Coding verbal interaction in group work

a. we code verbal interaction between students during group work from video-recordings
b. verbal interaction between students is operationalized as verbal communication from one student in the group to another student in the group
c. basic unit of interaction is an **relational event**
d. relational event represents a verbal utterance from one student to another with a continuous thematic meaning
e. relational event starts with first word of the student and ends with the last word of the student constituting a continuous thematic piece of communication
f. each relational event has a sender, a receiver, and a time when it occurred measured in seconds
g. relational events are timestamped and follow in order they were uttered
h. we code only verbal communication – non-verbal communication is therefore not included
i. we code only interaction based on on-task communication – that is communication relating to the task the group is working on – it includes substantive communication relating to solving the task, but also communication around organizing students' workload
j. we do not distinguish between different types of interaction – e.g., questions, answers, comments – as long as it is an on-task communication
k. the directionality of the relational event (i.e., denoting the sender and the receiver) is determined by the following verbal and non-verbal cues from most to least preferable:
    1. Student A explicitly calls a name of Student B – making Student A a sender and Student B a receiver
    2. Student A maintains eye contact with Student B while speaking – making Student A a sender and Student B a receiver
    3. Student A makes a physical contact with student B to get their attention (e.g., taps on their hand) – making Student A a sender and Student B a receiver
    4. Student A responds to a question of Student B – confirming Student A a receiver and Student B a sender in the previous turn and making Student A a sender and Student B a receiver in the present turn
    5. Student A immediately follows on a topic of Student B from the preceding turn – making Student A a sender and Student B a receiver
    6. if a student utters communication targeted at the whole group, we do not include a receiver and mark it as an utterance targeted at the whole group
l. if a student utters two or more pieces of communication aimed at different classmates, we code it as two (or more) separate consecutive relational events with sender being the student uttering the communication and receivers being the students the utterances were aimed at
m. if a student utters two or more pieces of communication with a clear thematic distinction, we treat it as two (or more) separate consecutive relational events