

Examining Interaction and Immediacy Behaviors in Distance Education

Kathy Bohnstedt

Marci Kinas-Jerome

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Purpose of the Study

Examine how instructors interact with students in proximate and remote classrooms in multi-point videoconferencing. Using verbal and nonverbal behaviors, determine if there are differences in how they interact with students based on student location.

Research Questions

Is there a difference in instructional interactions between the professor and students based on student location?

Is there a difference in instructor immediacy behaviors based on student location?

Methods

- Qualitative and Quantitative
- Instruments
 - Faculty Profile
 - Faculty Interview Protocol
 - Room Checklists
 - Gross Observation
 - Verbal Interaction Behavior

Data Collection

<u>Instructor interaction codes (I)</u>	<u>Student interaction codes (S)</u>	<u>Categories</u>
C = Comment	C = Comment	S = Social
? = Asks question	? = Asks question	P = Procedural
→ = Calls on	I = Interrupts	M = Material
D = Delays student		T = Technical
+ = Positive response		
- = Negative response		
W = Wait time		
I = Interrupts		
N = Uses student name		
() = Site of student whose name is used		

① 1:20 F_{ICP} I_{CN(F)} V_{?M} I_{CM} I_{N(v)} I_{+N(F)} 3:03
 ② 5:37 I_{N(G)}
 ③ 6:05 I_{?EM} W₈ I_{?GM} W₃ G_{CM} I_{?GN} G_{CM}
 I_{+N(G)} 7:10

Data Analysis

- Grouping of instructor behaviors
 - Interaction = comment, question, interruption
 - Immediacy = name, positive resp., positive interr.
- Measures of analysis
 - Hedge's g
 - Percentage
 - Per Capita

Overview of main findings

1. The instructors' stated teaching experiences mirror the literature on videoconferencing
2. No clear difference exists in instructor interaction behaviors directed to local and remote populations
3. The student remote population interacted more frequently with the instructor than the local student population did

Overview of main findings (cont.)

4. Instructors tended to engage in more immediacy behaviors with remote population
5. Students who received the most immediacy behaviors from the instructor interacted the most with the instructor
6. Instructor interaction and immediacy behaviors are a function of student interaction, not student location

1. Instructor teaching experience and the literature

The instructors' experiences mirror the literature in terms of:

- the complexity of the teaching experience
- increased difficulty in establishing and maintaining relationships with students at remote sites
- Connection to remote students
- Lack of visual cues

2. No clear difference in instructor interaction

Hedge's g shows that there is slightly more than one standard deviation ($SD = -1.084$) between the local population ($M = 32.4$, $SD = 16.9$, $n = 5$) and remote population ($M = 71.8$, $SD = 43.2$, $n = 5$) favoring the remote population.

	Total behaviors	Percentage of interaction	Per capita behaviors
Local students	162	23%	3.38
Remote students	359	51%	2.99
Everybody	177	25%	1.05
Unknown	1		
Total	699		
Adjusted total	698		

3. Remote population more active

Hedge's g shows slightly more than one standard deviation ($SD=-1.266$) between local population ($M=29.6$, $SD=24.2$, $n=5$) and remote population ($M=76.8$, $SD=41.0$, $n=5$) favoring the remote population

	Total behaviors	Percentage of interaction	Per capita behaviors
Local students	148	28%	3.08
Remote students	384	72%	3.20
Unknown	5	1%	n/a
Total	537		
Adjusted total	532		

4. Immediacy across all instructors

Hedge's g shows that there is more than one standard deviation ($SD = -1.38$) between the local population ($M = 21.6$, $SD = 13.4$, $n = 5$) and remote population ($M = 61.8$, $SD = 43.1$, $n = 5$) favoring the remote population.

	Total behaviors	Percentage of interaction	Per capita behaviors
Local students	108	25%	2.25
Remote students	309	72%	2.58
Everybody	4	1%	0.02
Unknown	11	3%	n/a
Total	432		
Adjusted total	421		

5. Student behavior and immediacy

Clark		Yates		West	
<u>Instructor</u> Green (37%) Purple (24%) Blue* (20%)	<u>Student</u> Green (39%) Blue* (37%)	<u>Instructor</u> Green (44%) Purple* (25%)	<u>Student</u> Green (36%) Red (27%)	<u>Instructor</u> Blue (27%) Purple (23%) Red (18%) Yellow (16%)	<u>Student</u> Purple (23%) Yellow (22%) Blue (21%) Red (18%)

Parker		Davis	
<u>Instructor</u> Purple* (62%) Green (2.25)	<u>Student</u> Purple* (68%) Green (3.0)	<u>Instructor</u> Teal* (25%) Purple (24%) Red (18%) Green (17%) Orange (8.00)	<u>Student</u> Purple (23%) Red (21%) Teal* (19%) Yellow (15%) Orange (11.0)

6. Instructor and student behavior

West		
<u>Student Interaction</u>	<u>Instructor Interaction</u>	<u>Instructor Immediacy</u>
Purple (23%)	Everybody (21%)	Blue (27%)
Yellow (22%)	Purple (19%)	Purple (23%)
Blue (21%)	Blue (18%)	Red (18%)
Red (18%)	Red (8.33)	Yellow (16%)

Parker		
<u>Student Interaction</u>	<u>Instructor Interaction</u>	<u>Instructor Immediacy</u>
Purple* (68%)	Everybody (44%)	Purple* (62%)
	Purple* (39%)	Green (14%)

Instructor behavior vs. Literature

Expected instructor behavior

- Interact more with local population
- Interact more with local site
- More social and material with local
- More immediate with local

Observed instructor behavior

- No clear difference in interaction by population
- Interacted with at least one remote more than local site
- Little social behaviors, more material with local population
- More immediate with remote population, more immediate with remote sites than with local sites

Student behavior vs. Literature

Expected	Observed
<ul style="list-style-type: none">• Remote students interact less frequently than local students• Remote students ask fewer questions than local students	<ul style="list-style-type: none">• Remote population interacted more than locals in all 3 analysis measures• Remote students asked more questions

Explanations of differences

- Number of student sites and size of remote population
- Use of interaction strategies
- Dedicated technical support
- Programmatic differences
- Faculty ownership

Implications for Practice

- Use interaction strategies designed for videoconferencing
- Ensure remote student access to instructor
- Camera angles and lighting to promote engagement and connection

Implications for Practice (cont.)

- Placement of remote student display
- Multiple remote sites, large remote population
- Active emphasis on immediacy behaviors
- Create a sense of faculty ownership

Recommendations for Research

- More remote sites or more remote students?
- Use of web conferencing and collaborative tools
- Placement and size of remote student display
- Impact of high resolution videoconferencing
- Student and instructor technology experience levels

Questions?

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