



# Message Interactions in Online Asynchronous Discussions: The Problem of Being "Too Nice"

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# Communication in Asynchronous Learning Networks

## 2 Studies

separated by almost 20 years

- Fall term 1987 – PARTICIPATE

computer conferencing system

Roulet, G. (1990). Using the interact system model to analyze computer mediated communication during a small group problem-solving task. *Proceedings of Third Guelph Symposium on Computer Mediated Communication* (pp. 168-180). Guelph, Ontario: University of Guelph.

- Winter term 2006 – WebCT - Discussion tool

Roulet, G., Khan, S., & Lazarus, J. (2008). On Being Too Nice: Message Interaction in an Asynchronous Learning Network. In S. Gülseçen & Z. Ayvaz Reis (Eds.), *Future-Learning: 2nd international Future-Learning conference on innovations in learning for the future 2008: e-learning (Istanbul, Turkey, March 27-29, 2008) proceedings* (pp. 439-447): Istanbul: Istanbul University.

# Personal History

- Mathematics & Computer Science teacher – 1973-1986
  - bought first computer - 1980
  - e-mail (Envoy 100) - 1983
- Education Officer, Ontario Ministry of Education – 1986-1990
  - computers in teaching & learning: JK-12
- M.Ed. (OISE/U of T) – 1986-1990
  - 4 courses online - Computer Mediated Communication (CMC)  
computer conferencing
    - direct telephone connection to VAX
- Professor: Mathematics Education & Applications of ICT in Teaching and Learning, Queen's University – 1990-
  - B.Ed. – *Teaching & Learning Online*
  - M.Ed. courses online

# Knowledge

Constructed

through an individual's interaction with:

