

Grounding in Communication

HERBERT CLARK & SUSAN BRENNAN, 1991

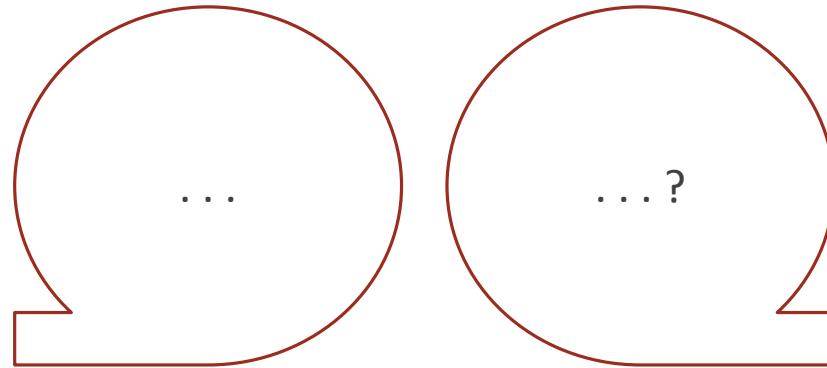
presented by
Laura Frädlich

Content

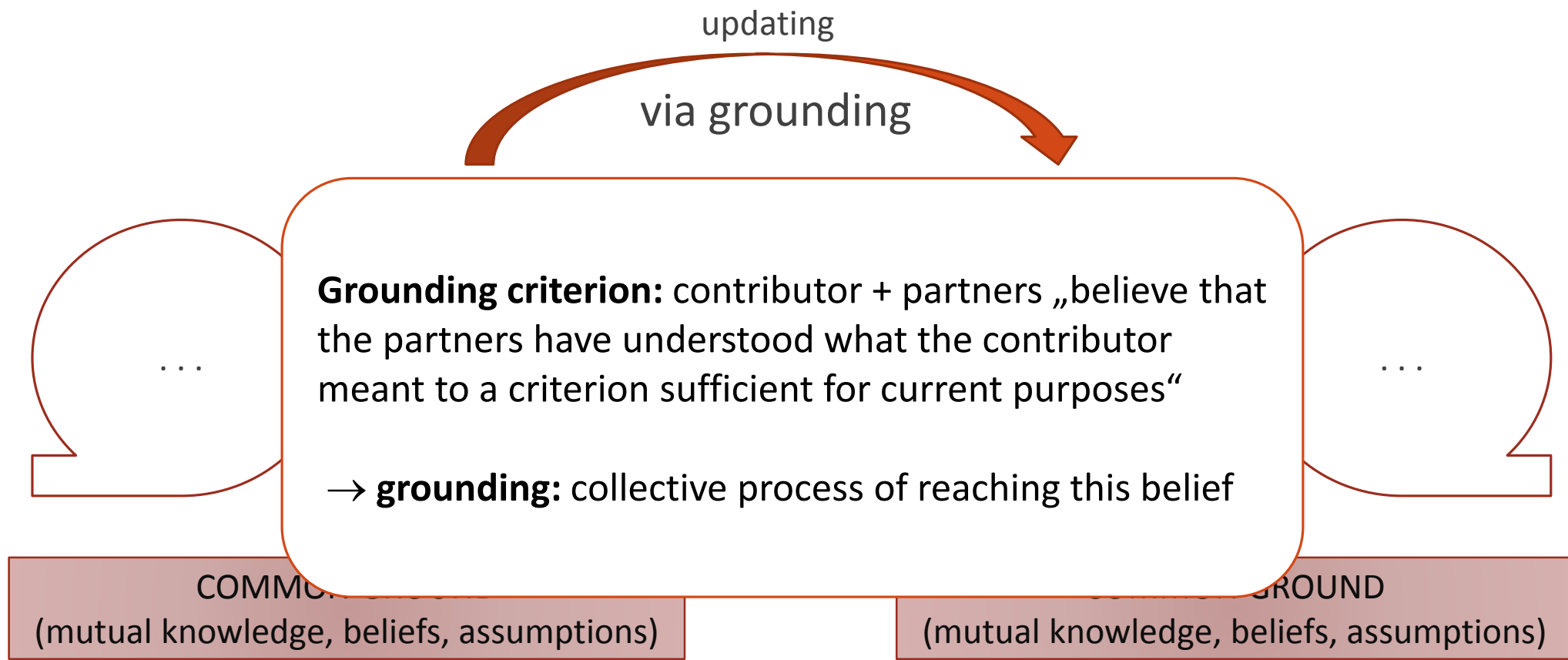
- I. **Grounding in Communication (Clark et. al)**
 - I. **Background and research question**
 - II. **Results**
 - III. **Discussion**

