窪田美穂子
Mihoko KUBOTA

Development of the Use of Fillers by Japanese-Acquiring Children

日本語獲得児のフィラー使用の発達について

●抄録

　著者自身の先行研究 (Kubota 2021) では、日本語獲得中の子どもが2歳代から4歳代での親との自然会話において、子どもが自分の発話で誤りを発見した場合にどう自己訂正をするのかを検証した。その自己訂正の特徴の一つとして、「あのね」「あのう」などのフィラー（つなぎ語）を使用したことが2歳代から見られ、訂正の方法の一つとしての同じ語の繰り返しに見られたように、次に言うべき語を考えて発話するためにフィラーの挿入が助走的な役割をしており、自己発話の訂正に相手の注意を引きながら言いたい内容を考える時間稼ぎとして用いているのが特徴であった。

　そこで、本研究では子どもがフィラーをどのように発話のターン保持と情報提供と共有のために用いているかに焦点を当てて検証した。本研究で使用したデータは、子ども発話コーパスCHILDES (MacWhinney 2000; Oshima-Takane, MacWhinney, Shirai, Miyata, & Naka 1998) に収録された、先行研究 (Kubota 2022) で使用したものと同じデータであるMiiPro Corpus (Miyata & Nishisawa 2020) に収録されている子ども4名 (Arika, Asato, Nanami, Tomito それぞれ母親との自然会話) に加えて、本研究では同コーパスに収録されているJun Corpus (Ishii 2004) にある子ども1名 (Jun、父親との自然会話) を使用した。フィラーの使用傾向を性別・世代ごとに調査した先行研究 (塩沢1979) をもとに、子どもがよく使うフィラー3種類 (「あのう」系、「ええと」系、「(うー)ん」系) の頻度と使用状況・文脈を上記データから抽出して分析した。さらにそれぞれのフィラーでターン (発話) 初頭の使用とターン (発話) 中間の使用を分析した。

　結果、子どものフィラー使用頻度に「(うー)ん」系を除いて年齢ごとの相関性はみられなかったが、全体的にターン (発話) 初頭と中間の使用のどちらも「あのう」系が最も多く使われていた。これは子どもが自発的に (母親から促されないで) ターンを取るためのフィラー使用を示唆する。

　ターン (発話) 初頭のフィラーで、自発的な発話で「あのう」系が最も多い理由に考えられるのは、まず調音のしやすさであり、最も調音の簡単な母音 /a/ (口を開き舌の位置が最も高く最も前にある) が発話開始の準備を容易にしている点である。次に、「ごっこ遊び」で「あのう」を用いている場面がデータに多く含まれていることから、普段のロールプレイや現場から家庭以外の場で親密度の低い相手に (店員と客など) 敬語で遠慮がちに話すフォーマットに「あのう」などのフィラーがよく使われることをすでに体得していると思われる点である。また、離れていて視線の離れた相手に対し「あのう」と呼びかけていたことから、相手に提供したい話題がある場合に直接言うのではなくまず相手の関心を引いてから内容を言うために「あのう」系を使っていたと考えられる。一方、質問に対する答えでは、子どもの間で質問や答えの内容や発話の長さに関係なく「あのう」系、「ええと」系、「(うー)ん」系の使用にばらつきがあり、大人のような発話するべき情報そのものを記憶や知識から取り出すために用いられる「ええと」系と同じように「あのう」系と「(うー)ん」系を用いていると思われる。ターン (発話) 中間のフィラー使用は、自分の発話ターンを繋ぎ止めて次に話す内容を提供するために情報を呼び出し概念に合致する語を検索することと、発話継続中であることを相手に示すのが主な目的とみられ、「あのう」系が最も多いが「ええと」系の使用もあった。こうした結果から、大人ではすでに脳内で言語化されている情報を出力する前に用いやすい「あのう」系フィラーと、話したい内容をまず脳内で情報を検索してから順序立てて言語化しているプロセスで用いられる「ええと」系と「(うー)ん系」フィラーの使い分けが、4歳代まで子どもでは未分化であることが想定される。

Abstract

This study explores the processes by which young children acquiring Japanese as their first language become able to use fillers as speech-constructing devices in their own speech turns. Conversation is an act of speaking to exchange information and achieve mutual or personal purposes. Through the process, participants engage in "grounding" (H. H. Clark, 2014, p.338), which means building a common ground based on what each participant expects the other to know and mean. For successful grounding, we attempt to avoid disfluency and silence to make their intentions understood as properly and smoothly as possible. For such attempts, we use fillers, which are uttered to literally fill a pause before or within an utterance[1]. Although fillers do not hold propositional or referential meaning or syntactic features, they help the speaker think and speak on a topic without being interrupted. Usually, fillers function for various purposes, such as searching for a word, evading delay and suspension, saving time for repair or correction, modestly drawing the other's attention, and avoiding rude or forthright remarks. In H. H. Clark and Fox Tree (2002), when speakers monitored their speech plans and noticed a delay, they thought of ways to suspend speech, what filler to choose (e.g., *uh* for a minor delay or *um* for a major one), where to put it, and whether to prolong it. Thus, speakers select different fillers based on where and how to suspend speaking in search of an appropriate mode of articulation.

For over 40 years, fillers have been explored in pragmatics, especially discourse and conversation analyses (for an extensive review, see Iwasaki, 2020). Tanaka (1981) examined the use of Japanese fillers, or what he called hesitation phenomena, by conducting an experiment with 20 college students telling a story with pictures. He found the following results. First, repetitions and false starts took place at nouns more frequently than at functional words (e.g., subsidiary verbs and particles). Second, filled (i.e., voiced) pauses, which apply to verbal fillers (e.g., *anoo*, *n:to*, and vowel lengthening of a lexical word) and unfilled (i.e., voiceless or silent) pauses were made between phrases more frequently than within them. Third, filled pauses were made more frequently immediately after conjunctions, or before the substantial content of utterances. Lastly, unfilled pauses were made more frequently immediately after the topic or before the predicate of the theme. These results, Tanaka (1981) suggested, reflect an utterance strategy: The participants first started speaking, made a filled pause to check the listener's potential interruption, presented a topic, and planned to expand the topic when they made an unfilled pause.

On theoretical grounds, fillers have been studied from various perspectives. For example, in addressing multi-functionalization, or the way a word's functions change, Koide (2009) discussed how some words as sentence-internal elements had evolved into fillers for interpersonal adjusters and then discourse markers through semantic, functional, and grammatical expansions. He analyzed fillers in terms of two function-based self-exposing motivations. The former is cognitive, which is based on the speaker's ability to grasp things through subjectified attitude; and the latter is communicative, which expresses the speaker's modal attitude. Koide divided the origins of fillers into two types. In one, the fillers were derived from independent elements such as a demonstrative *ano* and an adverbial *maa*. This type is uttered to express the source of the content of the utterance and the speaker's modal attitude toward it. The other type is the filler-exclusive type such as *ee, eeto*, which is uttered to make mental space for forming the content of the utterance and introducing a topic. Koide argued that these fillers' functions expanded to maintain the ongoing utterance and to adjust the relations between participants engaging in communication[2].

