We explored how the acoustic features in IDS and ADS, and tasks within IDS, changed across repeated word tokens. To review, we found that both mean pitch and speech rate changed across target word occurrences within IDS. Specifically, mean pitch increased over occurrences and speech rate increased across occurrences. However, pitch range had no significant effect (see Table 3). In a post hoc analysis, we examined whether target word occurrences showed similar effects in ADS. These models included Fixed effects for Task (Object description, Map, Storytelling; reference level = Storytelling) and previous word occurrence counts (centered) for each subject across the experiment within the ADS condition, and by-Speaker and by-Word random intercepts. Results revealed that mean pitch, pitch range, and speech rate did not significantly change over additional word occurrences in ADS (p > 0.05) (see Table S1).

*Lmer syntax: feature ~ task + word + (1 | subject) + (1 | word)*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **f0 centered** | **range centered** | **rate centered** |
| *Predictors* | *Estimates* | *CI* | *p* | *Estimates* | *CI* | *p* | *Estimates* | *CI* | *p* |
| (Intercept) | 0.74 | -0.26 – 1.73 | 0.146 | 1.56 | 1.10 – 2.02 | <0.001 | 0.17 | -0.21 – 0.56 | 0.377 |
| task [objectdescription] | -1.49 | -1.82 – -1.16 | **<0.001** | -0.03 | -0.31 – 0.25 | 0.852 | -0.49 | -0.66 – -0.33 | **<0.001** |
| task [map] | -2.43 | -2.75 – -2.11 | **<0.001** | -0.18 | -0.45 – 0.09 | 0.185 | 0.02 | -0.11 – 0.15 | 0.780 |
| word occurrence cond c | -0.01 | -0.05 – 0.02 | 0.397 | -0.02 | -0.05 – 0.01 | 0.146 | 8.134e-04 | -0.01 –0.01 | 0.905 |
| Random Effects |
| σ2 | 15.01 | 11.05 | 4.07 |
| τ00 | 8.15 subject | 0.79 subject | 0.30 subject |
|  | 0.73 word | 0.40 word | 0.39 word |
| ICC | 0.37 | 0.10 | 0.15 |
| N | 42 subject | 42 subject | 42 subject |
|  | 14 word | 14 word | 14 word |
| Observations | 5744 | 5744 | 5940 |
| Marginal R2 / Conditional R2 | 0.041 / 0.397 | 0.001 / 0.098 | 0.003 / 0.308 |

**Table S1**

Fixed and random effects parameters of the ADS between tasks models.