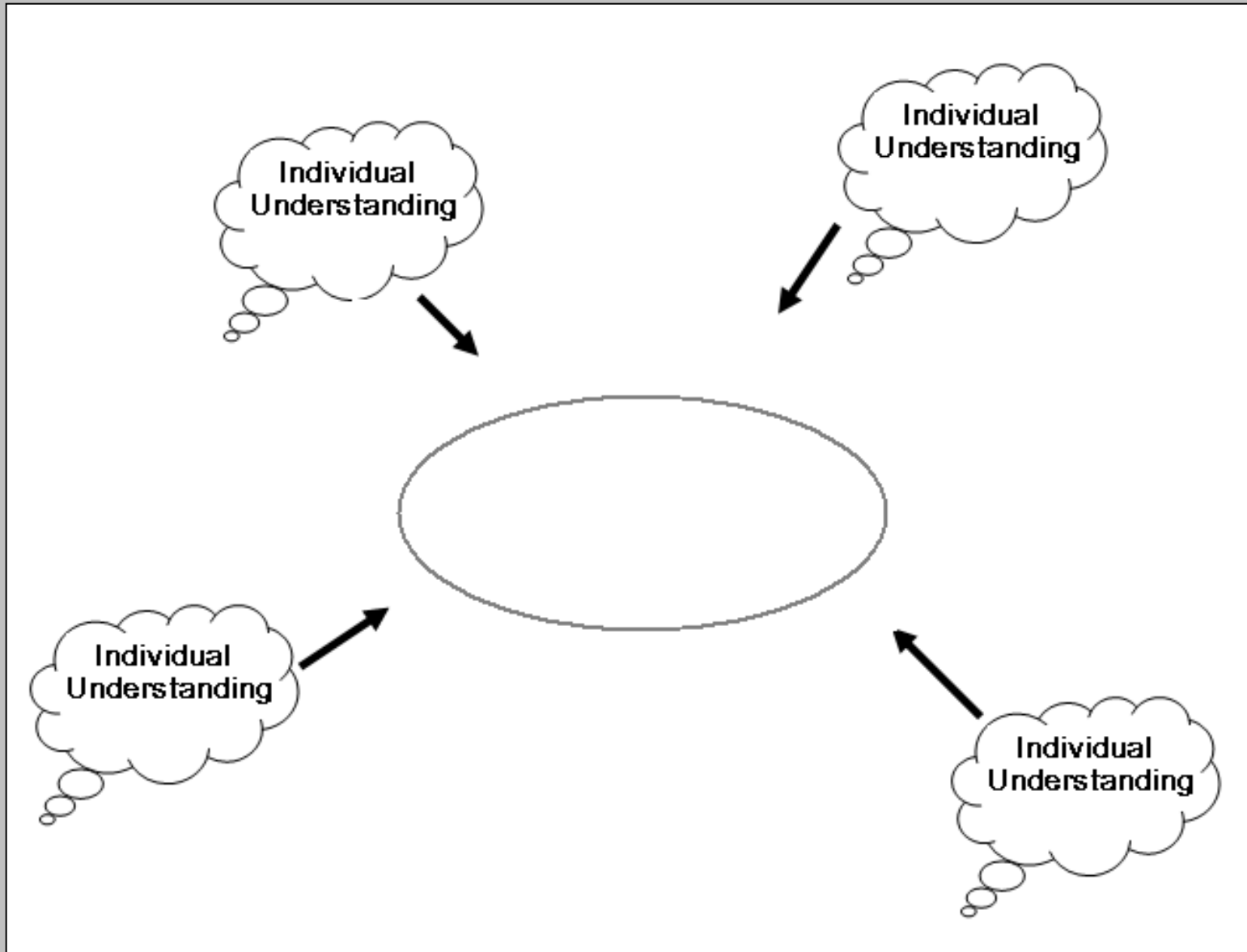
- the environment
- other humans

**Social Constructivist**

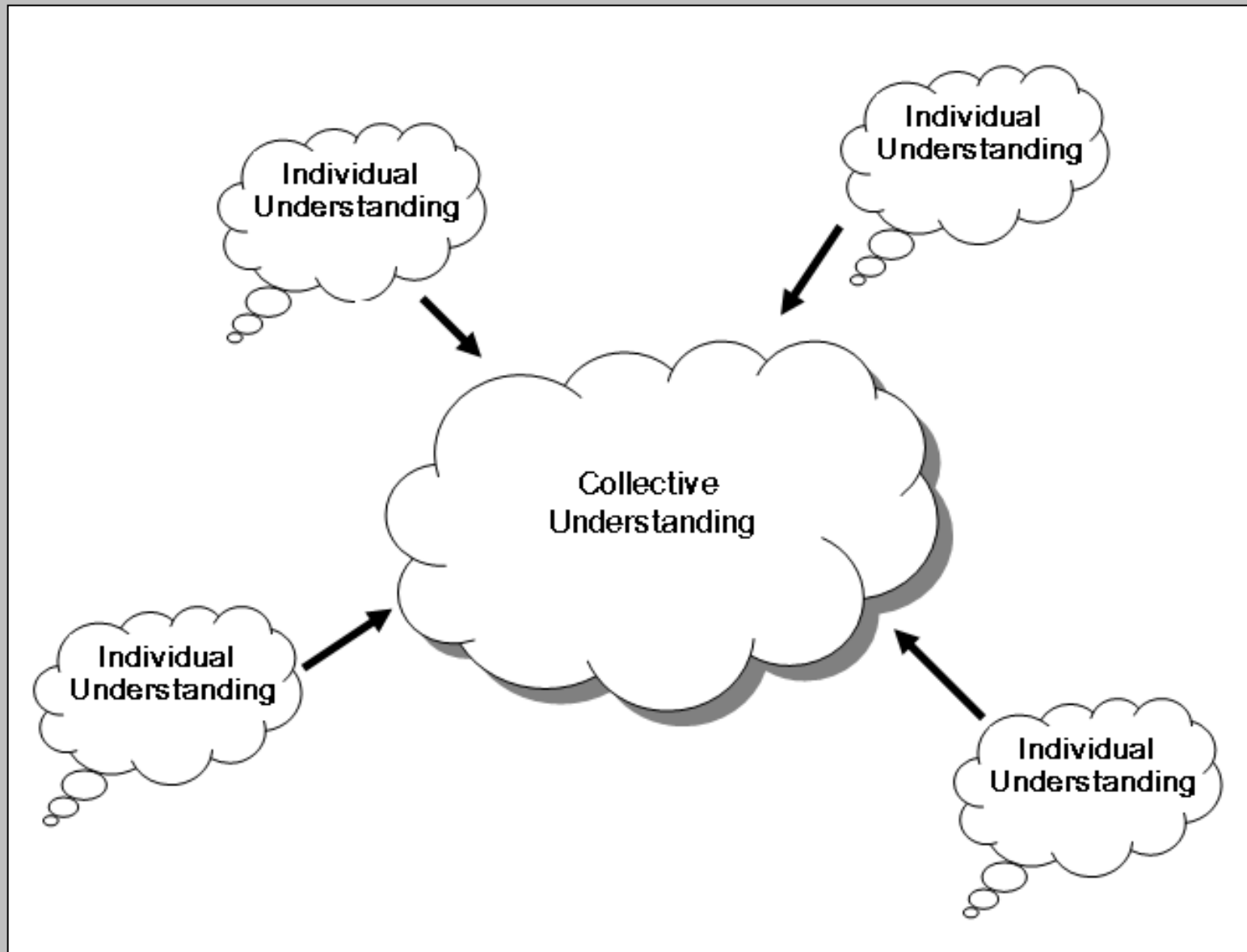
# Collective Understanding



# Collective Understanding



# Collective Understanding



# Asynchronous Learning Networks

“The pedagogical assumption that students learn by constructing knowledge through group interaction is the theoretical foundation of ALN”.

(Benbunan-Fich, Hiltz & Harasim, 2005, p. 22)

Benbunan-Fich, R., Hiltz, S. R., & Harasim, L. (2005). The online interaction learning model: An integrated theoretical framework for learning networks. In S. R. Hiltz, & R. Goldman (Eds.), *Learning together online: Research on asynchronous learning networks* (pp. 19-37). New York: Lawrence Erlbaum Associates.



# Complex Evolutionary Process

## Complexity Science

- decentralized control
  - all feel free to contribute ideas
- neighbour interactions
  - active exchange of ideas
- redundancy among agents
  - some overlap of ideas to support exchange
- internal diversity
  - divergence of opinion to stimulate debate

Davis, B., & Sumara, D. (2005). Challenging images of knowing: Complexity science and educational research. *International Journal of Qualitative Studies in Education*, 18(3), 305-321.

Varela, F., Thompson, E., & Rosch, E. (1991). *The embodied mind: Cognitive science and human experience*. Cambridge, MA: MIT Press.

# Construction of Knowledge in Asynchronous Learning Networks

- Discourse Analysis