- II. **2nd Paper**
 - I. **Research Question**
 - II. **Methods**
 - III. **Results**
 - IV. **Discussion**

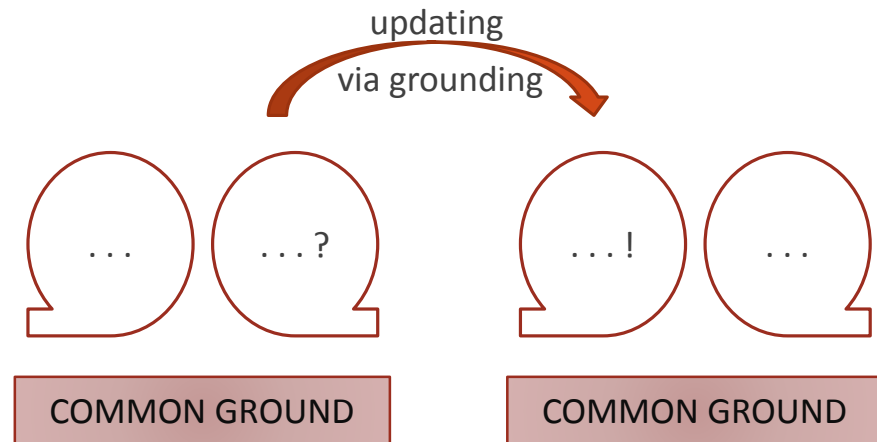
- III. **Comparison of both papers**



COMMON GROUND
(mutual knowledge, beliefs, assumptions)



Research Question



- how does grounding work?
- influence of purpose and medium

Conversation

- presentation phase + acceptance phase
→ often hierarchical
- positive evidence wanted
 - acknowledgements
 - relevant next turn
 - continued attention

Presentation phase:

A: Do you and your husband have a j- car?

Acceptance phase:

B: Have a car? **presentation**

A: Yeah. **acceptance**

B: No.

Least (Collaborative) Effort

- Grice's maxims (1975):
quantity + manner = proper utterance

Principle of least effort



- BUT:
 - time pressure
 - errors
 - ignorance

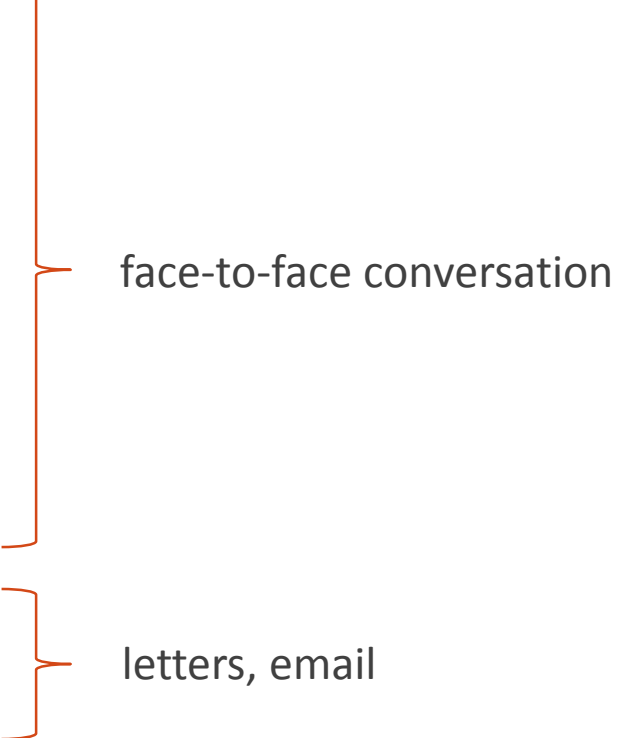


Principle of least *collaborative* effort

Purpose

- conversation: collective purpose
 - different purpose
 - different grounding criterion
 - different techniques
- E
X
A
M
P
L
E
S
- referential identity
 - alternative descriptions
 - indicative gestures
 - referential installments
 - trial references
 - verbatim content
 - verbatim displays
 - installments
 - spelling

