

Small Group Discussion over the Access Grid: A Case Study

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Previous Work

- Video-Mediated Communication (VMC)
 - Task outcome measures
 - Effect for type of task?
 - Focus on interaction
- “Surface features” of conversation / interaction
 - Number and length of speaking turns
 - Overlapping speech
- What is video good for?

Research Question

Does the Access Grid (AG) support or hinder interactive discussion among distributed groups, as compared with a similar face-to-face group discussion?



Study Objectives

- Observational field study of small-group discussion
- Identify effects of the Access Grid on interpersonal communication
- Learn about how to do data collection on the Access Grid

Procedure

- Five two-hour sessions during Spring '01 (4 AG sessions, 1 F2F)
- Participants
 - Minority CS and EE grad students
 - 2 to 4 AG Nodes
 - 1 to 8 students per site
 - 3 to 15 total participants
- Videotaped for later analysis

Video Excerpts



April 12, 2001



May 3, 2001



July 26, 2001



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Slide 6 of 19

Analysis

- 20-minute segment from each session
- Surface features
 - Average length of speaking turn
 - Number of speaking turns
 - Group size
- Critical incidents

Criteria for Critical Incidents

AG system interferes with an utterance

Participants sharing one handheld microphone

AG system directly inhibits a speaker change

General audio problems

Behavior that wouldn't occur face-to-face

Looking at screen instead of collocated person

"Formal" moderator intervention

Explicitly "calling on" next speaker

Participant(s) unwilling to give up the floor

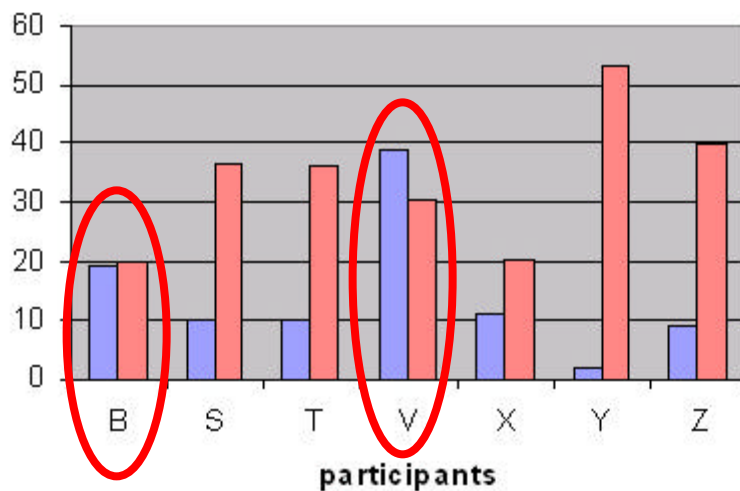
Extremely long speaking turn

Participant(s) reticent to contribute

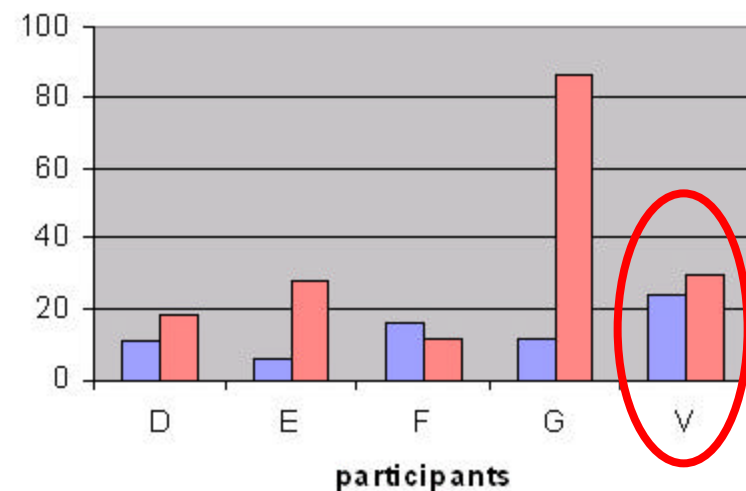
Long silence, waiting for someone else to speak

Results: Rap Session Participation (1)