Interaction between conversation units

- Adapt tools for analysis of face-to-face communication

Interact System Model (ISM) (Fisher, 1980)

Fisher, B. A. (1980). *Small group decision making: Communication and the group process* (2nd edition). New York: McGraw-Hill.

# Interact System Model (ISM)

- **Act** – conversation unit with single focus and purpose
- **Interact** – pair of linked acts; second addressing first with an identified relation
- **Relational Factors**
  - 1 Interpretation – simple value judgement without supporting arguments
    - f Favourable toward the prior act
    - u Unfavourable toward the prior act
    - ab Ambiguous mixed – both favourable and unfavourable evaluation of prior act
    - an Ambiguous neutral – no definitive evaluation of prior act
  - 2 Substantiation – value judgement with supporting explanations or arguments
    - f Favourable toward the prior act
    - u Unfavourable toward the prior act
    - ab Ambiguous mixed – both favourable and unfavourable evaluation of prior act
    - an Ambiguous neutral – no definitive evaluation of prior act
  - 3 Clarification – expansion on prior act with no evaluation
  - 4 Modification – alteration of content of prior act
  - 5 Agreement – simple statement of assent
  - 6 Disagreement – simple statement of dissent
  - 7 Social Structuring – linked to a strand but not addressing content

Fisher, B. A. (1980). *Small group decision making: Communication and the group process* (2nd edition). New York: McGraw-Hill.