Medium-specific constraints

- (1) copresence (*same environment*)
 - (2) visibility (*see each other*)
 - (3) audibility (*communicate via speech*)
 - (4) cotemporality (*receive immediately*)
 - (5) simultaneity (*send + receive at once*)
 - (6) sequentiality (*turns in sequence*)
 - (7) reviewability (*review old messages*)
 - (8) revisability (*revise before sending*)
- face-to-face conversation
- letters, email
- 

Costs

- (1) formulation (*deciding what to say*)
 - (2) production (*saying/ writing it*)
 - (3) reception (*listening / reading*)
 - (4) understanding (*understanding it*)
 - (5) start-up (*starting a discourse*)
 - (6) delay (*consequences of delay*)
 - (7) asynchrony (*failed timing*)
 - (8) speaker change
 - (9) display (*gestures etc*)
 - (10) fault
 - (11) repair
- speaker
- addressee
- both

interrelated
→ TRADE-OFFS

Conclusion/ Summary

- (1) goal of conversation: reach grounding criterion
- (2) minimize collaborative effort
- (3) techniques depend on purpose + medium (costs!)

Discussion

- terminology
- what *is* common ground/ grounding? mental representation?
- „criterion sufficient for current purposes“ not specified
- never experimentally provable → usefulness?



Grounding in Instant Messaging

FOX TREE ET. AL, 2011

JOURNAL OF EDUCATIONAL COMPUTING RESEARCH

Content

- I. Grounding in Communication (Clark et. al)
 - I. Background and research question
 - II. Results
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- II. Grounding in IM (Fox Tree et. al)**
 - I. Research Question**
 - II. Methods**
 - III. Results**
 - IV. Discussion**

- III. Comparison of both papers

Research Purpose

- apply Clark's theory to instant messaging (IM)
- 2 studies
 - (1) influence of expertise
 - (2) IM and multitasking
- instant messaging: „ real-time, text-based communication similar to chat “

(techopedia.com)

Constraints of IM

STUDY I (EXPERTISE)

Constraint	Definition
Visibility and Audibility	Communicators can see and hear each other
Cotemporality and Simultaneity	As communication is produced, it is understood; Production and comprehension can occur at the same time
Sequentiality	Communicators' turns go in sequence
Reviewability and Reviseability	Communicators can privately review and revise communication before it reaches addressees

STUDY II (MULTITASKING)

- multitasking ability
- multitasking awareness

Study I: procedure

Survey to assess IM experience

1) How frequently do you use an IM service?

-never (1)- -rarely (2)- -monthly (3)- -weekly (4)- -daily (5)-

2) How comfortable are you with IM services?

-not comfortable at all (1)- → -very comfortable (5)-

3) Rate how well you understand how to use an IM service:

