Context dependency in parental speech

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Twelve children, six girls and six boys, were videotaped at two ages: first at a mean age of 11:16 months, second at a mean age of 15:16 months, with a parent in their home while having a meal with a spoon (non-play situation) and feeding a doll with a spoon (play situation). It was found that parents reliably differentiated between play and non-play situations by using interaction and instruction frames, respectively. A discriminant function analysis of the relative frequency of seven speech acts used within each frame resulted in the correct classification of 60.42 per cent of the children. These findings are discussed in the light of theories of children's learning in context (Snow, Perlmann & Nathan, 1987), specifically their learning about pretend and real situations (Harris & Kavanaugh, 1993).

The acquisition of knowledge in early childhood can be understood contextually, in that it is organized around familiar, temporally structured event sequences or situations (Bauer & Mandler, 1990; Handler, 1979). Context allows both adult and child to interpret what the other is saying (Barrett, 1986; Bates, 1976; Bloom, 1991; Camaioni, 1986; Huttenlocher, 1974; Kreye, 1984; Ryan, 1974). Context includes behavioural and paralinguistic, as well as purely linguistic, aspects of speech. Although children rely on all aspects of the context, they do interpret context-specific speech and use it as a framework to learn language and to acquire an understanding of their culture (Cook-Gumperz, 1986). In the present study only context-specific speech will be analysed.

In their language use, mothers discriminate among various contexts by framing them differently. Frames are the utterances used in one situation in order to distinguish it from another. Specifically, some studies document variations in the level of reference under different conditions. For example, mothers used superordinate terms for group objects, when category members occur together (Shipley, Kuhn & Colby Madden, 1983; White, 1982) and subordinate terms for non-typical category members (White, 1982). Mothers used more directives than questions in polyadic compared with dyadic contexts (Heberle, Kaufman, Grego & Hirsh-Pasek, 1995). Parents also distinguish between broadly different, but typical situations of involvement with their children. Snow, DeBlauw & van Roosmalen (1979) distinguished two types of speech: 'business-oriented speech' and 'talking for fun'. However, in the latter case, it is unclear which aspect of parental speech differentiates between these speech types. Speech was related to the situations more generally, in that 'talking for fun' only happened during maternal leisure time and 'business-oriented speech' occurred when mothers were engaged in various tasks.

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In summary, several distinct verbal frames have been identified. These frames differentiate familiar versus unfamiliar contexts (Lucariello & Nelson, 1986), dyadic versus polydyadic contexts (Heberle, Kaufman, Grego & Hirsh-Pasek, 1995), typical versus non-typical contexts (Snow, Perlman & Nathan, 1987), or broadly different but equally typical contexts (Snow et al., 1979). It is not clear, however, how parents convey to their preverbal children information about a difference in a specific type of situation. How do they cue the child verbally, rather than behaviourally or paralinguistically, as to which kind of situation it is?

Kavanaugh and Harris (1991) in the context of pretend play, found that in play with 18—24-month-old children, mothers requested verbally a pretend action that relied on the child's ability to infer an action based on an implicit reference to that action. Thus, mothers presumed an understanding of make-believe food, such as a hot dog, by requesting it by name in the presence of an appropriate prop, such as a brick. Mothers did not feel the need to step outside the play framework by pointing to an object and explicitly identifying its make-believe identity. The question arises, how do children learn the difference between 'real' and play situations?

The purpose of the present study was to identify the pragmatic aspects of parental speech framing different situations in the context of play and non-play with their 1-year-old children. In this study, the 'frames' are the verbalizations of parents during a play situation in which a doll has to be fed and a non-play situation in which the child has to be fed.

In the play situation the parent asks whether the doll is hungry, or asserts that the doll will be sad if the child does not feed her or that the doll likes the food and wants more. In the non-play situation, the parent teaches the child how to fill the spoon, how to hold the spoon and how to bring the full spoon to the mouth and then to eat its contents.

The following is an example of a frame in a play situation (the original German wording is given in parentheses): Look (Schau mal). Shall we give the doll something? (Solln wir der Puppe was geben?) Should the doll also eat? (Puppe auch was essen?) Should she also eat something? (Soll sie auch was essen?)