# Analysis

- ❑ identification of individual conversation acts in the transcript
- ❑ identification of interact strands (discussion themes) arising in the seminar
- ❑ assigning acts to strands
- ❑ coding of conversation interacts using the relational factor labels of the ISM
- ❑ plotting
  - contiguity analysis matrix
  - flow chart diagrams of interact strands
- ❑ examination of patterns - length, clustering, key acts, types of relations

# 2006 Seminar Participants

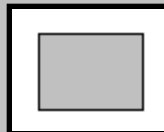
- 7 students

coded

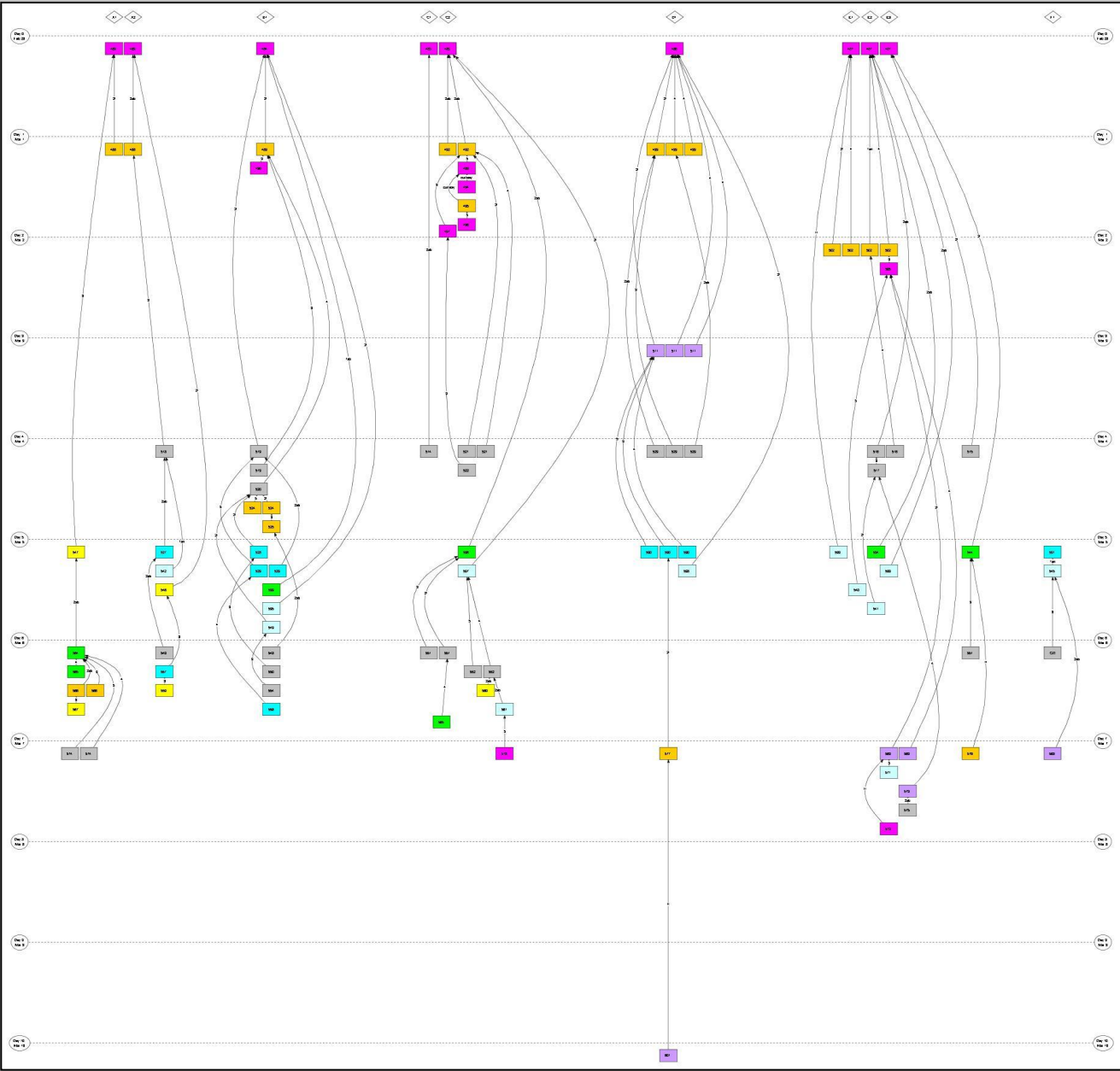


- Instructor

coded



# Conversation Flow: Seminar 6



# Contexts of Studies

online M.Ed. course			
asynchronous			
	<b>1987</b>		<b>2006</b>
Course	<i>Educational Applications of Computer Mediated Communications</i>		<i>Curriculum Theory</i>
Group	4 students without instructor – subgroup of class of 15		7 students + instructor
Duration	3 weeks weeks 6 - 8		Seminar 6 – 1 week Seminar 7 – 2 weeks
Task	Produce group report on an alternate conferencing system - CoSy		Discussion of papers on a theme Seminar 6: Critical Theory – Teachers & schools as critics of society Seminar 7: Values, morals, ethics, and the spiritual within curriculum

# Conversation Pattern

<b>1987: Decision Making Task</b>					
Decision Proposal	Number of Acts	Average Number of Acts per Participant	Duration over 111 Messages		
			Initial Message Number	Final Message Number	Span
1	18	4.5	6	110	105
2	2	0.5	6	7	2
3	8	2.0	10	105	96
4	2	0.5	10	11	2
6	16	4.0	16	108	93
7	23	5.75	19	103	85
8	15	3.75	26	107	82
9	10	2.5	35	107	73
10	4	1.0	49	95	47
12	3	0.75	72	83	12
12	101	25.25			597
Average/ Decision Proposal	10.1	2.5			59.7



# Conversation Pattern

<b>2006: Seminar 6: Discussion</b>					
