

Delay Markers (*um, uh*) in Acquisition

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Background

- Adult speakers use delay markers (DMs) like *um, uh* to hold the floor during production delay (Clark and Fox Tree, 2002)
- Children start producing DMs from age 2;0. They use fewer than adults, despite being more likely to encounter delay (Kidd et al. 2007) – suggesting that it takes a while to fully acquire their pragmatic meaning
- Young children are particularly likely to experience delay turn-initially (e.g. Casillas 2014)
 - As inexperienced speakers, the cognitive demands of planning and producing an utterance slow turn-timing down (Gratier et al. 2015, Hilbrink et al. 2015)
- So children may use DMs to mitigate turn-timing delays, and to hold the floor mid-utterance, as adults do
- Previous work hasn't considered that each of these uses may have distinct developmental trajectories, and be associated with particular distributional features, such as:
 - DM position in the turn (turn-initial, turn-medial)
 - Type of turn it occurs in (questions, child-initiated utterances)
- Investigating how the frequency and distribution of delay markers changes during acquisition lets us better understand when children master turn-timing in interaction, and how / when children start managing their turns like adults do

Current study

General question:

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

Predictions

- DMs more frequent in response to questions than child-initiated turns
 - Children must simultaneously understand a question while planning an appropriate response (e.g. Casillas et al. 2016)
- DMs more frequent in response to *wh*-questions than polar questions
 - Wh*-questions more demanding than polar ones (Levinson and Torreira 2015)
- DM position related to turn-type: turn-initial DMs will occur in response to questions, and turn-medial DMs in child-initiated turns
 - Turn-timing demands are more acute for questions
- Turn-initial DMs decrease over time while turn-medial DMs will increase
 - Children get better at turn-timing over time, reducing turn-initial delay, and learn to hold the floor mid-utterance as they attempt longer, more complex turns

Study I: 'Shem' case study

Study I: Do these initial predictions hold?

Methodology

- Corpus of 40 transcripts featuring one English-speaking monolingual child, 'Shem', aged between 2;2.16 and 3;2.02
- Every child-produced turn was coded for type, every DM for its turn-position

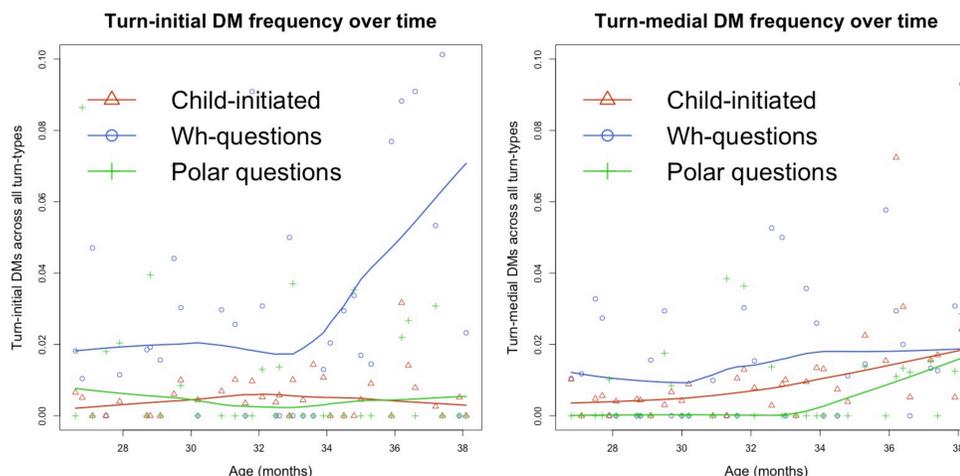
Turn-type	Example
Wh-question	Cindy: What do you want to make to go with the snowman? Shem: um (.) a people walking to it
Polar question	Cindy: Have you ever been to a circus? Shem: um (.) yeah
Clarification Request (CR)	Cindy: and your mommy gave him the money ? Shem: um (.) yep (.) there you go
Child-initiated	Shem: um first (.) ya hafta get duh [: the] dough out
Turn-position	Example
Turn-initial	Cindy: who should we invite ? Shem: um duh [: the] mouses
Turn-medial	Cindy: what should we play ? Shem: a (.) I think um let's pl um I ...