DRS March 1, 2001



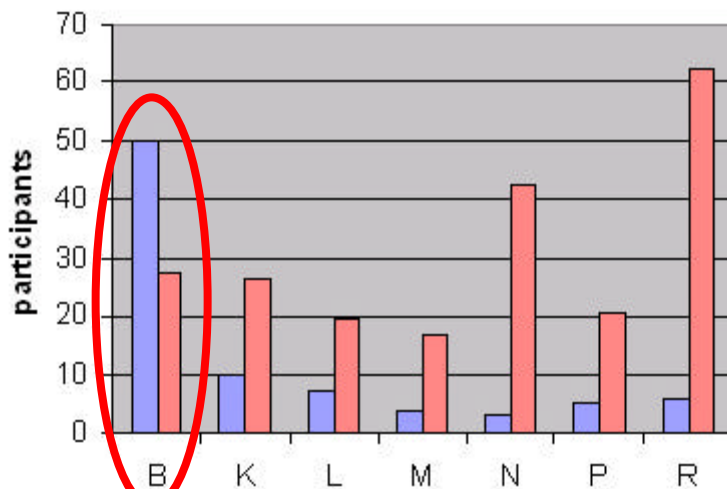
DRS March 29, 2001



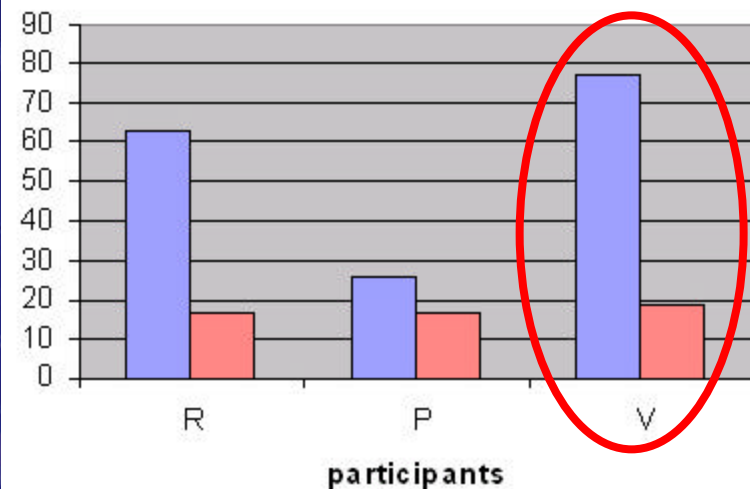
■ number of speaking turns
■ average speaking turn length

Results: Rap Session Participation (1)

