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Children's Synchronization of Utterance in the Japanese Preschool

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Abstract

This article investigates the nature of an activity observed in Japanese preschools, where children and teachers synchronize their utterances to each other. Two studies were conducted from the viewpoint that the participants' necessity for synchronization was derived from an institutional aspect of the activity. Study 1 examined how synchronized utterances were embedded in the daily life of a preschool class of 4-5 year-olds. A comparison between the daily events identified by the teacher and the time of occurrences for the synchronized utterances demonstrated that these utterances were likely to occur during specific events when all the children need to get together in the classroom. In study 2, by closely recording the speech of a single child from each 3 to 6 year-old class in a preschool, we examined the ways by which four children coordinated their voices to create overall harmony in the synchronized utterance. Sound analysis revealed that all the children did not always utter the same words, at the same time, as the other children in the class. Rather, the targeted children uttered various forms of speech, such as saying only one part of a fixed expression because they were exploring the right occasion to utter and keeping mute while the other children were talking in unison. The findings are discussed in terms of both the advantage for a newcomer in a preschool to participate in the activities easily, without being evaluated by others, and the teachers' risk of not providing educational support for the newcomer at the appropriate time.

Key Words: Synchronized utterance, Japanese preschool, Social participation structures

Question

If you observed a preschool in Japan, characteristic loud voices would reach your ears very frequently. For instance, we can find that all the members of a preschool class including the classroom teacher say an expression for greetings in unison at the beginning of the morning meeting. In another scene the teacher asks some question, and almost every child replies in unison with their hands up. According to my experience, even 3-year-old newcomers seem to adapt to this mode of behavior in a few weeks. Some researchers have noticed these voices and described them as "choruses" (Peak, 1991) or "choral responses" (Neuman & Fischer, 1995).

A few researchers who are interested in classroom discourse have paid special attention to this type of speech form. According to the analysis (e.g. Au & Mason, 1983;

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Lampert, 1990), group activities in preschools and primary schools consist of several social participation structures. "Participation structure" is a general distribution of the interactional roles that are assigned to the participants (Philips, 1972; Erickson & Shultz, 1982). During a certain activity in the classroom, the teacher and the individual student may talk with a one-on-one participation structure. In another participation structure, the teacher may treat all the students in the classroom as his/her single interlocutor, and the students may have the obligation to answer the teacher as an entire class.

The synchronized utterances are said to be frequently observed in the last type of participation structure (Miyazaki, 1996). Thus, it is suggested that adequate participation in the synchronized utterances may be one strategy for the child who is not used to dealing with the one-to-many participation lesson structure (van Dam, 2002; Kanagy, 1999; Neuman & Fischer, 1995). In this sense, the synchronized utterance of preschoolers is worthy of detailed investigation.

In this study we examine the preschoolers' ways of synchronizing their utterances with others in their daily activities. We also ask what implications those chorus-like activities might have in a preschool setting.

The synchronized utterances can be considered as a certain type of activity in which one needs to coordinate body movements, such as a dance. In many activities of young children in a preschool educational setting, there are at least three perspectives involved. First, human movements, including synchronization, can be understood from a physical perspective. For instance, the trajectories of a baby's kicking or reaching movements are the results of dynamic and persistent competition against each of many constraints, such as gravity and muscle structures (Thelen & Smith, 1994). Certainly this dynamic system of infants' kicking movements can function to some extent even if no other human is included.

Second, in order for any interaction to go smoothly, a child must coordinate his/her body movements with those of the others. Researchers have observed that this kind of motor coordination can be found in the interaction between infants and their caregivers (Davis, 1982). Analyzing films containing scenes of interactions of this type, Condon and Sander (1974) showed interactive entrainment between interactants. These entrainments were conceived not as synchronization between each part of the two bodies but as between the organized patterns of the whole individuals; in other words, the interpersonal perspective. Such approach adopted by Condon and Sander (1974) also interprets that one's body movements in an encounter are always constrained by those of the other. Exploring the developmental process of motor control skills, Ashton (1976) focused on the relationship between endogenous timing of children and exogenous timing that is produced by others. Fogel (1993) referred to this mutual constraint as "co-regulation" and hypothesized that early co-regulation between infants and adults is a foundation for later development of a child's communicative skills, and also a foundation for the creation of and participation in the micro-culture of a dyad. In short, this perspective considers that the unit from which development arises is not a single individual but interpersonal relationships.

