

The frequency and distribution of *um* and *uh* in acquisition

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Background

Children encounter production delays in conversation - especially turn-initially, when the demands of planning and producing an utterance slow down turn-timing.^{1,2,3}

Adult speakers use pragmatically meaningful delay markers (DMs) like *um* and *uh* to hold the floor when they encounter production problems.⁴

The developmental trajectories of *um* and *uh* might be different: children need turn-initial DMs less as they get better at turn-timing, and turn-medial DMs more as they learn the pragmatics of conversation.

Main question:

How does the frequency and distribution of delay markers change during first language acquisition?

Predictions

- DMs more frequent in question-responses than child-initiated turns; answering questions requires simultaneous understanding and planning.⁵
- DMs more frequent for wh- than polar questions; wh-questions more demanding.⁶
- DM position related to turn-type; more turn-initial DMs in question-responses, as turn-timing demands more acute.
- Turn-initial DMs decrease, turn-medial DMs increase over time; children get better at turn-timing and learn to manage longer turns.

Study 1: 'Shem' Case study

Do these initial predictions hold?

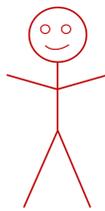
Methodology

turn-initial
um we should invite the mouses to play

turn-medial
I think um let's play...

Shem, English-speaking monolingual child

every DM coded for position in the turn



corpus data from 2;2 to 3;2

every child-produced utterance coded for type

wh-question response
what is this called? um a mouse

polar question response
have you been to a circus? um yeah

child-initiated turn
um let's play a game

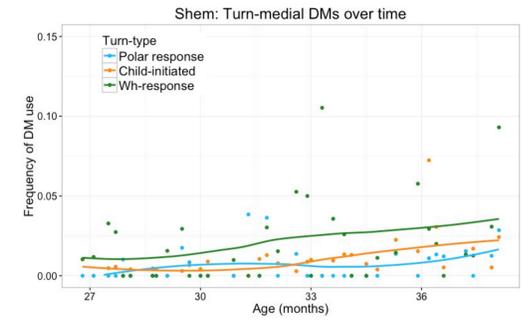
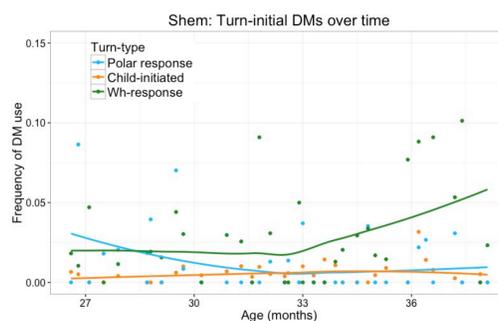
Results

- ✓ DMs more frequent in question-responses than child-initiated turns ($\chi^2(1, N = 305) = 36.57, p < 0.001$)
- ✓ DMs more frequent in response to wh- vs. polar questions ($\chi^2(1, N = 153) = 36.38, p < 0.001$)
- ✓ Turn-initial DMs significantly more likely in question-responses, turn-medial DMs in child-initiated turns ($\chi^2(1, N = 305) = 27.15, p < 0.001$)

Turn-type	Frequency	Turn-initial	Turn-medial	Total N
Wh-question	0.045	66%	34%	106
Polar question	0.017	66%	34%	47
Child-initiated	0.015	36%	64%	152

? Turn-initial DMs didn't decrease; for wh-questions they increased ($e^{\beta} = 1.130, z = 3.497, p < 0.001$)

✓ Turn-medial DMs increased ~22% per month ($e^{\beta} = 1.182, z = 6.658, p < 0.001$)



➤ More complex child-directed questions (*why, how*) increased at the same time, suggesting that CDS becomes more complex as children's linguistic and turn-timing skills develop - as observed by others⁵

Study 2: 'Providence' Corpus study

Do the patterns generalize?

Methodology

- 5 children (3 girls, 2 boys) from the Providence corpus
- Data from regular recordings between 1;4 and 3;4
- Every DM coded for turn-position and turn type, every child-produced utterance coded for turn-type

- Huge variation in the frequency of DM production: children who used the most showed similar patterns to Shem
- Lexicosyntactic competence (quantified by IPSyn, VOCD, MLU and DSS) did not directly relate to DM frequency
- Exposure to DMs in child-directed speech also did not fully account for the variation
- All children increased turn-initial DM production over time, but displayed one of two broad patterns:

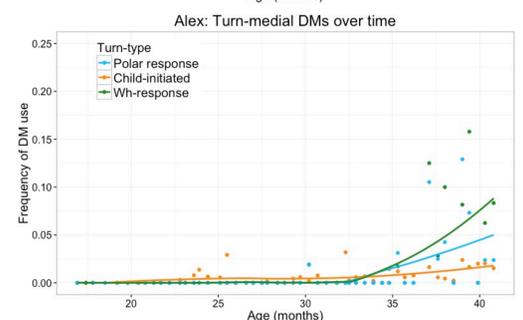
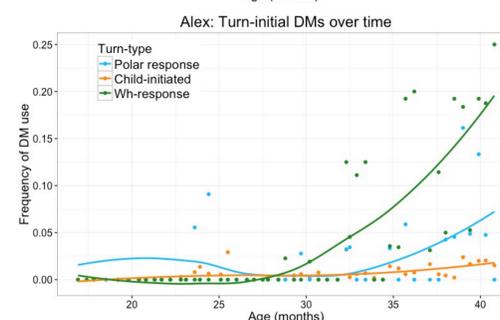
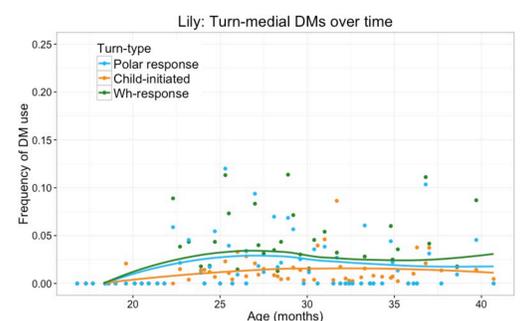
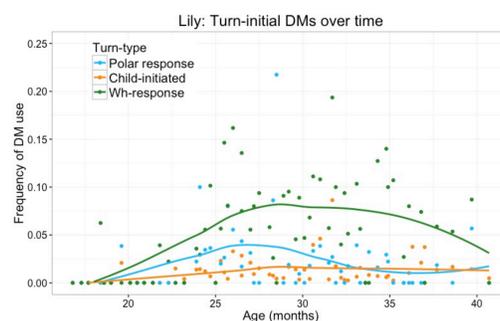
Pattern 1: DMs used early to hold the floor while lexicosyntactic competence develops

Pattern 2: DM production increases in line with conversational experience; turn-medial DMs acquired after turn-initial

- Together, this suggests that some children were still acquiring the pragmatic meaning of *um* and *uh* - only using them to hold the floor mid-utterance after having acquired them to mitigate turn-timing delays

Pattern 1

Pattern 2



Conclusions

- Children start using DMs as early as (1;8), but with varying frequency
- This variation is a product of input, lexicosyntactic competence, sensitivity to pragmatic information, and a desire to hold the floor
- Children begin using DMs turn-initially when turn-timing pressures are particularly acute, and then begin producing turn-medial DMs to manage delays in more complex utterances

References

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