Through a sociolinguistic approach with cross-sectional discourse analysis, Yamane (2002)

examined how fillers were used in various situations: public lectures, messages prerecorded on answering machines, in-person dialogues on TV, and dialogues on the phone. She defined a filler as a non-propositional phonetic phenomenon that fills some of an utterance and does not hold inter-utterance relations in terms of question-response pair, conjunction, or modification. Yamane classified fillers into 11 categories based on phonetic similarity and examined their functions in those situations. Two-mora fillers, most of which are shorter than words, appeared most frequently, accounting for about 30 percent of all situations. However, based on the situation and speaker's attitude, fillers were uttered with flat, rising, and falling intonation and strong or weak accents. Most frequent fillers differed with situations: vowel-initial fillers (e.g. *a(:), e(:)*) in telephone dialogues and messages monitored on answering machines, nasal-initial vowels (e.g. *ma(:), mo(:)*) in lectures and in-person dialogues on TV, and fillers with sound lengthening in messages monitored on answering machines possibly because of great ease of air release in articulation. Yamane suggested that because participants cannot see each other while talking on the phone, they take the least effort in articulation and pronounce vowels to avoid silence and respond quickly. When speakers talk alone on the answering machine, they are apt to lengthen fillers as they feel pressured to imagine speaking to a person who is out of sight. Vowel-initial fillers are easily influenced by the preceding vowels. When they appear to fill in or change a tone of voice in an utterance, the vowel-initial fillers connect easily to the preceding vowels. In contrast, when vowel-initial fillers appear at the start of an utterance, they signal the new meaning unit and weaken the connection with the preceding vowels. Yamane stressed that speakers use fillers by forming a semantic unit. For example, utterance-internal fillers tend to be used after particles, conjunctions, and adverbials, especially in lectures because speakers hold a speech turn throughout the lectures and need to command fillers to plan the course of topic flows in long utterances and intensify their own attitudes as expressed in the adverbials.

Sadanobu (2010) and Sadanobu and Takubo (1995) argued that fillers or what they called interjections such as *ano(o)* and *ee(t)to* are connected to mental operations regarding data processing. The choice and use of these fillers are related to a mental buffer, which means a temporary memory area where information necessary for ongoing conversation is retrieved from the mental database. When a speaker cannot continue a conversation with the information in the mental buffer, a search in the mental database begins. The speaker utters fillers or mental operation markers *ano(o)* and *ee(t)to* for different purposes to keep a speech turn. *Ano(o)* is used to draw and retain the listener's attention and reflects that the speaker is extracting linguistic information from the mental database. *Ano(o)* represents two types of linguistic manipulation: searching for a word and checking expressions of contextual appropriateness. The more /o:/ in *anoo* lengthens, the more the speaker suggests to the listener that the linguistic and contextual manipulations become complicated. *Ee(t)to* means that the speaker is recollecting and searching for a proper expression and securing the working space in the buffer. By *eetto*, the speaker is attempting to secure enough working space in the mental buffer, although repeating this filler gives the listener a somewhat childish impression. On these distinctions in these fillers for mental operations and because of a limited linguistic knowledge database, Sadanobu and Takubo assumed that children do not use *anoo* as often as *eetto* and *ano*.

Literature Review on the Use of Fillers

Fillers in Adult Inputs to Children

Fillers have not been explored in the literature on motherese or child-directed speech, as the focus has been on how elaborately adults fine-tune their speech for grounding in accordance with the children's current linguistic skills. It has been argued cross-linguistically that adults, especially mothers, tend to make their speech to children slow, simple, and perspicuous by avoiding complexity

and disfluency (e.g., E. V. Clark, 2009; Ogura et al., 2019), and that they "almost never produce disfluencies such as *uhs*, *ums*, repeated words, and self-repairs" (E. V. Clark, 2014, p.338). Some studies that focused on English-speaking adults identified their high fluency in relation to children. For example, E. V. Clark (2009) referred to Broen (1972), where adults made far fewer false starts, mispronunciations, and hesitations to children than they did to adults. H. H. Clark (2014) mentioned the statistics in Newport et al. (1977), where there was 1 disfluency out of 1500 utterances from adults to children (0.067%), and noted that disfluencies in the adult-adult speech accounted for 5% of all utterances. In the Japanese data by Shiozawa (1979), male adults used vowel-based fillers (e.g., *eeto(:), a:, n:(to)*) to children as frequently as to adults. However, they used many more fillers deriving from prenominal or demonstrative adjectives (e.g., *ano(o:), sono(o:), kono(o:)*) but fewer adjectival fillers (e.g., *ma(a:), yappari, nanka*) to children than to adults. Shiozawa submitted that male adults uttered these fillers to children as gently as did female adults.

Fillers are not lexical constituents needed for syntactic structuring such as content and function words. However, the studies mentioned above clearly show that adults use different fillers for different purposes and to speakers of different ages including children. Thus, it is highly probable that children overhear or eavesdrop on adult-adult conversations where various fillers are used based on the topic, context, and interpersonal attitude (e.g., modesty, politeness). From adult linguistic sources making up for erroneous speech via fillers, it appears likely that children usually monitor and find how adults use fillers when they want to make their speech turn more informative and share more information with their listeners.

Fillers Used by Children

Despite their limited linguistic knowledge and experience, children, like adults, want to keep a speech turn to provide information to share. Although they often need help from adults, they should be able to employ some means to keep giving a message within their turn as soon as they face disfluency. To take a turn spontaneously, children need some linguistic effects to draw the other's attention. Deep insights on their use of fillers should help us examine their metacommunicative development, or the shift from purely spontaneous and self-centered to planned and other-conscious command of language. Along with the development of self-to-other perspective-shifts (Nagasaki, 2001), children gradually become aware of the ways to make up for their disfluency and communicative breakdowns and clarify their intentions from a listener's perspective, such as various strategies to respond to clarification requests (e.g., *Ha?* "Huh?") (Kubota, 2000, 2003, 2006, 2010). As their knowledge of language develops, children grow conscious of different ways to manage goal-oriented and effective communication. Casillas (2014) found that five English-acquiring children started uttering fillers *uh* and *um* at the beginning of their turns by the time they were aged 2 years. They used *uh* more often than *um* before making fluent speech, whereas they uttered *um* with prolongation more often than *uh* before making disfluent speech.