Surely two perspectives mentioned above can explain to some extent the mechanism and the process of a child's coordination of their own body movements. However,

the tasks which children are asked to achieve seem to be derived from the nature of collective activity beyond that of a dyad. For instance, some researchers have pointed out that a certain type of synchronized utterance seems to be embedded in play or other cultural activities. Ratner and Bruner (1978) observed children playing “peek-a-boo” with their mothers, and found that by repetition of the game the child’s utterance “boo” gradually became synchronized with his mother’s. Bruner (1982) interpreted this phenomenon as follows: because the children have learned the routine structure of the game, they succeeded in saying “boo” in unison. He further pointed out that the interaction between the children and their mothers might function as a facilitating device for learning. According to this interpretation, the vocal synchronization is not just a simple event, but a result of children having learned the rules of communication. Chen and Rand (1994) tried to explain the cultural nature of Jan-ken (paper-rock-scissors). Playing Jan-ken includes uttering prescribed chants in unison with specific hand formations. According to these authors, this game has historically developed to become a tool for the maintenance of various social groups in Japan. Also it has become a tool for a newcomer for entering group games. In short, the action of synchronizing the voice can be used functionally in the activity that a child participates in. To put it differently, the child who must participate in activities such as group play, has to learn to synchronize their utterances.

Thus we need the “institutional” perspective in addition to the previous two. There are two reasons why we have referred to this perspective as “institutional”. First, it is because the preschooler’s task needed for synchronizing utterances with others is inseparable from the institutional setting where persons gather in one space such as a classroom. In other words, this is a problem of how the caregivers set up the context for such interaction. To assemble a certain number of children of a certain age into preschool is exactly a matter of institution.

Second (and this is a crucial point), the synchronization may not be considered just as an action, instead, it should be considered as a certain form of verbal communication in a specific context. When you hear the preschoolers’ synchronized utterances, you may conceive that they are nothing but linguistically nonsensical screaming. However, they are not just shouts, but are the social actions that may be evaluated by others. In everyday conversation we may take the occurrence of synchronized utterances (e.g. two people starting to talk at the same time) as kind of problem to be resolved, but in another situation it may not be taken as a problem (Lerner, 2002). In other words, speakers have to learn when to utter in unison. The same is true of the problem of preschoolers producing synchronized utterances. This rule for communication is also a matter of institution.

Thus, to understand the synchronized utterances of preschoolers in their everyday activity, we can see the phenomenon at least from three perspectives: the physical aspect, the interpersonal aspect, and the institutional aspect. However, the first two approaches cannot deal with the social participation structures in the classroom mentioned above. So, in this study, we will take the children’s actions to make their body movements synchronized with the others from the institutional perspective.

To return to the preschooler’s utterances, some concrete questions can be raised.

(1) How are the synchronized utterances embedded in the activities in preschool? (2) How does a preschooler deal with and solve the task of synchronized utterances? Study 1 deals with the first question, and Study 2, the latter.

Study 1

How are the synchronized utterances embedded in the activities in a preschool? Are there any special contexts in which the preschoolers and the teacher tend to utter something in unison? In this study, those questions were investigated using an ethological method.

Method

The preschool of this study was located in a suburb of a metropolitan area, and had over 100 children divided into five classes: (1) infants, (2) 3-4-year-olds, (3) 4-5-year-olds, (4) 5-6-year-olds, and (5) mixed age class. On one day in June, activities of the 4-5-year-old class were videotaped from the time of the children's arrival in the morning till the time they left. The 4-5-year-old class contained 19 children and one classroom teacher. The entire length of the recording was 4 hrs 2 min 51 sec, with the periods such as afternoon naps excluded.

In addition to participant observation, the video review session with the classroom teacher was conducted to clarify some details related to events which occurred during the day. While watching the video in which the children and the teacher appeared, we asked her to point out when a new activity began and to name each new event.

