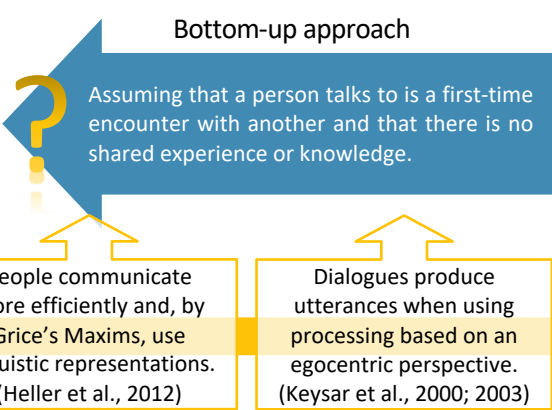
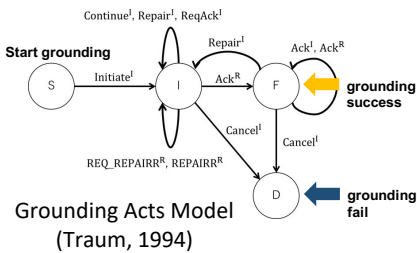
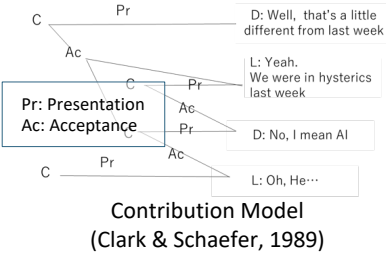
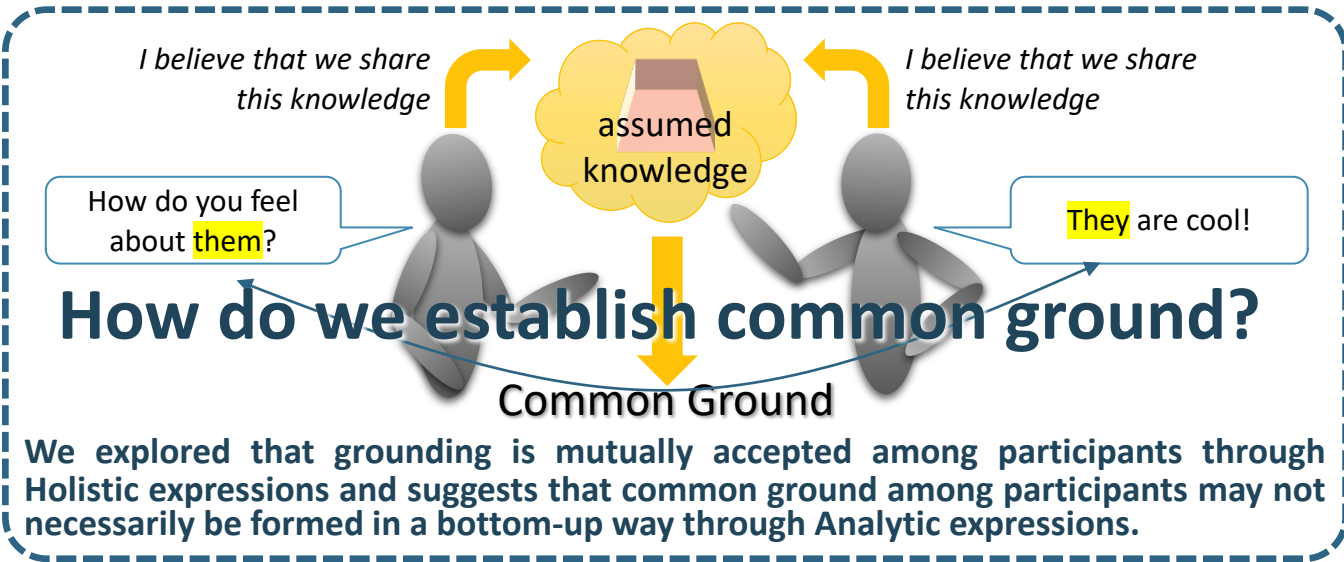