Murata (1969) was among the first studies on Japanese children's fillers. He classified the speech suspension of children aged three years into the following types: vowel lengthening, syllabic change (e.g., repetition, addition), word division, fillers, and repair. Murata argued that children tend to suspend speech while trying to produce complex structures, choosing specific words, and arranging words they had already chosen in mind. For such purposes, these children used fillers to keep the listener's attention and their speech turn. On sociolinguistic grounds, Shiozawa (1979) surveyed how people used fillers or what she called hesitation, based on registers (e.g., social situation, topic, age, and gender). She found that children at three to five years of age at play uttered only three fillers: *n:, n:to*, and *to:*, assuming that before the stage of these fillers, they may have been in the stage of being silent in the pause. Elementary school children in the call-in radio show used only a few types of fillers like those, but they often made silence, repeated words, and uniquely prolonged or accentuated

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sentence-ending particles for prosodic effects. Shiozawa suggested that it is because these children were not accustomed to uttering fillers to avoid silence and were thinking of what to say next by repeating words. Adults used a variety of fillers, but compared to children, some were highly frequent (e.g., *ma:, sono, ko:, e(e:)*), whereas others were not (e.g., *eeto, n:to, to:, anone*). When male adults spoke to children, they often uttered fillers such as *n:* and *anone* in order to adjust to the children and enhance their understanding by speaking in the softened tone like female adults.

Through a quantitative discourse analysis, Den (2021) examined fillers of adults and four children (two from 0 to 4 years of age and two from 5 to 9 years of age) in the monitor version of the Corpus of Everyday Japanese Conversation (CEJC; Koiso et al., 2020) and found that both children and adults uttered *anoo* most frequently. Those children also used *anosa* to draw the listener's attention and take a speech turn, but they hardly ever said *sono*, which was the adults' second most frequent filler. The children's second most frequent filler was *umm*, while it was the third most frequent next to *e:to* in the adults' speech. Like Shiozawa (1979), Den's analysis showed the impact of age on the use of fillers. Den suggested that fillers used as attention-drawers are acquired easiest and earliest. Kubota (2022) referred to children's fillers in terms of their speech repair strategies. They often put fillers such as *ano(o)* in the middle of the utterances to repair what they had just said as well as draw the listener's attention. While they were uttering fillers, they kept their speech turn and saved time to organize ideas, search for proper words, and utter them like adults.

Definitions of Fillers, Working Hypotheses, and Questions

Based on the literature on fillers in Japanese in Chapters 2 and 3, the research questions and hypotheses in this study are as follows. First, this study focused on two major places in an utterance where fillers appear: 1. the beginning of an utterance or speech turn; and 2. the middle of an utterance to repair, specify, and increment information with a speech turn maintained:

1. Turn-/utterance-initial fillers: Fillers placed at the beginning of the first utterance in the speech turn (mainly to address and answer to questions); and
2. Turn-/utterance-internal fillers: Fillers put within the speech turn (mainly to retrieve knowledge, search for words, and repair).

Second, the working hypotheses are as follows:

1. In light of the development from one-word to multi-word stages, children's utterance-initial fillers are assumed to appear earlier and more often than their utterance-internal ones.
2. Based on the presupposition of Shiozawa (1979), children's use of fillers are assumed to become frequent in the following order:
   a. silence or pause;
   b. most easily articulated sounds such as */n:/, /n:(to):/*, and */n:(to):/*; and
   c. set or near-lexicalized fillers such as */eeto/, /anone/*, and */ano/*.
   The research questions were how children used these fillers to adults and for what purposes.

Data

Data Source
From the audio- and/or video-recorded speech database in the Child Language Data Exchange

System (CHILDES, MacWhinney, 2000; Oshima-Takane et al., 1998), JCHAT, or the Japanese version of CHILDES (Oshima-Takane et al., 1998) was analyzed. From JCHAT, two datasets were extracted for the survey: The Jun Data (Ishii, 1973, 2004) and the MiiPro Corpus (Miyata, 2012; Miyata & Nishisawa, 2020).

All these data were recorded in naturalistic and uncontrolled home situations. The Jun Data comprised the speech of Ishii, the author and his son Jun (male) from 0;6.1[3] to 3;8.16. Their 60-minute long speech was audio- and video-recorded approximately 4 times each month. The dyad speaks the Kyoto version of the Kansai Dialect. The MiiPro corpus carries four children's spontaneous speech with their parents (mostly mothers). The speech was audio-recorded each week from 1;2 to 3;0, and each month or on a bi-monthly basis from 3;0 to 5;0. Each recording was approximately 70 minutes long. The four dyads speak a dialect which is similar to Standard Japanese. The following are four MiiPro datafiles used for this study:

1. Arika (female): From the filename ArikaM (i.e., dialogues between Arika and her Mother) with the data after 3;0 open to public, 26 files were randomly chosen from each month out of the 55 files for quantitative adjustment to the other datasets;
2. Nanami (female): 30 files were randomly chosen for each month from 2;0 to 4;11 out of the total of 55 files for quantitative adjustment to the other datasets;
3. Asato (male): 40 files in all; and
4. Tomito (male): 31 files in all.

Table 1 shows the participants' average Mean Length of Utterances (MLU): the average number of morphemes per utterance (cf. Miyata, 2012) and the number of total turns at each stage[4]. The children's MLUs differed widely from the mean at two years of age (N = 3; SD = 0. 53 at 2;0 – 2;5, and SD = 0.74 at 2;6 – 2;11, except Arika with no data), whereas their MLUs all lay close to the mean, at three and four years of age (N = 4; SD = 0.30 at 3;0 – 3;5, SD = 0.29 at 3;6 – 3;11, and SD = 0.32 at 4;0–4;5, and SD = 0. 31 at 4;6– 4;11, except Jun who had no data after 3;9). However, at two years of age, Nanami showed more precocity than did Asato (N = 2; SD = 0.79). In sum, from two or three to four years of age, there are no significant individual differences in all the participants' MLUs.

Table 1.

Children's average MLUs per stage and the total number of speech turns through all sessions (Based on Kubota, 2020, 2022).

Age (year; month)	2;0-2;5	2;6-2;11	3;0-3;5	3;6-3;11	4;0-4;5	4;6-4;11	total turns
Jun	1.83	2.22	2.46	2.77	N/A	N/A	27,823
Arika	N/A	N/A	2.91	3.04	3.34	2.82	17,345
Asato	1.84	2.03	2.17	2.33	2.8	2.42	23,338
Nanami	2.77	3.58	2.54	2.72	2.84	3.07	17,282
Tomito	2.73	3.16	2.84	2.38	2.57	2.45	18,412

Notes : Jun's data ended at 3;8.16. Arika's data were not open to the public from 2;0 to 2;11.