Themes	Number of Acts	Average Number of Acts per Participant	Duration over 119 Messages		
			Initial Message Number	Final Message Number	Span
A	19	2.375	1	92	92
B	19	2.375	2	76	75
C	23	2.875	3	96	94
D	16	2.0	4	119	116
E	26	3.25	5	97	93
F	4	0.5	49	86	38
6	107	13.375			508
Average/ Theme	17.8	2.23			84.7

# Conversation Pattern

2006: Seminar 7: Discussion					
Themes	Number of Acts	Average Number of Acts per Participant	Duration over 79 Messages		
			Initial Message Number	Final Message Number	Span
A	23	2.875	2	76	75
B	15	1.875	3	54	52
C	9	1.125	4	73	70
D	11	1.375	5	74	70
E	12	1.5	6	57	52
F	7	0.875	7	33	27
G	10	1.25	8	37	30
H	18	2.25	1	79	79
I	22	2.75	34	78	45
J	2	0.25	64	75	12
10	129	16.125			512
Average/ Theme	12.9	2.02			51.2

# Complex Evolutionary Process

## Complexity Science

- decentralized control
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- internal diversity
  - divergence of opinion to stimulate debate

# Interacts

<b>1987 – 91 Interacts</b>														
Interacts	1				2									
	f	u	ab	an	f	u	ab	an	3	4	5	6	7	
#	16	1	2	0	46	4	2	3	8	5	3	1	0	
%	17.6	1.1	2.2	0	50.5	4.4	2.2	3.3	8.8	5.5	3.3	1.1	0	

<b>2006: Seminar 6 – 95 Interacts</b>														
Interacts	1				2									
	f	u	ab	an	f	u	ab	an	3	4	5	6	7	
#	5	0	1	3	22	0	19	0	20	15	10	0	0	
%	5.3	0	1.1	3.2	21.1	0	19.0	0	21.1	15.8	10.5	0	0	

<b>2006: Seminar 7 – 107 Interacts</b>														
Interacts	1				2									
	f	u	ab	an	f	u	ab	an	3	4	5	6	7	
#	8	1	1	2	16	6	11	3	31	10	5	0	13	
%	7.5	0.9	0.9	1.9	15.0	5.6	10.3	2.8	29.0	9.3	4.6	0	12.1	

# Substantial Interaction

1987 – 91 Interacts														
Interacts	1				2									
	f	u	ab	an	f	u	ab	an	3	4	5	6	7	
#	16	1	2	0	46	4	2	3	8	5	3	1	0	
%	17.6	1.1	2.2	0	50.5	4.4	2.2	3.3	8.8	5.5	3.3	1.1	0	
									74.7					