To identify the occurrence of the synchronized utterances and to obtain the frequency, a set of criteria was prepared as follows. In principle, a synchronized utterance is identified as (1) having occurred among at least two people in a single speech turn, and (2) having overlapped at least one syllable. Two observers analyzed the videotape separately, and the rate of coincidence between them was 61.2%.

Results

A typical example of synchronized utterance is shown as follows. For better understanding of it, some explanation is in order. All classes in the preschool had their own name deriving from an animal such as "squirrel" and "lion". The class we examine here is the "rabbit" class. The children's negative response at segment 1, which is the synchronized utterance, was in response to the teacher's intended misnaming.

Segment 1

Starting time: 10:34

Events: Morning greetings

(The children had taken their seats along the circumference of a desk that had been put at center of the classroom. All of them turned his/her face towards the classroom teacher. The teacher was playing the organ and was beginning to sing a morning song.)

Teacher Okiro, okiro, genkina Raion-san!
 (Teacher Get up, Get up, cheerful class of the Lion!)

→Children Chigaaaau!
 (Children Nooooo!)

The utterance with the arrow is the synchronized utterance that happened for the first time in the day. Just after the address of the teacher, most children shouted “No” in loud voices. As shown by this excerpt, the end point of the speech of the teacher seemed to function as a cue for the children to utter in unison. Thus, we can say that some synchronized utterances are embedded in the sequence of an interaction between the participants. Then how did the synchronized utterances relate to the whole workings of the preschool?

A total of 34 units of synchronized utterances were identified during the day of the 4-5-year-old class; 23 units occurred only among children and 11 units between children and the teacher. The frequency was summed up every ten minutes and was illustrated with the list of events named by the teacher (see Figure 1). The list of events also rep-

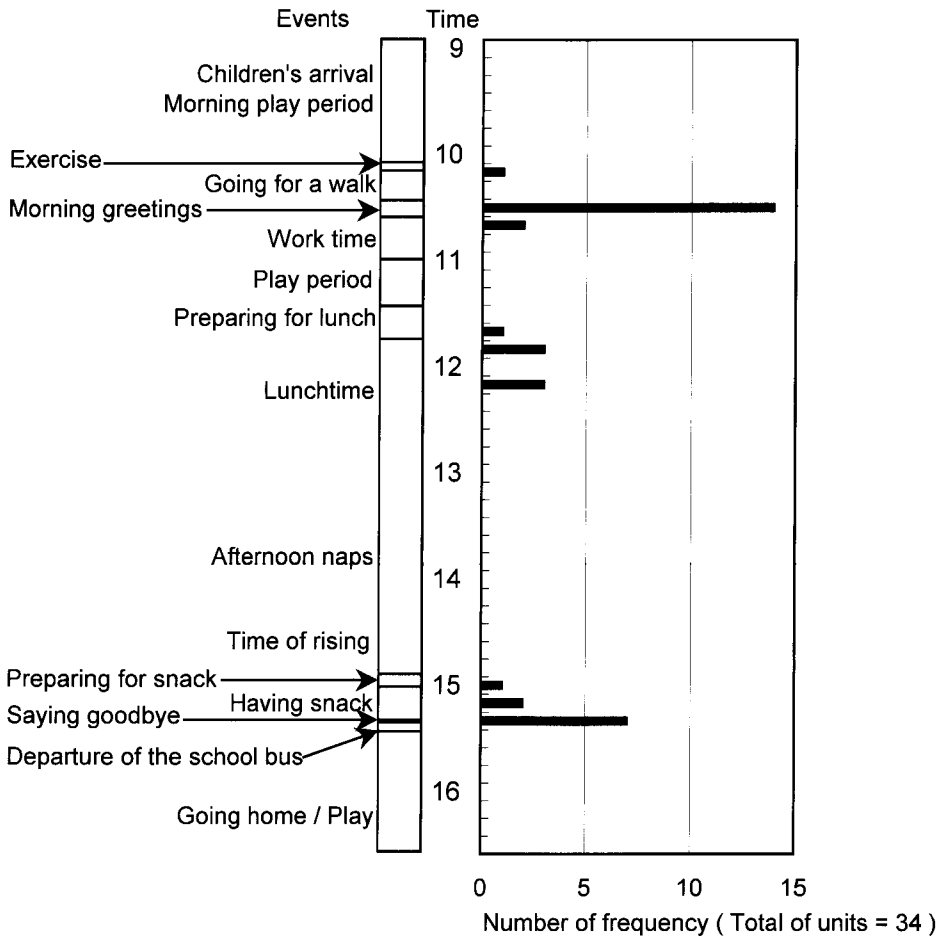


Figure 1 The events and the frequency of the synchronized utterances occurred in the day of the 4-5-year-old class

resents the order and the duration of each occurrence.