In contrast, in the non-play situation a frame is: You have to fill it another time (Musst dir was Neues holerni). There is nothing left on (1st ja nix mehr drauf). Hold it up (Nach oben). Mmm nice (Mmm, feiri).

Mothers estimate that their children aged 11—12 months are capable of learning how to eat from a spoon (Kindermann & Skinner, 1988). Hence, the children selected for this study ranged from 11 to 15 months. In the non-play situation, handling of the spoon was essential in order to nourish the child. To teach their 11 to 12-month-old children how to eat from a spoon, parents are likely to use an instruction framework, where they teach their children when to use a spoon, how to hold and fill it and where to place it when it is filled. In the play situation, where a doll has to be fed, the handling of a spoon is necessary but not essential. In this context parents are more likely to use an interaction framework, by demonstrating the feeding of a doll, asking the child's permission to feed the doll, or animating the doll by telling the child why the doll would like to be fed.

Aims of the present study

The present study was designed to investigate, first, how parents adapt their verbalizations to their infants in situations which are both novel, in the sense that the children had
neither fed themselves nor a doll with a spoon, and yet different, in the sense that one occurred during play and the other during non-play. The second consideration is the question of whether these frameworks are relatively stable over time, a precondition for the effective learning of children in context (Snow et al., 1987). Finally, the question of which speech acts constitute the frames used during play and non-play is addressed.

To summarize, children who had neither used a spoon to feed themselves during their daily routine nor fed a doll with a spoon were observed at 11 months and again at 15 months. Parents were asked to let the child try to use the spoon to feed him/herself (non-play situation) and to feed a doll with a spoon (play situation). Parental speech in these two situations was analysed.

**Method**

*Participants*

Twelve children and their parents (11 mothers and 1 father) participated in this study. The children, six girls and six boys, were videotaped in their homes while having a meal which could be eaten with a spoon at mean age 11:16 months (range 11 to 12 months) and a mean age of 15:16 months (range 15 to 16 months). All parents were monolingual speakers of German and were the main carers of their children. The parents came from working- or middle-class backgrounds and their education ranged from primary school to university degree.

*Procedure*

Each child was seated in a highchair with the parent seated on one side. The parent chose a doll (or in some cases a toy animal) to be fed with whatever food was appropriate for spoon-feeding. Parents were asked to allow their child to feed him/herself and to feed the doll. The wording was kept general ('Please allow your child to feed herself and a doll with a spoon') and the frequency and order of trials were unspecified.

*Method of data transcription*

Parental speech during the meals was transcribed and then classified as belonging to either the non-play situation (the child was eating) or the play situation (the doll was being fed).

*N(ethod of coding*

The beginning of the non-play situation was coded from the time parents spoke either about the fact that the child should eat, use the spoon to eat, or the manner in which the child either was or should be eating. The end of the non-play situation was coded when the spoon touched the child's mouth. Table 1 outlines the frequency, as well as mean and range, with which play and non-play situations occurred when the children were observed at the age of 11 and 15 months.

The coding of the play situation started when the parent made the first reference to the feeding of the doll by saying that the doll wanted to, was going to, or should be fed. The end of the play situation was coded when the spoon was held in front of the doll's mouth, nose or cheek. These two situations were analysed with respect to verbal frames. From Table 1 it can be seen that at 11 months a mean of 5.7 (range 3-10) non-play situations occurred and a mean of 4.1 (range 1-7) play situations. At 15 months a mean of 7.5 (range 1—34) non-play situations and a mean of 5.5 (2—14) play situations occurred (see Table 1).

Parental speech was divided into those frames that were used while the child was eating and those that occurred while the doll was being fed. Two independent judges were asked to classify parental speech into 'instruction' and 'interaction' frameworks while the child was eating and feeding the doll. The unit of analysis for this first coding was the frame. Frames could vary in number of sentences uttered. An example
of an instruction framework was given as follows: 'You have to fill it another time. There is nothing left on (the spoon). Hold the spoon up. Well done.' An example of an interaction framework was given as follows: 'Look, she is crying. Do you want to give her some? Yes, give her some more.'