Data Coding and Categorization

From the targeted CHILDES datasets, children's conversations with their main partner (i.e., fathers in the Jun data and mothers in the MiiPro data), not any others, were chosen. The following fillers of high frequency in the children's data in Shiozawa (1979) were chosen: */n:/, /n:(to:)/, /eet(t)*

o(:)/, /ano(:)/, /anone(:)/, and /anosa(:)/. Along with the CHILDES transcription rules, these fillers were analyzed via the search engine Key Word and Line (KWAL; MacWhinney, 2009). The output was sorted out and counted in each six-month phase manually. Although they were transcribed, non-retracing coded parts, unintelligible parts coded as [?] and xxx and yyy, keywords uttered with intonation that conveys different meanings from fillers, and acoustically unanalyzable parts were excluded from the analysis. Moreover, transcribed acts such as switching to a different topic, giving up the turn, and abrupt stopping of filler-insertion were excluded from the analysis.

Table 2.

Children's use of *ano* (including *anoo, anone, anosa*)

child		Jun		Arika		Asato		Nanami		Tomito	
filler's position in the speaking turn		initial: freely / to Q	internal	initial: freely / to Q	internal	initial: freely / to Q	internal	initial: freely / to Q	internal	initial: freely / to Q	internal
age (year;month)	2;0 - 2;5	0 / 0	0	not available	not available	3 / 0	1	9 / 4	1	5 / 5	4
	2;6 - 2;11	10 / 1	3	not available	not available	5 / 1	0	4 / 13	8	7 / 4	17
	3;0 - 3;5	24 / 52	17	9 / 10	6	6 / 5	0	10 / 10	8	12 / 4	23
	3;6 - 3;11	0 / 0	1	45 / 27	46	10 / 5	3	9 / 5	4	10 / 6	9
	4;0 - 4;5	not available	not available	11 / 4	28	8 / 9	7	19 / 5	9	5 / 3	3
	4;6 - 4;11	not available	not available	17 / 12	20	6 / 6	4	9 / 7	12	5 / 1	4
total		34 / 53	21	82 / 53	100	38 / 26	15	60 / 44	42	44 / 23	60

Results and Discussions

Overall

Tables 2, 3, and 4 depict the number of children's fillers: *anoo-* (including *anone, anosa*), *etto-* (including *eetto, ettone*), and *n:-*related fillers (including *u:n, n:to, u:ntone*), respectively[5]. Each table shows the turn- or utterance-beginning and utterance-internal positions. Similar to the finding of Dansako (2021) in the Aki corpus recorded from 1;5.7 to 2;3.26 (Miyata, 1995), these children seem to have acquired major utterance-initial fillers such as *anoo* "y'know," *eeto* "you see" (what Dansako called 'utterance interjections') before they turned two years of age. The ANOVA with three variables (age, filler name, and filler position) showed significant correlations between filler name and filler position ($F_{(2, 20)} = 3.01$, $p < .05$). Significant correlations were found in the simple main effects of filler name on filler position (Initial freely: $F_{(2, 20)} = 9.34$, $p < .001$; To question: $F_{(2, 20)} = 0.08$, $p < .10$; and Internal: $F_{(2, 20)} = 10.29$, $p < .001$) and those of filler position on *n:-*related fillers ($F_{(2, 20)} = 4.50$, $p < .05$). These results indicate most children's tendency to utter *n:-*related fillers less often than *anoo-* and *etto-*related

Table 3.

Children's use of *etto* (including *eetto, ettone*)

child		Jun		Arika		Asato		Nanami		Tomito	
filler's position in the speaking turn		initial: freely / to Q	internal	initial: freely / to Q	internal	initial: freely / to Q	internal	initial: freely / to Q	internal	initial: freely / to Q	internal
age (year;month)	2;0 - 2;5	7 / 3	2	not available	not available	1 / 2	0	2 / 4	2	2 / 4	0
	2;6 - 2;11	6 / 6	8	not available	not available	0 / 4	2	1 / 1	0	3 / 2	0
	3;0 - 3;5	8 / 17	7	5 / 4	3	3 / 0	0	0 / 2	0	2 / 1	0
	3;6 - 3;11	2 / 12	6	7 / 0	6	0 / 1	0	0 / 2	0	2 / 0	0
	4;0 - 4;5	not available	not available	10 / 7	23	0 / 1	1	5 / 5	2	0 / 0	1
	4;6 - 4;11	not available	not available	6 / 5	20	1 / 0	0	0 / 1	1	1 / 0	0
total		23 / 38	23	28 / 16	52	5 / 8	3	8 / 15	5	10 / 7	1

Table 4.

Children's use of *n:* (including *u:n, n:to, u:ntone*)

child		Jun		Arika		Asato		Nanami		Tomito	
filler's position in the speaking turn		initial: freely / to Q	internal	initial: freely / to Q	internal	initial: freely / to Q	internal	initial: freely / to Q	internal	initial: freely / to Q	internal
age (year;month)	2;0 - 2;5	0 / 0	0	not available	not available	0 / 1	0	0 / 2	0	4 / 2	0
	2;6 - 2;11	1 / 0	0	not available	not available	2 / 14	0	1 / 13	0	7 / 9	0
	3;0 - 3;5	3 / 0	0	5 / 5	0	2 / 19	1	3 / 4	0	6 / 4	1
	3;6 - 3;11	1 / 0	0	11 / 3	1	2 / 6	1	1 / 6	1	1 / 8	1
	4;0 - 4;5	not available	not available	6 / 4	1	3 / 1	0	0 / 2	1	0 / 1	2
	4;6 - 4;11	not available	not available	2 / 2	0	0 / 0	0	0 / 1	1	0 / 4	2
total		5 / 0	0	24 / 14	2	9 / 41	2	5 / 28	3	18 / 28	6

fillers.

In addition, the one-way ANOVA in each filler analyzed independently showed no significant correlation between age and filler position in *anoo-* and *etto*-related fillers (age: F (5, 20) = 0.77, n.s. for *anoo*, 0.18, n.s. for *etto*; filler position: F (2, 40) = 0.38, n.s. for *anoo*, 0.97, n.s. for *etto*), while significant correlations were found in *n:*-related fillers (age: F (5, 20) = 0.06, p< . 10; filler position: F (2, 40) = 0.0004, p< .001), especially between answers to questions and utterance internally (F (5, 20) = 0.0001, p< .05) and between initial free use and answers to questions (F (5,20) = 0.03, p< .05). These results indicate that, as most children got older, they less often used *n:*-related fillers initially and internally, especially in answering questions. For example, Asato and Tomito made *n:*-related fillers as the most frequent filers before answers to questions, whereas the other children uttered *anoo*-related fillers before they answered. Regarding utterance-internal fillers uttered for information retrieving, word search, and repair, Jun used *anoo-* and *etto*-related fillers with almost equal frequency (21 and 23, respectively). The most frequent filler used by Jun was *anona* in the Kansai Dialect, an equivalent to *anone* and *anosa* in Standard Japanese. Arika showed more adult-like commands of fillers than did any other child as her precocity and proclivity for commanding various types of fillers were inferred from the highest frequency of *anoo-* and *etto*-related fillers across the children. Compared to the others, Arika aggressively took the speech turn to start speaking. She inserted those fillers in the middle of her utterances most often among all the children, to talk more on the topic while holding the floor and keeping the listener's (i.e., her mother's) attention. She also used *nanka* 'kind of/kinda' utterance-internally, although *nanka* was not included in the analysis owing to the sparseness in all the children's data.