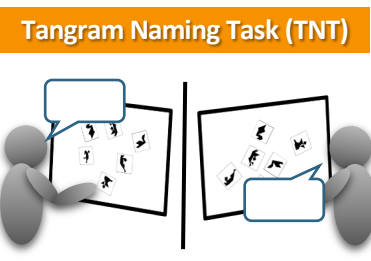
A Speculative and Tentative Common Grounding Handling for Efficient Composition of Uncertain Dialogue

Sudo, S., Asano, K., Mitsuda, K., Higashinaka, R., & Takeuchi, Y.

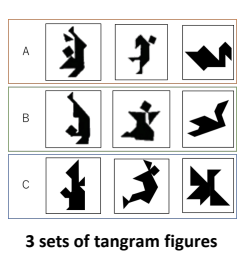


Hypothesis
People attempt to infer the beliefs of others not only from linguistic information but also from the other's behavior and the context of their actions.

Applying Top-down approach



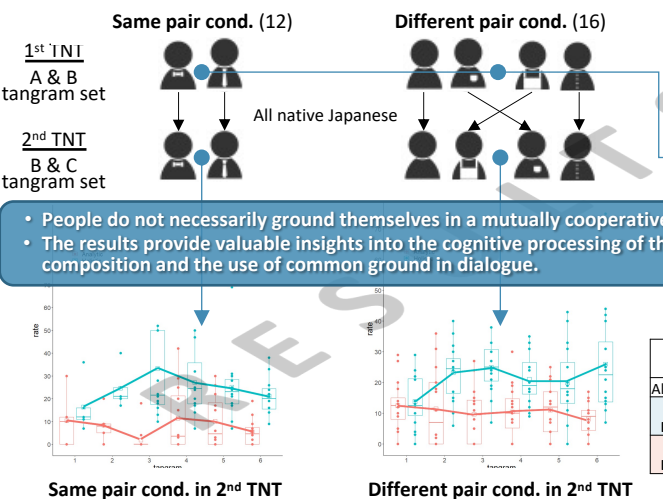
- 2 participants in 2 separated environments, respectively
- The same figure set (6 tangram figures) is shown for each participant pair
- Random arrangement and tilt for each tangram figure
- Participants are freely allowed to move or rotate the tangram figures on the monitor screen
- Participants know nothing about the condition of others' screens
- Participants find and name all 6 tangram figures to which the other mutually refer only via their voice within 30 minutes
- The experimenter records the participants' dialogue (voice) and captures each participant's monitor screen (video) ---> data for analysis



Annotations for utterance data

Analytic Expression
Speech specifically describes the individual polygons that make up the tangram shape and where they are located in the overall shape.

Holistic Expression
An utterance that subjectively describes the whole or part of a whole tangram shape without mentioning the polygons that make up the tangram (e.g. "it looks like," "it seems").



1 st TNT session			
28 sets of dialogue		6,282 utterances	
2 nd TNT session			
Same pair cond.		Different pair cond.	
12	1,622	16	2,735

The graph displays mean ratings for two sessions across six dialogues. The 1st TNT session (teal line) consistently shows higher mean ratings (ranging from approximately 20 to 35) compared to the 2nd TNT session (red line, ranging from approximately 7 to 13). Error bars indicate the variability within each condition.

Dialogue	1st TNT session (Mean)	2nd TNT session (Mean)
1	~20	~10
2	~25	~12
3	~20	~10
4	~25	~8
5	~32	~7
6	~25	~10

All pairs in 1st TNT

	1 st TNT session	2 nd TNT session	
		SP cond.	DP cond.
ces	224.36	135.17	170.94
on	46.86 (20.89%)	28.67 (21.21%)	29.38 (17.19%)
c on	24.79 (10.90%)	9.34 (6.90%)	16.69 (9.76%)