Results

- DMs occurred more often in response to questions than in child-initiated turns ($\chi^2 (1, N = 305) = 36.57, p < 0.001$)
- And more often in response to *wh*-questions than polar questions ($\chi^2 (1, N = 153) = 36.38, p < 0.001$)
- Turn-position and turn-type were significantly related: turn-initial DMs were more likely in response to questions, and turn-medial DMs in child-initiated turns ($\chi^2 (1, N = 305) = 27.15, p < 0.001$)

Turn-type	Frequency / all utterances	Turn-initial	Turn-medial	Total N
Wh-question	0.045	66%	34%	106
Polar question	0.017	66%	34%	47
Clarification Request (CR)	0.008	55%	45%	20
Child-initiated	0.015	36%	64%	152

- Turn-medial DMs increased by around 22% per month ($p < 0.001$)
- Turn-initial DMs also increased, contra prediction



- The increase was only significant for *wh*-questions, and the frequency of more complex child-directed *wh*-questions (*why, how*) also increased around the same time
- This suggests that the complexity of child-directed speech increases in tandem with children's linguistic and and turn-timing skills (as proposed by Casillas et al. 2016)

Study II: Providence corpus study

Study II: Does this pattern of DM use hold more generally?

Methodology

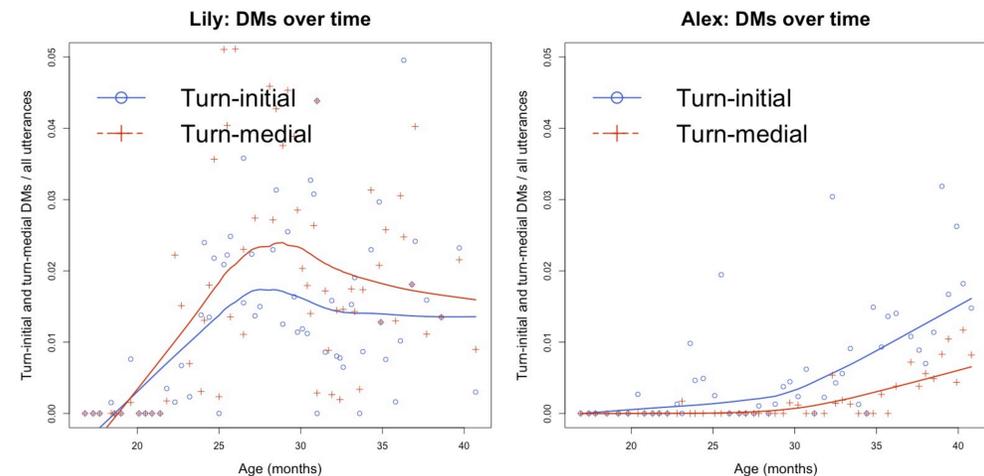
- Study of DM use in 5 children (3 girls, 2 boys) from the Providence corpus
- Data from regular recordings of 5 children aged between 1;4 and 3;4
- Every DM coded for turn-position and turn type

Results

- Substantial variation in DM production overall – from 0.0022 to 0.0327 DMs/turn – but all children increased DM use over time
- Children who used DMs more frequently were more likely to show similar distributional patterns to Shem
- Complexity of the children's speech (quantified by IPSyn, VOCD, MLU and DSS) did not directly relate to their DM frequency
- Exposure of DMs in child-directed speech also did not fully account for the variation
- This suggests that some children were still acquiring the pragmatic meaning of *um* and *uh* in interaction – thus did not exhibit the predicted distributional patterns
- Instead, the children showed one of two broad patterns of DM acquisition:

Pattern I: Early usage of DMs, which are then used as for floor-holding while lexicosyntactic competence develops

Pattern II: DMs introduced as conversational experience gradually develops; first used turn-initially to mitigate turn-timing delays



Conclusions

- Children begin to use delay markers in conversation as early as 20 months (1;8), but the frequency with which they do so varies
- This variation is likely a product of the speech they hear, lexicosyntactic competence, sensitivity to pragmatic information, and a desire to hold the floor
- Further investigation is needed, but this study suggests that children begin using DMs turn-initially when turn-timing pressures are particularly acute; as these lessen, turn-medial DMs are used to manage delays in more complex utterances

References

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