Turn- and Utterance-initial Fillers

All children in this study used *anoo*-related fillers (including *anone, anosa*, and *anona*) more frequently than *eeto*-related (including *eetto, ettone*) and *n:*-related (including *u:n, n:to, u:ntone*) ones, especially in turn- and utterance-initial positions. This result is similar to that with elementary school pupils in Shiozawa (1979). However, Sadanobu and Takubo (1995) suggested that children may find it tougher to use *anoo* than *eeto* and *ano*. They argued that *eeto* implied the speaker's first attempt to secure enough working space in the mental buffer to start searching for related concepts to verbalize, whereas *anoo* implied more complex linguistic manipulation of word search and checking for contextual appropriateness and interpersonal relationships. As the latter needs a higher level of judgment and intellectual maturity, it may be more difficult for children to use *anoo* than *etto*. However, the results contrast Sadanobu and Takubo's suggestion, as the children used *anoo, anone*, and *anosa* more often than *eeto, eetto*, and *ettone* despite very few tokens of *ano*. One of the reasons for this seemed to lie in articulative ease, as children's oral cavity remains undeveloped. The open or low vowel /a/ is easier to articulate with the tongue set in the low position, when compared to the open- or low-mid vowel /e/, which is pronounced by shifting the tongue halfway from an open /a/ to a close vowel /i/ [6]. This ease in pronunciation and readiness for speech may have contributed to the most frequent use of *anoo*-related fillers in turn- and utterance-internal positions. Another reason may be that they used *anoo* to speak to the listener politely and modestly by imitating set phrases heard in familiar places or scripts in the role plays (e.g., playing store). In such situations, they uttered *anoo* but not *anosa* or *anone*, which carries a casual, outspoken, and intimate nuance. For example, Arika often starts with *anoo* in slow lengthened intonation in make-believe plays such as shopping, especially as a shopkeeper attending to a customer as in (1) and as a customer asking a shopkeeper about items to buy. In (2), Asato and Mother speak politely in a humorous manner, and when she asked him a question in the distal style with *desu*, Asato answered politely with *desu* by lengthening *anoo*:

(1)

(Playing pizzeria: Mother as a customer, ordering a pizza delivery and Arika as a clerk)

Arika:	*Matte kudasai!*	"Hold on, please!"
Mother:	*Hai.*	"OK."
Arika:	<u>*Anoo*</u>, ...	"Y'know.."
Mother:	*Juppun gurai desu ka?*	"For about ten minutes?"
Arika:	*Ah, <u>anoo</u> atchi kara mawatte (i)kimasu kara.*	
	"Ah, y'know...I'll take a detour from there."	

(Arika at 3;11.4, File ArikaM31104.cha: line 1099)[7]

(2)

Mother:	*Ma:chi o tsukuru n desu ka:?* "Are you going to build a town?"	
Mother:	*Nani de machi o tsukuru n desu ka?*	
	"With what are you going to make a town?"	
Asato:	<u>*Anoo*</u>: *ma:rui h:ito to shikakui no to sankaku no tsukeru n desu.*	
	"Y'know, round-shaped people and squares and triangles will be attached."	
Mother:	*Un.*	"Uh-huh."
Mother:	*Ha:i wakarimashita.*	"OK, I got it."

(Asato at 3;1.19, File 30119.cha: line 1184)

Sadanobu and Takubo (1995) submitted that repeating *eeto* can sound childish to a listener as it derives from a limited mental buffer, which prevents the speaker from retrieving enough concepts to speak on, whilst repeating *anoo* gives an impression that the speaker is taking too much time to manipulate utterance formats. However, in formal interpersonal situations like shopping that require polite speech, the speaker already knows what to buy and says *anoo* first to give the clerk a moment to notice her and prepare to deal with an inquiry. Arika and Asato's use of *anoo* in (1) and (2) suggest that they had learned the scripted use of *anoo* from adults, who ask and answer questions politely and indirectly and avoid giving the listeners abrupt, straightforward, and assertive impressions. It seems that these children knew the role plays in out-of-home scripts, by which adults politely speak to strangers by *anoo* rather than *eeto*, to achieve contextual and interpersonal manipulations by making sure of the listener's readiness for the service.

Further, *anoo*-related fillers can be uttered to draw the attention of someone who is out of reach. Den (2021) found that a child aged under five years uttered *anone* to draw the attention of her mother who stood apart and looked away from her. When Jun uttered *ano(o) na* in the Kansai Dialect, an equivalent to *ano(o) ne* and *anno(o) sa* in Standard Japanese, he emphasized sentence-ending particles such as *na, ne*, and *sa* with high intonation, mostly as an attention holder for the listener (i.e., his father) who was looking at the same thing as he was, so that the listener could keep focusing on the topic. Most target data (except for that of Jun) were audio-recorded, so it was nearly impossible to analyze the physical distance between the children and their parents to check their use of *ano(o)(ne/ sa)* as attention-drawers. Instead of sound data, transcriptions were examined to see whether fillers appeared immediately before or after the addressees' names at the beginning of the children's speech turn. For instance, in (3) Asato makes the earliest use of *anone* in the data to ask his mother to help him open a toy:

(3)

Mother:	*Shuuri, shuuri.*	"Let me repair (this toy)."
Asato:	*N.*	"Hm."

Asato:	Kakka, <u>anone:</u>.	"Mommy, hey."
Mother:	*Akerenai:?*	"Can't you open it?"
Asato:	*Akerenai.*	"I can't."

(Asato at 2;9.0, File 20900.cha: line 3529)

In (3) Asato prolonged the last vowel */e:/* as in *anone:*. It is assumed that, as an attention-drawer, *anone* is not a hesitant, modest, or thinking-in-progress filler but an urgent signal released for an addressee to heed a pressing message, such as calling for help. The use of *anoo*-related fillers were rare in the data, but it also shows that the children uttered it to immediately share information with the listener, who was not paying attention to them.