Figure 1 shows that the synchronized utterances did not occur evenly during the day; they seem to be concentrated at several periods. Particularly there were three concentrated periods. The first period lasted about twenty minutes (10:30-10:50), the second period was roughly twenty minutes (11:40-12:00), and the third one was roughly thirty minutes (15:00-15:30). These periods correspond to events named "morning greetings," "preparing for lunch," "preparing for snack," and "saying goodbye," respectively. In addition, we do not show the detailed figure in this paper, but the same pattern was found in the class of infants and of the mixed age of the target preschool.

There are some common features in these events. The most noticeable one is that these were the events in which all class members were expected to assemble together. Interestingly, the synchronized utterance hardly occurred during periods for play in the morning, before lunch, and around departures. The latter were events which needed no gathering at the classroom, and children were allowed to go to the playground by themselves.

As seen above, it can be suggested that there were at least two types of events in the life of the day: the one in which participants tended to organize their utterances into unison, and the other in which they didn't need to do so. That is to say, the synchronized utterances were not simple actions that occurred at random regardless of context. Rather, by the children and the teacher, they were associated with specific events and were used intentionally. To be sure, when children were playing freely from place to place in this preschool, the chances for meeting together to utter in unison were small. However at least we can say that the teacher and the children were able to organize their behavior to synchronize their voices with each other in several specific periods during the day.

For the children in this class, synchronization may have become not only a form of interpersonal behavior, but also an institutional behavior for participating in and adapting to some preschool activity, in other words, as a tool.

Study 2

A certain type of physical capability to synchronize can become a tool for participation in an event at the preschool. If that is the case, then we need a more detailed analysis that focuses on each child's use of it. In Study 2, we will try to demonstrate in a detailed manner how a child does synchronize during these events.

Method

Three families with a total of four children (one of the families has two sisters) participated in this study. They consisted of one 3-year-old boy and three girls of 4, 5, and 6 years each. All of them attended a preschool that was situated in the north district of Japan, but belonged to separate classes by age group from 3 to 6 years old. In one day in February, participant observation with videotaping was conducted during the daytime, that is, from breakfast to the evening meal.

In order to obtain good quality of recorded voice, each child was asked to wear a wireless microphone whose sound pickup axis was set toward the child's mouth.

Utterances were recorded with a camera, which also received radio waves sent by the wireless microphones. By this means the observers kept track of each child all day.

The procedure for identifying the synchronized utterances was the same as in the study 1. However, when we counted frequency of the utterances, the number of the frequency doesn't mean only the times that a targeted child actually made an utterance, but contains also other children's utterances that the microphone happened to pick up. Two observers analyzed the videotape separately, and the rate of coincidence between them was 87.6%.

Results

A total of 227 units of synchronized utterances were identified. Two out of the 227 occurred in the 3 year-old boy's and 5 year-old girl's home settings, and were excluded from this analysis in order to focus on the activities at the preschool. Subtotals found from each of the videos were as follows: 29 units of synchronized utterances from the 3 year-old boy's video, 47 from the 4 year-old girl's, 50 from the 5 year-old girl's, 99 from the 6 year-old girl's, respectively.

Having had each targeted child wear a wireless microphone, it was possible to record one child's voice clearly. Figure 2 shows a synchronized utterance analyzed in waveform and sound energy flux. By this method, we were able to delineate the onset time and to obtain the duration time of the targeted child's utterances from those of others.

