Effects of Group Size on Gestural Viewpoint in Children.

Chris Ballinger
Dan Liu (Michelle)
Naomi Jasa
Zuleima Avalos
Research Question

Do differences in group size have an effect on the frequency of **Character vs. Observer** viewpoint gestures produced by a single speaker?
Hypothesis

A change in group size will affect the ratio of character to observer gestures produced by an individual.

In the bigger groups, we expect children to use a higher frequency of character gestures in order to convey more detailed information—increasing the likelihood of group understanding.
What do we know about Viewpoint?

Three complementary aspects (*Parrill, 2012*)

- Conceptual viewpoint, mental representation based on visual perception of the real or imagined physical location
- Linguistic viewpoint, indicated by the various linguistic devices (lexical choice, tense, etc)
- Gestural viewpoint, indicated by the use of the body to encode different perspectives

Single/ multiple viewpoint gestures

- Example of Dual viewpoint Gestures (*McNeill 1992; Parrill, 2009*)
Theoretical Backgrounds

Dialogues is opportunistic (*Bavelas & Chovil, 2000*)

- Interlocutors “use whatever works in the moment”
- “Meaningful shift” in co-speech gesture viewpoint (*Stec, 2012*)

- What are the elements that affect this shift?
- Social context?
Group size

- Increasing the number of listeners changes gesture space and orientation (Özyürek, 2000)
- Gesture more frequently when speakers knew audiences could see them (Mol, Krahmer, Maes, & Swerts, 2011)

Character viewpoint, more “communicative”?  

- Cognitive preferences: children are taught to first produce character viewpoint gesture and next produce observer viewpoint (Godlin-Meadow, 2010)
- Multimodal expression: facial expression, vocal gestures in a face-to-face conversation
Operational Definitions

- Big Group:
  - 6 Individuals (5 listeners and 1 speaker)
- Small Group:
  - 4 Individuals (3 listeners and 1 speaker)
- Character Viewpoint Gestures:
  - the speaker as the actor/performing (McNeill)
- Observer Viewpoint Gestures:
  - the speaker shows the scene as if from afar (McNeill)
- Key moments:
  - events with noticeable actions or results from the video clips
Procedure
-Within Subjects Design
1. Observational period
2. Show a child (storyteller) a video clip
3. Have the child retell the story to a group of listeners (other children) of varying group size
   a. one-on-one
   b. small group
   c. big group
4. Record the interactions
5. Code
Procedure

Example of the types of cartoon clips that the storytellers would see:

https://youtu.be/X-MrExwBuY4 (0:00-1:26)
Materials

- Camera
- Laptop
  - on which to show the cartoon clips
- Location
  - the school’s library
- Round table
  - more conducive to conversations
  - simulates the “natural” shape that people take when talking in groups (Nuñez lecture 6)
Coding

Step 1: Transcribe all speech and gestures
Step 2: Code gestures used during key moments

transcribe all gesture units, gesture phases, gesture phrases, metaphorical gestures, iconic gestures, non gestures during key moments
Coding

Step 3: Split gestures during key moments according to the three group sizes
  one on one
  small group
  large group

Step 4: Code point of view of gestures in each group size
  Character viewpoint, observer viewpoint, other or none
  form and meaning
Coding Examples

Character Viewpoint Gestures
https://youtu.be/ufbElVZF-4g?t=134
2:14 - 2:28

Observer Viewpoint Gestures
Ex. Car Crash
Considerations

- Children’s previous stories could influence the way the current storyteller gestures
- They may tell their story again while at home or throughout the week
- Having the child perform the story several times could influence how well they know the story which could in turn influence the way they gesture
- Children’s relationship with the listeners
- Children could gesture or interrupt during the storytellers presentation
- Content of Story
- How the child is feeling on any given day
- Kids just tend to use first person gestures more
- Keeping up child’s motivation
- Short attention spans
- Potential gender differences
- Degree of introversion, extroversion
Why study group size and point of view?

Practical uses
- teaching children more effectively
- an additional method to learn/teach for people with stage anxiety

Theoretical uses
- better understanding of human interactions
- help see if different types of interactions affect the way people conceptualize scenarios
- evolutionary implications
The future of this topic

- Depending on the findings, we could ...
  - get permission to use gesture databases to find additional support for aspects of our study
  - perform a similar experiment with adults
  - focus more on group size alone and less on point of view
  - find additional information on introversion and extroversion
  - see to what extent content of gesture is important
  - see if the type of audience has an effect on point of view gestures
  - explore different types of gestures besides point of view
References

Cartoon Clip: https://youtu.be/X-MrExwBuY4
First Person Gesture Example: https://www.youtube.com/watch?v=ufbElVZF-4g


Questions?