As mentioned in Chapters 3 and 4, Shiozawa (1979) found that the earliest fillers were *n:*-related ones (including *u:n, n:to, u:ntone*) among children aged between three and five years. Shiozawa assumed that those *n:*-sounds seemed easier for children to articulate mainly because they just made the voice resonate through the nose without moving their lips or tongue. However, Jun, Arika, and Nanami showed fewer and somewhat later uses of the *n:*-related fillers when compared to their use of *anoo*-related ones. In contrast, Asato and Tomito used *n:*-related fillers in response to their mothers' questions more often than *anoo*- and *etto*-related ones. These children used *n:*-related fillers for answering questions probably because upon hearing a question, they concentrated on looking for an answer rather than on making speech sounds. In contrast, when the children said *anoo*- and *etto*-type fillers before answering, they seemed prepared to make sounds as soon as they found the answers. Thus, it seems that most questions enabled the children to search for a linguistic database with ease, which prompted them to say *anoo*-related fillers and search for words rather than *etto*-related and *n:*-related ones, which seemed to require longer search through recollection in the memory. As for adults, Takagi and Morita (2015) argued that the speaker often puts *etto* in the turn-initial position in response to questions to not only buy time, but to also show the listener an interactional stance as a respondent who may find the question difficult but deliberately attempts to do the best to give a proper answer. In the children's data, it is not certain how often the children found the questions difficult. However, they responded by initially uttering *anoo*-, *n:*-, or *etto*-related fillers. This shows that upon hearing a question, they began searching for concepts to be connected to an answer in the mental database. For example, in (4) to his mother's question to name an animal in the book, Asato uttered *eeto* and took time to search for an answer by drawing the concepts from the picture and gave the answer. Similarly, in (5) being asked what animal was in the zoo, Nanami started with *etto* and remembered the zoo context and deliberately answered by naming each animal and relevant information on the notice as she recollected. In (6), upon hearing his father's yes-no question, Jun utters *eeto* and checks the situation and then gives a negative answer, which means that he had not put away the toys. In (7), like *eeto* in the answers, Arika uses *n:*-related fillers to search for the concepts (e.g., the situation, person) and connects them to a specific name as an answer with a rising intonation owing to uncertainty. In (8), Nanami uses *n:to* before he searches for a concept of the size of a given object (i.e., mouse) and then explains how big it was:

(4)
Asato:	*Kore wa?*	"What about this?"
Mother:	*Kore wa nan deshoo?*	"What is this?"
Asato:	<u>*Eeto*</u> … (in a low voice)	"Let's see..."
Mother:	*Etto:.* (in a low voice)	"Let's see."
Asato:	*Kuma.* (in a low voice)	"A bear."
Mother:	*Soo, kuma.* (in a low voice)	"Yes, a bear."

(Asato at 2;1.8, File 20108.cha: line 948)

(5)

(brackets < > mean the overlapping utterances)

Mother:　　*Natchan, doobutsuen itte hebi ita?*
　　　　　　"Natchan (Nanami), was there a snake in the zoo?"

Nanami:　　*Inakatta.*　　　　　　　"No, it wasn't."

Mother:　　*Inakatta?*　　　　　　　"Wasn't it there?"

Mother:　　*Nani ga ita?*　　　　　　"What was there?"

Nanami:　　*Etto ne (pause) < saru to > tanuki to kitsuneI zoo to: ...*
　　　　　　"Let's see, monkeys, and racoons, and giraffes, and elephants and ..."

Mother:　　*< Soo >.*　　　　　　　"Yes."

Mother:　　*< Saru to ... >.*　　　　　"Monkeys and ..."

Nanami:　　*Zoo ni wa esa agenaide kudasai tte.*　　　"They said, 'Don't feed the elephants'."

　　　　　　　　　　　　　　　(Nanami at 4;4.7, File 31104.cha: line 214)

(6)

Father:　　*Moo katazuketa no?*　　　"Have you put away the toys?"

Jun:　　　*Eeto (pause) mada aru yan, koko ni.*　　　"Let's see, they are still here."

Father:　　*Mada aru te Jun ga katazukena dame yan ka.*
　　　　　　"You say 'They are still here', but you must put them away."

Jun:　　　*Iyaa.*　　　　　　　　　"No way."

　　　　　　　　　　　　　　　(Jun at 2;6.28, File 20628.cha: line 1289)

(7)

Mother:　　*Un.*　　　　　　　　　"Yes."

Mother:　　*Arichan kono fuku dare ni moratta n da kke?*
　　　　　　"Arichan (Arika), who gave you these clothes?"

Arika:　　*N: Niidasan?*　　　　　　"Hm... Mr/Ms. Niida?"

Mother:　　*Soo, pimpo:n.*　　　　　"Yes, bingo."

　　　　　　　　　　　　　　　(Arika at 3;2.1, File 30201.cha: line 299)

(8)

Mother:　　*Ja:, ja ichiban ookii ne:.*　　"Then, then it's the biggest."

Mother:　　*Ja nezumisan wa dono gurai ookii?*　　"Then, how big is the mouse?"

Tomito:　　*U:nto kore gurai ookii.*　　"Let's see, it's this big."

Mother:　　*N:?*　　　　　　　　　"Hmm?"

Tomito:　　*Nansenchi nezumisan wa?*　"How long in centimeters is the mouse?"

　　　　　　　　　　　　　　　(Tomito at 3;5.1, File 30201.cha: line 777)

When *eeto*-related fillers can be used to mean deliberately thinking of the answer, children sometimes use *anoo-* and *n:*-related fillers even to choose-type questions. In (9), Arika does not answer by naming an object being asked about in her mother's question. She starts with *anoo ne* and explains the reasons for buying it, intensifying not the object per se but the process of buying it. This use of *anoo ne* reflects deliberate thinking and the speaker's intention to emphasize the background information connected to what is being asked in the question. In (10) and (11), Nanami uses *n:* and more listner conscious *anoo, anone* for a common ground (Cook 1993) in the same situation, before evaluating items and choosing one as the best:

(9)

Arika:	*Kore ne: …*	"Y'know, this..."
Mother:	*Sore nani?*	"What is that?"
Arika:	<u>*Anoo ne*</u> *kore Arichan ga ne: honto(o) ni ne katta itte ikitakatta* [kai ni ikitakatta].	
	"Y'know, Arichan (Arika, I) really wanted to go buy this."	
Mother:	*Arichan ga kattai [: kaitai] tte itta kara katta no?*	
	"Arichan (Arika, you) bought it because you said you wanted it?"	
Arika:	*Un.*	"Yes."

(Arika at 3;3.11, File ArikaM30311.cha: line 548)

(10)

Mother:	*Natchan dono omocha ga suki?*	
	"Natchan (Nanami), which toy do you like best?"	
Nanami:	<u>*N:*</u> *kore ga ii.*	"Hm... I like this best."

(Nanami at 2;5.22, File 20522.cha: line 878)

(11)

Mother:	*Kore n(o) naka de wa dore ga ii*?	"Which do you like best in this ?"
Nanami:	<u>*Anoo:*</u> *<anone> [/]* <u>*anoo:*</u> *kore ga ii.*	"Y'know, y'know, y'know, I like this."
Mother:	*<Un>.*	"Hm."
Mother:	*Kore ga ii no?*	"You like this?"

(Nanami at 2;5.22, File 20522.cha: line 895)

Although there were wide individual differences in the frequency of *anoo-*, *etto-*, and *n:-* related fillers in the children's responses, as early as three years of age, they had already begun to use these fillers to buy time to search for related concepts in the mental database and proper words in the lexicon, while holding the listener's attention to upcoming responses.