The utterance of the targeted 3-year-old boy illustrated in Figure 2 occurred at the event of having a snack at the class. Two monitors of the day came alongside one of the

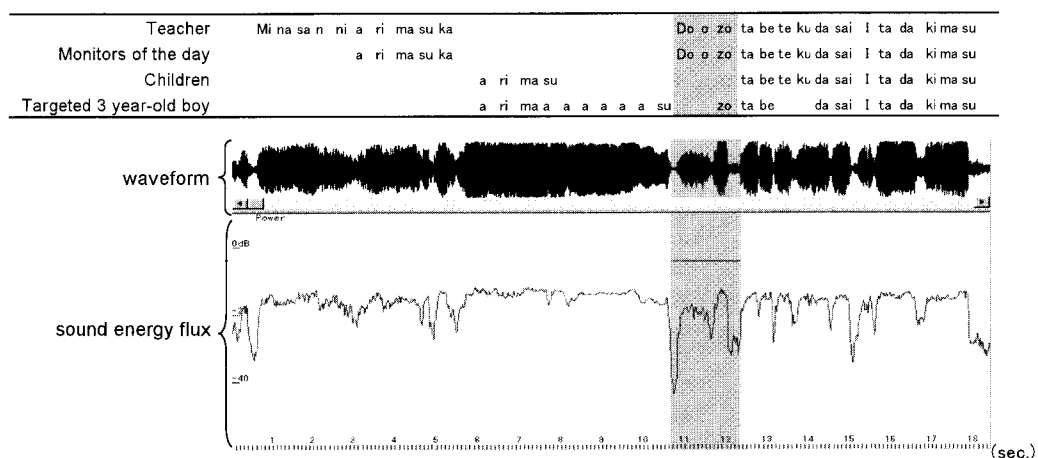


Figure 2 The synchronized utterances occurred in the 3-year-old boy's classroom

Note In this transcription, the utterances of participants, their waveform and sound energy flux are arrayed horizontally. The synchronism between them are represented vertically. Notice the gray colored area of the transcription. According to the result of sound analysis, the gray colored area seemed to include two subareas. The sound energy of the first subarea was lower than the latter. This illustrates that in the beginning of the area the targeted boy kept silent and then uttered "zo".

classroom teachers (the class discussed here had four teachers). The teacher then said a specific phrase before eating “Has everyone got theirs?”, and the children began to utter the phrase (initiated by the teacher) halfway through. The response phrase was assigned in advance (because it was a prescribed phrase) to the other children including the targeted boy. The synchronized utterance took the form of a reply, “Yes, I have”. Yet because the targeted boy’s utterance was stretched in the last vowel, this period seemed like a solo part of an ensemble. The next was the turn of the teacher and the monitors, in which permission is normally given to start eating the snack. However, the other children, though they are supposed to act only as a listening audience, also uttered in part concurrently. Notice that the target boy uttered with other people at the same time, with several syllables missing. At the last turn almost all the people in the class uttered the same word “Itadakimasu” (this is the most common set phrase said before dining in Japan) in unison. In consequence, 4 units of synchronized utterances occurred in the event of snack.

Interestingly, actual vocalization of the targeted boy in the background of the synchronized utterance was not precisely the same as that of the others. For example, in the gray colored section of Figure 2, it was not the turn for him but for the monitors and the teachers. It looks as if he was exploring for the proper timing for uttering the right syllable. Similar exploring utterances can be found very often in the data of any age, as we will see at below. This sort of behavior is likely to be seen in the background of a well-prescribed phrase uttered by the whole class, such as singing a song or greetings.

The “greeting” before lunch or snack was the most commonly observed form of utterance through the four targeted children. This greeting performed by each child will be shown in segment 2, 3, and 4. At a glance, the exploring utterance was found in all three children. In the case of the 4-year-old girl who was one of the monitors of the day, shown in segment 2, at line 2 she started to utter from the last part of the prescribed phrase. The same action was found at line 2 in segment 3 (5-year-olds) and also at line 2 in segment 4 (6-year-olds). From these findings, we can say that the exploring action constitutes to some of synchronized utterances.