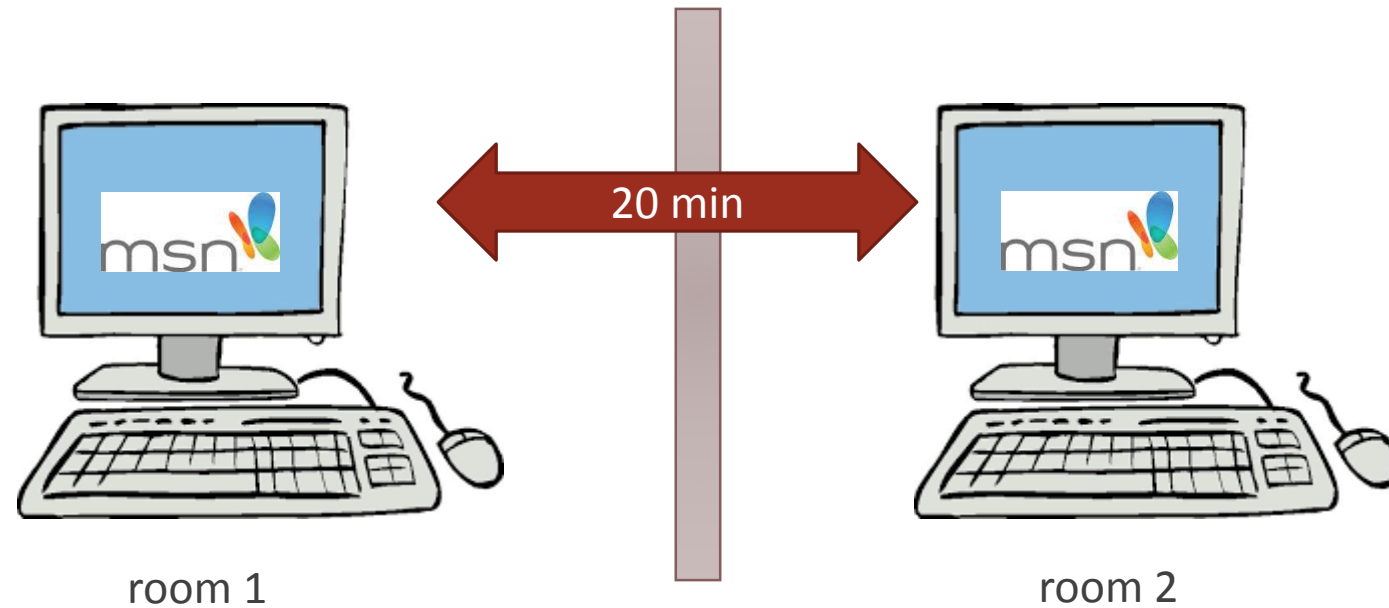
-complete novice (1)- → -expert (5)-

median score: 4

→ novice < 4

→ expert ≥ 4

Study I: procedure



pictures: www.dokumente-online.com
www.wikipedia.org

Study I: Hypotheses + Results

Constraint	Assessed By
Visibility and Audibility	<ul style="list-style-type: none"> Orthographic stand-ins for emotional expressions
Cotemporality and Simultaneity	<ul style="list-style-type: none"> Number of words per turn Number of messages sent Positive evidence of understanding (backchannels, <i>yeahs</i>)
Sequentiality	<ul style="list-style-type: none"> Number of misordered turns
Reviewability and Reviseability	<ul style="list-style-type: none"> Formal elements Informal elements Discourse Markers Ums

Expertise leads to...



Study II: procedure

Survey to assess IM experience

Survey to assess multitasking experience in IM + phone

1) How often do you do something else while IM'ing?

-estimate frequency between 0% and 100%

2) How often do you try to hide the fact while IM'ing?

-estimate frequency between 0% and 100%

3) Have you ever caught s.o. else pretending not to multitask while IM'ing when they were, indeed multitasking? What gave them away?

Hypotheses:

- 1) multitasking: IM > phone, experts > novices
- 2) awareness: phone > IM, experts > novices

Study II: Results

(1) multitasking:

(1) IM > phone ✓

(2) experts > novices ✓

(2) multitasking awareness:

(1) phone > IM ?

(2) experts > novices ✓

3) detecting multitasking: timing (IM > phone)

Conclusion/ Summary

- experience → different use of IM
- more effective in handling consts + benefits of constraints

- results according to Clark's theory

- experience → treat IM like speaking instead of writing
- grounding changes across media → experience leads to adaptation

Discussion

+

- interesting research
- application possible (field of studying)
- rather natural experimental setting (setting might be reason for not using informal language (?))

-

- no definition of IM
- survey method → subjective, multitasking evaluation dubious
- might be question of adaptation to participant rather than expertise
- terminology not completely in accordance with Clark's (table!)
- beginning: 2nd hypothesis

Content

- I. Grounding in Communication (Clark et. al)
 - I. Purpose of Paper
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- II. Grounding in IM (Fox Tree et. al)
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- III. **Comparison**

Comparison

GROUNDING IN COMMUNICATION

- theoretical paper
 - basis for further research
 - application?
- very influential
- structure good to follow

GROUNDING IN INSTANT MESSAGING

- experimental paper
- apparently no big impact (citations: 9)
- based on Clark et. al
- structure
- terminology not completely consistent

Thank you 😊