Turn- and Utterance-internal Fillers

Children tended to utter turn- and utterance-internal fillers, or the fillers midway through the utterance, not only for the retrieval and increment of information and word search, but also for utterance repair. Kubota (2022) argued that children's utterance-internal fillers "signal an initiation of speech repair and replanning to draw the listener's attention and make their messages more informative and perspicuous" (pp.80-81). The children seem to have repaired their speech not merely through repetition, but also by using fillers to gain time and momentum to produce long utterances. As seen in Tables 2, 3, and 4, Arika, Asato, Nanami, and Tomito used *anoo-*related fillers frequently to repair what they had just said, whereas Jun used *etto-*fillers slightly more often than *anoo-*related ones (21 vs. 23, respectively). Tomito uttered *n:-*related fillers utterance-internally (6 times), while the other children hardly uttered it.

From the mental operations through fillers by Sadanobu (2010) and Sadanobu and Takubo (1995), the following assumptions are made. It seems that, while they were repairing with *etto-* and *n:-*related fillers, the children were planning to organize ideas by securing the working space in the buffer before deciding what to say. If they started repairing with *anoo-*related fillers, the children only had to change what to say, unless it required a change in the concepts through extensive memory retrieval or reconceptualization for a word search. Kubota (2022) posited three categories of repair: repetition, replacement at the linguistic level (phonological, lexical-semantic, and morphosyntactic), and reformat (i.e., modifying or rephrasing a message through syntactic restructuring). For the latter two, replacement and reformat, it is presumed that the longer and more complex these operations

become, the more difficult it gets to start operations in the mental database in search for proper concepts leading to proper words. Thus, it should follow that the longer it takes to carry out mental operations for proper concepts to be organized into words, the more likely *etto*-related fillers are used rather than *anoo*- and *n:*-related ones. However, the children used *anoo*-related fillers regardless of the repair types. For example, in (12), Asato utters *ko:n(na)* before *anone* and repairs the word by adding information to specify the part of the character's body that was shining. Sometimes repairing after the filler did not work and led to a failure of clarification. (13) is an example in which Tomito fails to repair what he means after *anoo* and ends up repeating it, leaving the listener (i.e., his mother) unable to understand what he means. In (14), in the make-believe, Tomito gets irritated because his mother is not going to put his favorite rice balls in the lunchbox. Then, he repairs his initial speech through *anone* and emphasizes where to put the rice balls to make her meet his request. In (15), Nanami uses *ano(ne)* to add a few words to the word *onigiri* and many words to clarify his intention. Similarly, Tomito utters *anoo* for reformatting by adding words to make a request in (16). Both children wanted their mothers to comply with their requests, which seems to have prompted them to say *anoo*-related fillers rather than self-reflecting *etto*-related ones:

(12)

Asato:	*Shiirudoraigaa hikatta toki ne.*	"When Shieldrider flashed."
Mother:	*Un.*	"Hm."
Asato:	*Ko:n(na), anone koko ga ne ko:nna natteta.*	
	"Like this, y'know, this (part of Shieldrider) was shining like this."	
Mother:	*Un.*	"Hm."
Asato:	*Koo natteta.*	"It was shining like this."

(Asato at 3;9.18, File 30918.cha: line 1211)

(13)

(Mother and Tomito are reading a picture book about vehicles.)

Tomito:	*A:, chitchai no.*	"Ah, a small one."
Mother:	*Chitchai no.* (Confirming what he says)	"A small one."
Tomito:	*Ugoku, ugoku yatsu.*	"A, mobile, mobile one."
Tomito:	*Papa no tooi* [: kooiu] *yatsu, tore* [: kore] *tte Papa no anoo tooi* [: kooiu] *yatsu.*	
	"Daddy's one like this, this, Daddy's, y'know, like this."	
Mother:	*Papa no kooiu yatsu ja Mama wakannai yo:.*	
	"Mom (I) don't understand 'Daddy's one like this'."	
Tomito:	*A, a: yatteru* [?] *yatsu no.*	"Ah, (unknown) one."

(Tomito at 2;3.15, File 0315.cha: line 1996)

(14)

(In the pretend play of making a box lunch)

Mother:	*Oniku, oniku wa doo desu ka?*	"Meat, how about meat?"
Mother:	*Oniku wa pettan.* (Pretends to flatten meat)	"I am flattening the meat."
Nanami:	*Onigiri oni, anone moo, obentoobako ni onigiri irete!*	
	"Rice balls, rice-, y'know, c'mon, put rice balls in the lunchbox!"	

(Nanami at 2;10.20, File 21020.cha: line 1996)

(15)

(Mother backchannels with un 'Uh-huh' at the end of the phrase with < >)

Nanami: *Ima ne: haino(ano) anone:< > anoo:* (pause) *N, Nanami ga ne* < > (pause)

ashoko(asoko) ni (pause) ima ne < > (pause) gohan chukutter (tsukutteru)
kara mattete kudasai!
"Now, y'know, y'know, y'know (pause) Nanami (herself) is there, now,
making a meal, so please wait!"

Mother: Ha:i. "Yes."

(16)

Tomito: *Okaashan (Okaasan), am (anoo) mijuro (mizuiro) nanka ano, anoo*
mijuiro (mizuiro) no furesshuhitachi kaite!
"Mom, y'know, lightblue, y'know, y'know, y'know, paint lightblue Fresh Hitachi
(train name)!"

Mother: Mizuiro no de? "In lightblue?"
Mother: Ao desho. "Blue, right?"
Mother: Ao no furesshuhitachi deshoo? "Fresh Hitachi is blue, right?"

Jun and Arika also use *etto*-related fillers like *anoo*-related ones in repairs to make a short phrase through linguistic replacement and a long phrase or utterance through conceptual and linguistic reformatting. For example, in (17), Jun first refers to the color of the insects as *kiiroi* "yellow," utters *eeto na*, and immediately repairs the word to *guriin* "green." In (18) he stops saying the word *bareebooru* "volleyball" when he utters the first syllable *ba*, utters *anona* immediately, and then rephrases it to *Eechan no bareebooru* "my elder sister's volleyball." Arika also uses both *etto*- and *anoo*-related fillers regardless of the size and type of repairs. In (19), as a clerk, Arika starts her second utterance with fillers *eetto* and *anoo* initially to explain why she wants the customer (i.e., her mother) to wait and repairs the explanation by using *eetto* by switching the word *chuumon shita* "ordered" to the polite equivalent *onegai shita*. She adds the reason that the pizza being ordered is still hot and that the customer has to wait. Similarly, to retrieve proper words from her lexicon, in (20), Arika uses *anoo* and *anoo saa* in the middle of her utterance to make the correct inflection of the verb *kau* for the benefactive case *katte kurete*, resulting in the wrong form *katte moraite*, only to get her mother to correct it.