Segment 2 4-year-old girl

Start time: 11:19:54

- 01 The monitors: Doozo tabetekudasai [uttered slowly]
 (Help yourself, please)
 →02 Targeted girl: zo tabetekudasai
 (pyourself, please)

Segment 3 5-year-old girl

Start time: 11:33:39

- 01 Children: Itadakimasu [uttered slowly]
 →02 Targeted girl: kima

Segment 4 6-year-old girl (who was one of the monitors of the day)

Start time: 11:51:51

Table 1 The number of synchronized utterances

Category	3 y/o	4 y/o	5 y/o	6 y/o	Total
Same as others	7	15	7	19	48
Partially uttered	9	14	25	9	57
Not uttered / Saying something different	9	14	17	55	95
Unknown	4	4	1	16	25
Total	29	47	50	99	225

- 01 The monitors: Kyoono kondatewa [uttered slowly]
 (The menu of the day is)
 →02 Targeted girl: no kondatewa
 (of the day is)

Thus, all of the synchronized utterances obtained here need to be analyzed again in terms of how the targeted children participated in them. Four categories were prepared before quantitative reanalysis; (1) the same as others (the targeted child uttered the same phrase as others neither too much nor too little), (2) partially uttered (they uttered some parts of the phrase of others, and the exploring utterance was classified into this category) (3) not uttered / said something different (the targeted child did not utter at that time, or said just something completely different from the phrase of others) (4) unknown (the cases in which we were unable to judge whether targeted child had spoken is contained here).

Table 1 represents the results of the reanalysis. As indicated, the total frequencies of each category (1) and (2) were 48 and 57 respectively, and were almost equal. However, category (3) contained the most examples of synchronized utterances. Without exception, all categories had some items from all of the age groups. This overview of the table reveals that, during the synchronized utterance, the targeted children did not always utter exactly the same phrase as the others, but rather performed various behaviors such as the exploring action or keeping silent.

Discussion

Here we would like to bring the findings from these studies together. From the observation during a day by ethological manner, the synchronized utterance did not occur randomly during the course of the day but intensively at specific events such as meetings of the whole class. What can be said from these results is that it was intentionally used for some purpose relevant to the institutional context of nursing or schooling. That is to say, the synchronization of voices serves as a tool for constituting the daily activities.

In the next study, the four children whose age ranged from 3 to 6 years old were examined from the viewpoint of how to vocalize during the synchronized utterances. From a microanalysis of the utterance behavior of each single child, when she/he uttered in harmony with others' speech, some of their utterances seemed to be controlled during the synchronization as if they were exploring the proper place for saying something.

This exploring action was spread evenly among all 3 to 6 year old children as far as we observed. In addition to this finding, the quantitative reanalysis indicated that, during the synchronization in the classroom, the targeted children uttered various shortened forms of the phrases in some cases, and even uttered no words in other cases.

These findings suggest that the synchronization of utterances between participants of the classroom do not occur automatically. If the children have been late for the first timing of the others' utterances, they should find the right timings of utterance for participating in the activity adequately. Children's partial utterances bring us to the interpretation that the children regarded a timing of participation as an important behavioral goal. Children might have to find the precise position within a turn to start to utter as well as a sequentially relevant place between turns. The above is a possible outline of how to organize the synchronized utterances as a tool for participating in the activities of a preschool. Each individual child prepared his/her voice to organize the synchronized utterance collaboratively, and so had to utter some phrases partially. However, some children occasionally did not seem to try to participate in the synchronization. Between synchronized utterances, all of the four children often uttered what was not relevant to the phrase. They even said no words, and this was the most frequent case of deviation in synchronized utterances in the targeted children. In short, the utterances constituting synchronization among the classroom took various forms.

Based on the above mentioned interpretation, what implication does synchronized utterances have educationally? Generally speaking, a teacher must learn to provide support of an essential kind for children. To do so, s/he needs to attend carefully to what an individual child is saying. However, for a teacher it may be difficult to focus attention on the performance of an individual child while synchronized utterances arise in a classroom. Collective loud voices of the classroom tend to function as a disadvantage for a teacher, because against the background of the synchronized utterances of others, a specific child's voice cannot reach the ear of the teachers. If a teacher does not hear what a child has said, it seems to be too difficult to give a child educational treatment with appropriate timing. Ironically, from the view of children, it is this feature of the synchronized utterances that affords them opportunities for free expression. However, the same feature includes danger of not allowing appropriate intervention by a teacher to a child.

Finally, it would be difficult to generalize these findings to other children or other preschools, because there was an extremely small number the participants observed here. More detailed analysis of the data from other observations will be needed for confirmation of the findings of this study.

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