Each sentence within each frame was classified by a third judge into the following seven speech acts: (1) direct command; (2) indirect command; (3) request for information; (4) attention seeking; (5) description of the immediate environment; (6) positive feedback; and (7) negative feedback (see Table 2). These speech acts are based on Pine's (1992) and MacDonald & Pien's (1982) classification of speech acts in a sample of maternal speech to children with a mean age of 16 months (range 14—18 months). The speech acts coded by Pine (1992) and MacDonald & Pien (1982) were adapted in order to identify specifically the differences between instructional and interfacational frameworks of maternal speech to the children in the present study.

Method of analysis

In order to test whether parents differentiate between play and non-play contexts, the relative frequency with which they used an interaction or an instruction framework was established for each adult—child pair (e.g. for mother A during the play situation: the frequency of using an instruction or interaction framework during the play situation at 11 months was divided by the total number of play situations observed for mother A at 11 months; for mother A the frequency of using an instruction or interaction framework during the play situation at 15 months was divided by the total number of play situations observed for mother A at 15 months). In order to test whether parents of 11- and 15-month-old children make more frequent use of an instruction rather than an interaction framework during the non-play context, the relative frequency with which they used each in the non-play context was tested by a Wilcoxon matched pairs signed rank test. Similarly, in order to test whether the parents made more frequent use of an interaction rather than an instruction framework during the play context, the relative frequency with which they used those frameworks was tested by a Wilcoxon matched pairs signed rank test.

The percentage of speech acts used in each situation by each parent was entered into a stepwise discriminant function analysis in order to establish whether, on the basis of the similarity of speech acts used in the play or non-play situations, one could statistically distinguish between children acting in the play and non-play situations at 11 and at 15 months. This statistical method allows a distinction between mutually exclusive groups on the basis of several predictor variables considered in terms of their relationship both with one another and with the criterion variable. In the present study discriminant analysis classified individuals into mutually exclusive and exhaustive groups on the basis of seven speech acts. The task of discriminant analysis is to find one or more orthogonal linear components (termed discriminant functions) which best discriminate between groups by combining the weights assigned to predictor variables. Interpretation of the results is based on standardized coefficients or weights assigned to the predictor variables and the mean scores or centroids achieved by the grouping variables.

Results

For the 11-month-old children, the Wilcoxon matched pairs signed rank test showed that parents used an instruction framework (mean = 4.08, range 1—7) significantly more often than an interaction framework (mean = 1.6, range 0—4) in the non-play context ($t = 1.5$,
Table 2. Seven speech acts adapted from Pine's (1992) and MacDonald & Pien's (1982) versions of speech acts

1. **Directives I.** Direct commands: These utterances control the physical behaviour of the child by commanding the child to do or desist from doing something (e.g. *Nimm mal die Hand* (take that hand). *Halt den Löffel mal so* (hold the spoon like that). *Tus in den Mund* (put it in your mouth). *Gib der mal ein bisschen* (give her a bit)).

2. **Directives II.** Indirect commands: These commands are softened or less explicit. The utterances attempt to elicit agreement or cooperation for a course of action from the child. Here the child is encouraged or urged to do something often in the first person plural and/or through questioning (e.g. *Solln wir den der Ente auch mal was geben*? (shall we give the duck something as well?). *Gibst Du ihr denn auch mal was zu essen*? (are you going to give her something to eat?). *Komm wir machen mal was auf den Löffel* (come on, let us fill the spoon)).

3. **Requests for information**
Utterances requesting information which the speaker either does not possess or which the speaker claims to possess (e.g. *Bist Du satt* (are you full?). *Marie, hast Du keinen Hunger!* (Marie are you not hungry?). *Hat sie nein gesagt*? (has she said, no?). *Mag die Puppe auch noch was*? (Does the doll want something as well?)

4. **Attentional directives**
Utterances, including vocatives, which seek to attract, direct or redirect the child's attention (*Der hat auch Hunger*! (he is hungry as well!). *Guck mal was da noch drin ist*! (Look what there is still inside!). *Schau mal! (Look!)!