(17)

(Father and Jun are looking at a picture book)

Father: *Batta.* "It is a grasshopper."
Jun: *Batta, batta chau de.* "It is not a grasshopper."
Jun: *Konna kiiroi, eeto na, guriin no ya de.* "Like this, it is yellow, y'know, green."

(18)

Father: *Doko ni atta ka nee?* "Where is it?"
Jun: *Ba, anona , Eechan* [Neechan] *no bareebooru shoo ka.*
"Vo, y'know, let's play with my elder sister's volleyball."
Father: Neechan *no bareebooru.* "Your elder sister's volleyball."

(19)

Arika: *Ah, matte kudasai!* "Ah, please wait!"

Mother:	*Hai.*	"OK."
Arika:	*Eetto: anoo* (sigh) *piza o chuumon shita yatsu o: one-, a <u>eetto</u> onegai shita*	
	yatsu o: chotto ima yaketa tokoro desu kedo achiku [atsuku] *natchaimasu kara:.*	
	"Y'know, y'know, the pizza you ordered, y'know, the pizza (saying politely)	
	you ordered, it is fresh from the ovenIt will be hot, so ..."	
Mother:	*Hai.* (upon *chuumon shita yatsu o:*)	"OK."
Mother:	*Hai.* (upon *onegai shita yatsu o:*)	"OK."

(Arika at 3;11.4, File 31104.cha: line 1154)

(20)

Arika:	*Akko.*	"Akko (Mother)."
Mother:	*N?*	"Hm?"
Arika:	*Yubiwa kashi(te), <u>anoo</u>, ka, <u>anoo saa</u> katte moraite(kurete) arigatogozansu.*	
	"A ring, kashi*, y'know, ka*, y'know, katte moraite (thank you for buying the ring."	
Mother:	*Arigatogozansu?* (Laughing) "Thank you?"	
	(Mother laughs because Arika's 'Thank you' sounds too old-fashioned.)	
Mother:	*Yubiwa o katte kurete desho, sore iu nara.*	
	"You should say katte kurete '(thank you) For buying'. "	

(Arika at 3;10.03, File 31003.cha: line 265)

As these examples show, these children were not ready to distinctively use these three types of fillers in utterance-internal positions, as they were not ready to do so in utterance-initial positions.

Concluding Remarks

The findings mentioned in chapter 6 should be analyzed further in light of the working hypotheses given in chapter 4:

1. In light of the development from one- to multi-word stages, children's utterance-initial fillers are assumed to appear earlier and more often than their utterance-internal ones.
2. Based on Shiozawa (1979), as seen in chapter 3-2, children's use of fillers is assumed to develop in the following order:
a. silence (until 3;0.);
b. most easily articulated sounds such as $/n:/ /n:(to):/$, and $/(n:)to(:)/$ (from 3:0 to 5;0), and repetition of preceding words; and
c. $/eeto/ /anone/$, and $/ano/$ (from 5:0 to 12;0).

Hypothesis 1 was confirmed as utterance-initial uses (both freely and in response to questions) were more frequent than utterance-internal ones among almost all children. For Hypothesis 2-a, it was impossible to check the length of between-word silence in place of a filler in the data mainly because of noises and low sonority in most situations. Shiozawa (1979) noted that children in the lower grades at elementary school made unique intonations and accents on particles for some prosodic effects on an utterance, which is similar to adults' use of *ma* and *ee*. Such prosodic features (i.e., regarding intonation and accent) of children's fillers were not closely investigated in this study. They should be dealt with in future research to explore the children's awareness of prosodic effects in the fillers. Results confirm the order of 2-b and 2-c. Earlier than predicted by Shiozawa, children seemed to have become adept at commanding *anoo*- and *etto*-related fillers. As depicted in Tables 1, 2, and 3, children uttered

anoo-related fillers most often although no tendency in accumulation with age was found. Phonetic readiness and interpersonal eagerness to fill the silence in one's speech turn seemed to account for the children's frequent use of *anoo*-related fillers. *N*:-related fillers started with a nasal sound produced with the mouth closed, whereas *ano:*- and *etto*-related fillers begin with a vowel /a/ and /e/, which are pronounced by opening the mouth. Given this difference in articulation, the children seemed quick enough to utter those vowel-based fillers to fill in the silence in their turn. As seen in Arika and Asato, this was partly because of the children's understanding of polite and modest use of *anoo*-related fillers in formal situations through make-believe interactions, such as customer-shopworker scripts. Whereas there were individual differences in the use of fillers, it is assumed that the children were still much too young to differentiate among the use of *ano:*-, *etto*-, and *n*-related fillers in relation to the awareness of the listener's presence and the retrieval processing of background information and suitable linguistic structuring.

Compared to *ano*-related fillers, other similar demonstrative-based fillers such as *sono* and *kono* were very few in the data, along with adverbial-based fillers such as *maa, yappari*, and *nanka*, although the children must have heard such fillers frequently in everyday conversation and media. For future research, mothers' use of such fillers need to be analyzed for a comparison with their children's use. It is likely that the former influenced the latter in taking speech turns and speaking by thinking about what to say while keeping the speech turn.

Notes

1   This study does not deal with the fillers in the prelexical position of words. Pepinsky et al. (2001) and Veneziano (2014) argued that young children acquiring languages like English, French, and Italian tend to produce segmental and/or syllabic sounds in front of words (e.g., /ə/ in ∂dog, ∂'hot, and /n/ in n'*down*, n'go), which suggest the children's assumption or attempt to place grammatical morphemes in the syntactic slots before the words. Fillers like *um* and *uh* may also be inserted in the prelexical position with little or no pause between the fillers and words. This study does not deal with that use of fillers, but the use of fillers with a clear pause between them and the subsequent words.

2   For those fillers' detailed classifications based on grammaticalization and multi-functionalization, see Koide (2009).

3   The notation of a child's age (year, month, day) follows the CHILDES data description rule.

4   The MLUs in the corpus are referred to as the *MLUm, or MLU specialized for morphemes, by Miyata and Nishisawa (2020), who gave the MLUms with the following command: mlu +d1 +t%mor +b- +b# +b+ -t* +t*filename -sonoma* -sco:* -sn:let* @. For details, see Miyata (2012).

5   The fillers in which the last syllable's vowel lengthens (e.g., *anoo* /ano:/, *ettoo* /etto:/) were included in the group with the fillers holding the same first two syllables. Final vowel lengthening in the fillers signal to the listener that the utterance is still being constructed and that the speaker is giving the listener a chance to make sure of the meaning of the utterance. For details, see Yokomori (2017).

6   In the Japanese phonetic system, /a/ can be represented as <a> as the open central unrounded vowel, whereas /e/ can be represented as <e> as the mid-front unrounded vowel. For details of Japanese phonetics, see Wikipedia: https://en.wikipedia.org/wiki/Japanese_phonology

7   For readability, excerpts from the transcribed data are simplified by removing CHILD-specific codes and notes given in the original.

Acknowledgments

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