher presumes (cf. Rommetveit, 1974, on how intersubjectivity has to be taken for granted to be achieved) them sharing attention on something third. In the empirical data this is found to happen through (a) *the children's embodied ways of expressions are listened to and taken into account by the teacher*. The teacher in this study is shown to interpret the children's expressions in a way that they do not show that they at this time by themselves are able to; it is the teacher who verbalizes and meta-comments on what the young children may mean by their expressions (such as, in the present case: "watch out"). Making sense of what children express with their voice and other means implies interpreting what they may *mean*, rather than simply responding to what they *say* or *do*; that is, *responsivity* acknowledges the child's (perceived) *intention* with their actions. Further on, shared attention is made possible through (b) the teacher and the children have, at least partly, a *shared frame of reference* (in the present case, a repertoire of songs), and (c) that there is a *consistency between activities* that enables them to develop their communication over time. Each of the analyzed activities in this study may seem volatile, but taken together, it become obvious that what is established as an activity is taken up on the next occasion, and then is built upon further.

Secondly, a critical task for the teacher is *meta-communicating* throughout the activities. In the data, this kind of communication is seen to serve several functions. It helps weaving together not only here-and-now, but also there-and-then, which we have referred to as *diachronic responsivity*. By meta-communicating different suggestions from the children, these are weaved together in a play activity, for example singing and carpeting. It is also meta-communication that makes the play activity a didactical situation, in the sense that the teacher directs the children's attention to a content (in this case the pulse of the music). In the activities analyzed in this study, the teacher has consistently, in response to its initiation in a child's expression, focused on pulse. This is evident in her beating out the pulse to the song every time she sings, and in her encouraging the children to play along by beating on the pound-a-peg. But on one occasion, at the end of this series of activities, she also verbalizes what they do with a musical term: time.

Thirdly, the playfulness throughout the activity, characterized by the openness created by the teacher framing the activity *as if*, enables the children to participate as legitimate participants. If Anders wants to use the snail in the game, not as a part of the game but as a figure to sing about, then this is welcomed – his initiative is listened to and responded to by the teacher. Acknowledging a child's intention and contributions implies recognizing him or her as a person capable of communicating intentions and emotions. Hence, responding to a child's actions entails seeing the child as a psychological being, who lives in and through others' responsivity (this idea is, of course, preceded by the famous work of Mead, 1934/1967). Phrased differently, there is an inherent ethical imperative in responding to another's – for example a child's – utterances and other actions as intentional.

That the teacher verbalizes the children's expressions and other actions (e.g., showing an object) in terms of shared frames of references, is arguably necessary to constitute a teaching activity with young children. This indicates that responsivity in activities that may be referred to as teaching requires sensitivity on the part of the teacher (cf. Alcock, 2016), which, as we have already mentioned, is not only important to knowledge-building but also to identity-formation (recognizing the child as an individual who participates in mutual activities by giving contributions that are acknowledged and responded to). This reasoning further implies that it is arbitrary to draw any clear line of demarcation between teaching as contributing to children's *learning* and *caring* for their emotional well-being.

When looking closely at the activities *in situ*, as in the present study, the cardinal ability for the adult participating in teaching with toddlers, as we see it, is to be sensitive to their attempts to communicate their wishes, intentions, emotions, and ideas. This is decisive for having meaningful teaching activities with toddlers that promote *children's identity formation as knower/contributor* and *agency*, which are, arguably, more fundamental and generative outcomes of participating in teaching than appropriating particular domain-specific knowing.

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