5. **Description of the immediate environment**
Utterances which describe features of individuals or events or objects in the immediate environment (e.g. *Mama gibt dem Elefant* (Mama gives the elephant). *Nichts mehr auf dem Löffel* (there is nothing on the spoon anymore). *Auf die Nase kriegt sie* (she gets it on the nose). *Stampfst ja da nur drin rum* (you only mash it up)).

6. **Positive feedback**
Utterances which acknowledge or praise a child's performance (e.g. *Ooh, machst Du das fein* (oh, you do that very well). *Du kannst das fein* (yes, you can do that very well). *So ja* (like that, yes)).

7. **Negative feedback**
Utterances which correct or express disappointment at the child's behaviour. *(Du tust immer soviert nehmen* (you always take too much.). *nicht den Tisch* (yes, but not the table)).

\[ N = 10, \ p < .005, \ \text{one-tailed} \] In contrast, during the play context parents used an interaction framework (mean = 4, range 1—7) significantly more often than an instruction framework (mean = 0.08, range 0-1) \( t = 0, \ N = 12, p < .005, \ \text{one-tailed} \).

For the 15-month-old children, the Wilcoxon matched pairs signed rank test showed that parents used an instruction framework (mean = 6.1, range 1—34) significantly more often than an interaction framework (mean = 1.4, range 0—5) in the non-play context \( t = 1, \ N = 12, p < .005, \ \text{one-tailed} \). In contrast, during the play context parents of 15-month-old children used an interaction framework (mean = 4.8, range 2—8) significantly more often than an instruction framework (mean = 0.66, range 0—6) \( t = 0, \ N = 12, p < .005, \ \text{one-tailed} \).

Having identified two broad frameworks, namely interaction and instruction frameworks, the following seven speech acts were entered in the discriminant analysis: (1) direct
commands, (2) indirect commands, (3) requests for information, (4) attentional directives, (5) description of the immediate environment, (6) positive feedback (praise) and (7) negative feedback (scold). Only two of these seven speech acts contributed significantly to the discriminant functions, namely indirect command (Wilks' lambda = .5754, $F(3,44) = 10.81, p < .001$) representing function 1 and positive feedback (Wilks' lambda = .4218, $F(6, 86) = 7.73, p < .01$) representing function 2. Based on these functions, 60.42 per cent of the children were correctly classified as belonging to one of four groups, jointly defined by age and situation. Since the groups to which the cases belong are defined at the outset, this table gives the agreement (60.42 per cent) and disagreement (39.58 per cent) between prior definition of group membership and the classification of all cases depending on their discriminant function scores (see Table 3). A further classification according to the relative frequencies with which parents used indirect commands and praised their children revealed a significant difference between the play and non-play situations irrespective of age (see Table 4) by Fisher exact probability test ($p < .001$). Hence, on the basis of parental speech acts, the children were classified correctly according to play and non-play situations.

Table 3. Classification of cases grouped into play and non-play situations, at 11 and 15 months of age, according to the discriminant function classification

<table>
<thead>
<tr>
<th>Group</th>
<th>Cases</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>12</td>
<td>9</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>play — 11 m</td>
<td></td>
<td>75%</td>
<td>25%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Group 2</td>
<td>12</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>play — 15 m</td>
<td></td>
<td>41.7%</td>
<td>41.7%</td>
<td>16.7%</td>
<td>0%</td>
</tr>
<tr>
<td>Group 3</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>real — 11 m</td>
<td></td>
<td>8.3%</td>
<td>8.3%</td>
<td>66.7%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Group 4</td>
<td>12</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>real — 15 m</td>
<td></td>
<td>0%</td>
<td>8.3%</td>
<td>33.3%</td>
<td>58.3%</td>
</tr>
</tbody>
</table>

Note. Percentage of 'grouped' cases correctly classified was 60.42 per cent.