DRS April 12, 2001



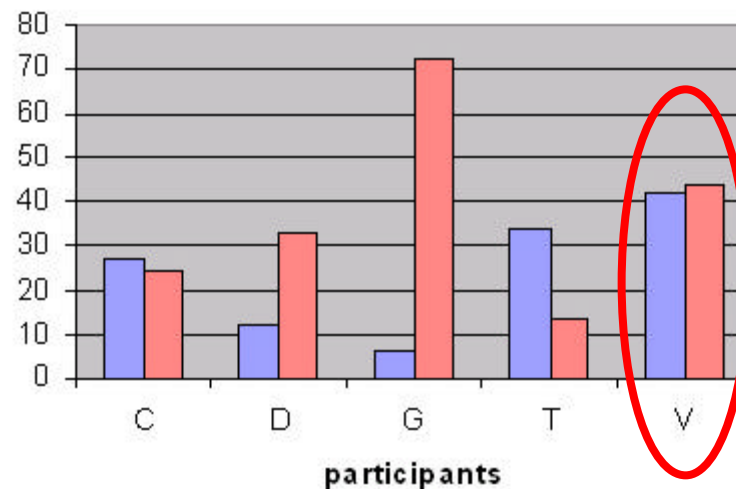
DRS May 3, 2001



- number of speaking turns
- average speaking turn length

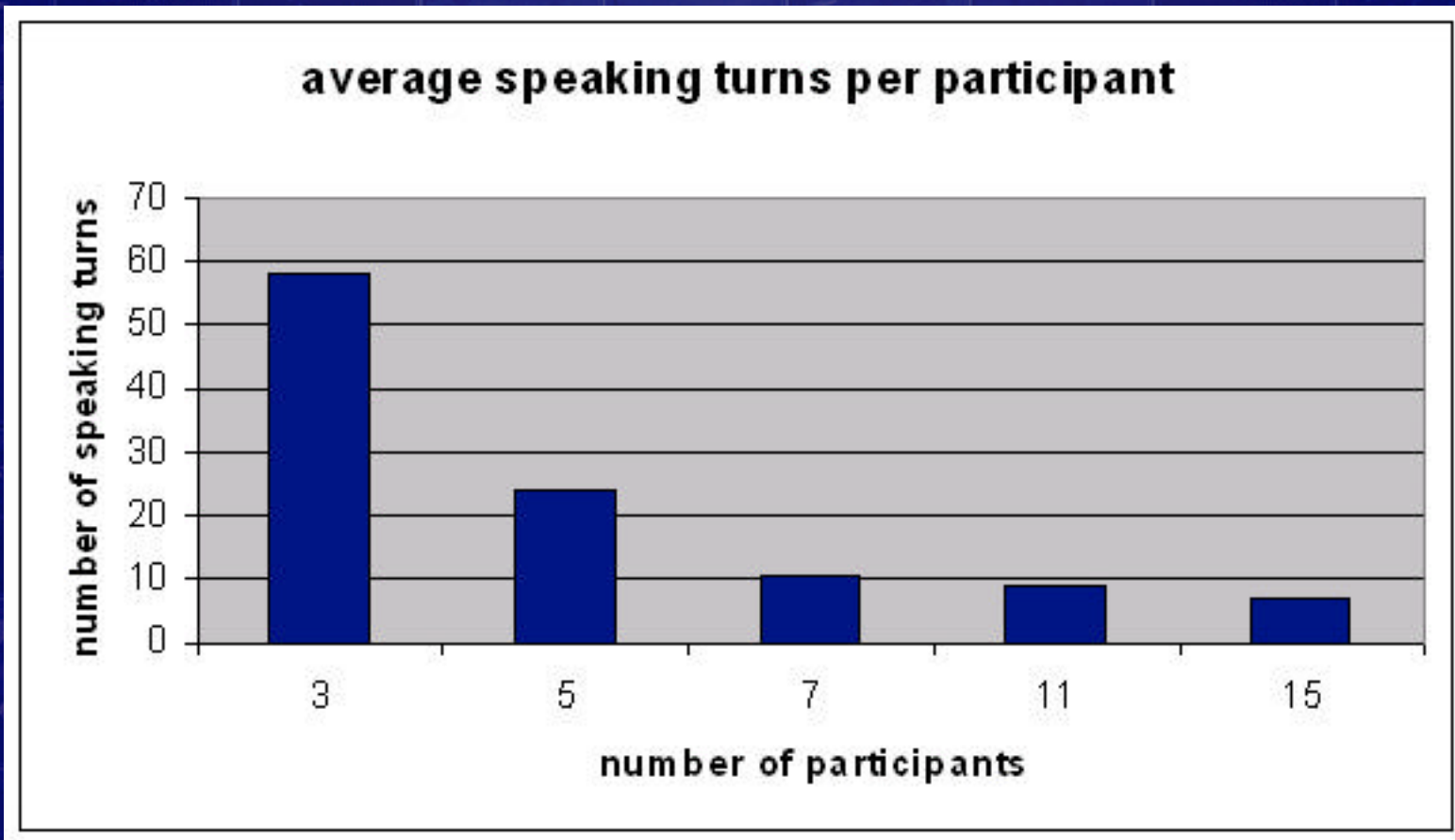
Results: Rap Session Participation (1)