2006: Seminar 6 – 95 Interacts														
Interacts	1				2									
	f	u	ab	an	f	u	ab	an	3	4	5	6	7	
#	5	0	1	3	22	0	19	0	20	15	10	0	0	
%	5.3	0	1.1	3.2	21.1	0	19.0	0	21.1	15.8	10.5	0	0	
									77.0					

2006: Seminar 7 – 107 Interacts														
Interacts	1				2									
	f	u	ab	an	f	u	ab	an	3	4	5	6	7	
#	8	1	1	2	16	6	11	3	31	10	5	0	13	
%	7.5	0.9	0.9	1.9	15.0	5.6	10.3	2.8	29.0	9.3	4.6	0	12.1	
									72.0					

# Redundancy – Favourable Interacts

1987 – 91 Interacts														
Interacts	1				2									
	f	u	ab	an	f	u	ab	an	3	4	5	6	7	
#	16	1	2	0	46	4	2	3	8	5	3	1	0	
%	17.6	1.1	2.2	0	50.5	4.4	2.2	3.3	8.8	5.5	3.3	1.1	0	

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	f	u	ab	an	f	u	ab	an	3	4	5	6	7	
#	5	0	1	3	22	0	19	0	20	15	10	0	0	
%	5.3	0	1.1	3.2	21.1	0	19.0	0	21.1	15.8	10.5	0	0	

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#	8	1	1	2	16	6	11	3	31	10	5	0	13	
%	7.5	0.9	0.9	1.9	15.0	5.6	10.3	2.8	29.0	9.3	4.6	0	12.1	

# Redundancy – Favourable Interacts

## Lack of Diversity – Unfavourable Interacts

1987 – 91 Interacts														
Interacts	1				2									
	f	u	ab	an	f	u	ab	an	3	4	5	6	7	
#	16	1	2	0	46	4	2	3	8	5	3	1	0	
%	17.6	1.1	2.2	0	50.5	4.4	2.2	3.3	8.8	5.5	3.3	1.1	0	

2006: Seminar 6 – 95 Interacts														
Interacts	1				2									
	f	u	ab	an	f	u	ab	an	3	4	5	6	7	
#	5	0	1	3	22	0	19	0	20	15	10	0	0	
%	5.3	0	1.1	3.2	21.1	0	19.0	0	21.1	15.8	10.5	0	0	

2006: Seminar 7 – 107 Interacts														
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	f	u	ab	an	f	u	ab	an	3	4	5	6	7	
#	8	1	1	2	16	6	11	3	31	10	5	0	13	
%	7.5	0.9	0.9	1.9	15.0	5.6	10.3	2.8	29.0	9.3	4.6	0	12.1	

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# Lack of Diversity

or

# Hidden Diversity - Ambiguous Interacts

1987 – 91 Interacts													
Interacts	1				2				3	4	5	6	7
	f	u	ab	an	f	u	ab	an					
#	16	1	2	0	46	4	2	3	8	5	3	1	0
%	17.6	1.1	2.2	0	50.5	4.4	2.2	3.3	8.8	5.5	3.3	1.1	0

2006: Seminar 6 – 95 Interacts													
Interacts	1				2				3	4	5	6	7
	f	u	ab	an	f	u	ab	an					
#	5	0	1	3	22	0	19	0	20	15	10	0	0
%	5.3	0	1.1	3.2	21.1	0	19.0	0	21.1	15.8	10.5	0	0

2006: Seminar 7 – 107 Interacts													
Interacts	1				2				3	4	5	6	7
	f	u	ab	an	f	u	ab	an					
#	8	1	1	2	16	6	11	3	31	10	5	0	13
%	7.5	0.9	0.9	1.9	15.0	5.6	10.3	2.8	29.0	9.3	4.6	0	12.1

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# Being Too Nice

Participants:

- were reluctant to directly express disagreement with ideas posted by others (1987, 2006)
- left direction to the Seminar Leader and were reluctant to initiate new discussion themes (2006)

# Being Too Nice

Participants in academic online text discussions:

- lacking channels for social linking (tone of voice, facial expression)
- fear giving offence by directly expressing disagreement with ideas posted by others
- mask disagreement with ambiguous responses
- and thus stunt the development of effective debate