Discussion

The present study demonstrates that parents of 11- and 15-month-old infants distinguished between two specific, novel contexts reliably by verbal framing. An example of an instruction framework was: There you have the spoon. Take it. M, it is difficult with the spoon. Hold it up here.' The same parent used an interaction framework during pretend feeding of a doll: 'Hey and me? I am also hungry. Mmm, that tastes good.' In the first situation, the parent tells the child 'take the spoon' and 'put it in your mouth', whereas in the second situation, the parent does not tell the child how to feed the doll; instead the parent asks about the child's actions with the doll or lets the doll in play plead
with the child for more food. This differentiation could be observed for 11-month-old children and persisted four months later when the children were 15 months old.

The children themselves learned to eat from a spoon from 11 to 15 months as well as to feed a doll in play. Most children at 11 months very quickly learned to eat from the spoon. For example, Marie's mother having fed her daughter a number of spoonfuls, said: 'Would you like to try to eat yourself, Marie? Mm, come on! With the spoon, mm? With the spoon. Take the spoon. Would you like to try with the spoon? Put the spoon into your mouth.' Marie managed to bring the spoon up to her mouth and lick the food off it. A few children seemed not to respond so readily to their mother's request, as in the following example of Lisa. The mother fed her daughter a number of spoonfuls before saying: 'Lisa, look', placing the spoon in her hand. 'Would you like to try to eat with the spoon? Lisa look. Lisa try it with the spoon. There look. Try it. You have to put it like that in the mouth.' Lisa waved the filled spoon in the air and distributed the food over the high chair and floor. Another finding was that the feeding of the doll lagged behind the children's ability to eat from the spoon themselves. At 11 months, most children were not capable of attending to both the doll and the spoon. Rather they concentrated either on holding the spoon or on holding the doll.

Parents adapted their verbalizations to their infants differently in the two situations. In the context of play, parents demonstrated the feeding of a doll, pleaded with the child to feed the doll, gave reasons why the doll should be fed, or even asked permission from the child to be allowed to feed the doll: that is, they used *indirect* means to try to persuade their children to feed the doll. This accords with the observations of Harris & Kavanaugh (1993). The authors discussed how social pretend play is initiated. It can be achieved by making an explicit statement about the make-believe status of an object. For example, during joint play, a mother may point to an empty milk carton and say: 'Let's pretend there is milk in the carton.' Alternatively, a partner can remain within the play framework by designating the pretend identity of a prop implicitly, that is, by acting on or talking about, its make-believe qualities.

The present study supported their finding that in play with 18- to 24-month-old children, mothers often verbally requested an action that relied on implicit reference (Kavanaugh & Harris, 1991). Specifically, in the present study, parents of even younger children (11—15 months), behaved as if their children understood pretence. They did not 'feel compelled to step outside the play framework by identifying an action as make-believe' (Harris & Kavanaugh, 1993). Rather, they used indirect means to persuade their children to play-feed a doll.

Table 4. Classification of cases grouped into play and non-play situations, irrespective of age, according to the discriminant function classification

<table>
<thead>
<tr>
<th>Group</th>
<th>Play</th>
<th>Non-play</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>Non-play</td>
<td>3</td>
<td>21</td>
</tr>
</tbody>
</table>

Fisher exact probability: $p < .001$. 

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In contrast, during the non-play context of eating, parents used an instruction framework, similar in structure to what Rogoff & Gardener (1984) and Wood, Bruner & Ross (1976) observed when mothers were tutoring their children in a problem-solving task. Specifically, parents in the present study tried to teach their children how to use a spoon, how to hold the spoon, how to fill the spoon and where to place it when it was filled. They used direct commands and praised their children for correct performance.

In summary, by using different verbal frames, parents provide their children with a basis for differentiation between the contexts of play and non-play situations before the children have the language capability or conceptual ability to encode and understand play and non-play interactions. Parents used indirect commands to mark play situations and direct commands to differentiate real situations from play situations.

In conclusion, the present findings support Snow, et al. (1987), who argued that to help their child learn to talk, caregivers construct discourse frames by imposing predictable content-dependent 'texts' repeatedly upon the child, so that in time, the child can recognize specific frames for specific contexts. Analogous to language development, in the context of pretend play, this would mean that parents construct frames within which the child learns to differentiate pretend from real episodes.

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References