F2F Session July 26, 2001

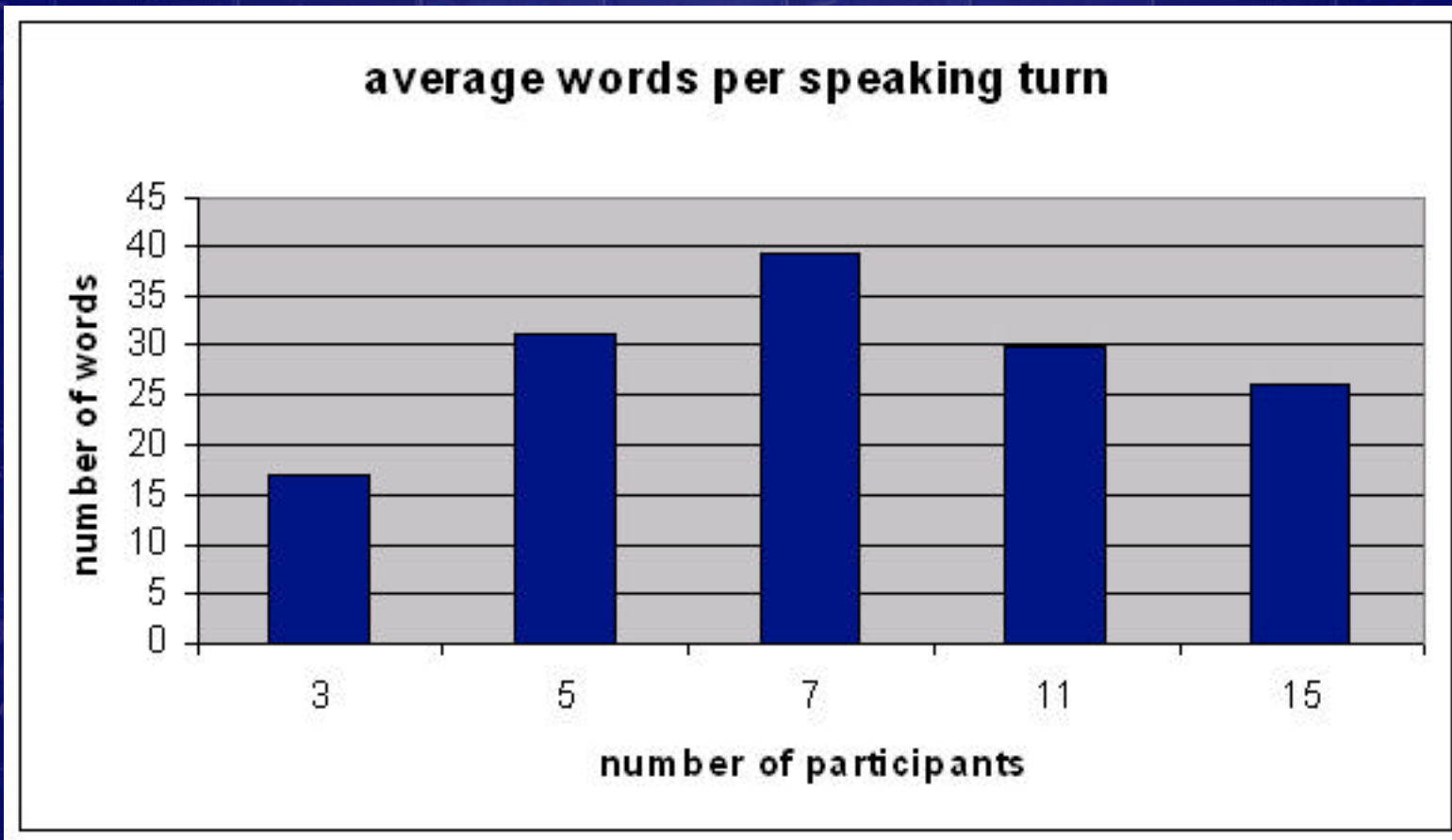


■ number of speaking turns
■ average speaking turn length

Results: Group Size (1)



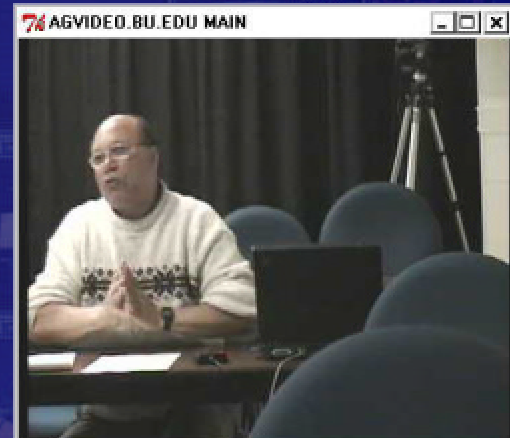
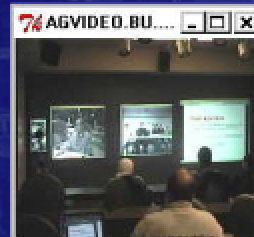
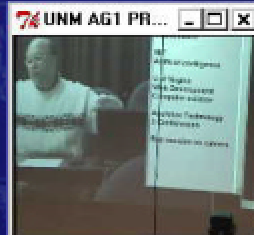
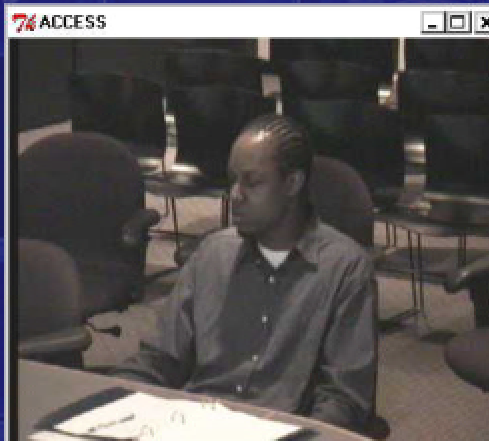
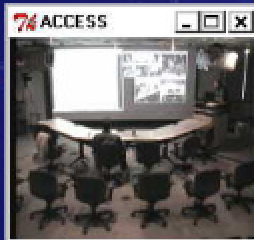
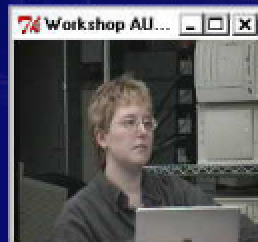
Results: Group Size (2)



Results: Critical Incidents

- Moderator Intervention
- Audience backchannel / nonverbal feedback
- Audio problems
- Camera management
- Adaptation to the AG

Implications: People "Get It"



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Implications: Design Constrains Use

- AG physical environment design impacts user behavior
- Audio constrained many interactions
- Better transmission of nonverbal cues
- **GROUP SIZE** also constrains use!

Take-Home Message(s)

- Data collection on the AG is challenging but worthwhile
- Smaller groups are more informal (duh!)
- Technology to support tasks, not conversation

For More Information...

- Contact Crysta or Emilee

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