Supporting Social Deliberative Skills in Online Contexts:
The 4th Party in OnlineDialog, Deliberation, and Dispute Resolution

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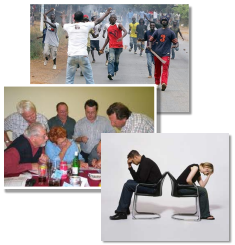
Background

Dialog/Deliberation & Dispute/Conflict Resolution



- **Civic** engagement/public dialogue
- International & **inter-group** conflict
- Labor/management, consumer disputes **alternative dispute resolution**
- Interpersonal disputes / **mediation**
- Deliberative **decision making** (school, work, home)

Social Deliberative Skills

Perspective taking & cognitive empathy

Perspective seeking (curiosity/inquiry)

Self-reflection: on one's biases, intentions, emotional state

Meta-dialog: Reflect on the quality of the dialog

Epistemic skill: e.g. treating facts/data differently from opinions/hypotheses

Tolerance for uncertainty, ambiguity, disagreement, paradox...

Higher Order Skills
- argumentation
- critical thinking
- explanation & clarification
- inquiry/curiosity (question asking & investigation)
- reflective judgment
- meta-cognition
- epistemic reasoning

Apply these skills, not to EXTERNAL REALITY ("IT"/problem domain) but to the INTERSUBJECTIVE domain

Higher Order Skills applied to:

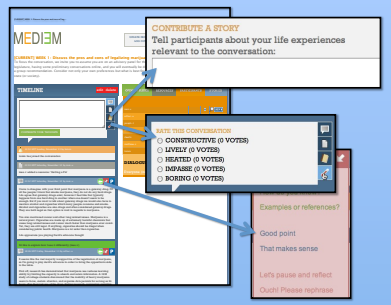
SELF
goals; level of certainty; feelings, values, assumptions...

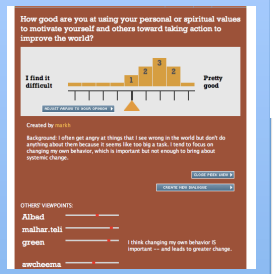
YOU
goals, assumptions, feelings, values; perspective taking; "believing" & cognitive empathy...

WE
agreements, goals; quality of the discourse/collaboration; differences and similarities in values, beliefs, goals, power, roles...

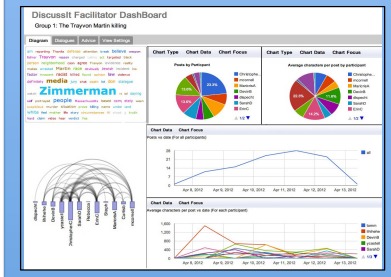
Tools

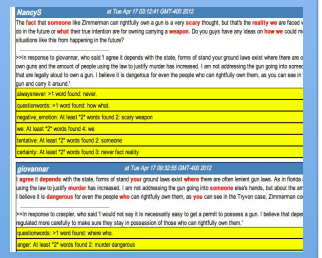
Deeper Dialogue Forum



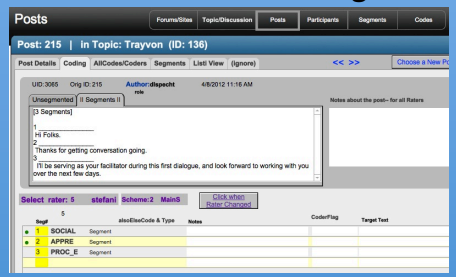


Facilitators Dashboard





Text Coding Tool



- Object hierarchy: Domain; Discussion Topic; Post; Segment; Codes
- Posts: Accommodates dialogue reply structure; allows post types and tags;
- Meta codes and also/else codes
- Code comparison view
- Participant fields (experimental group, gender, role, etc.)
- Multi-coder completion checking
- Sophisticated sorting; filtering; import and export features directly from FileMaker!

Analysis

Text Analysis Domains

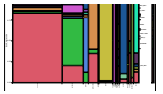
Domains	segments count	participants count	Cohen's Kappa
E-democracy discussion forum	396	31	0.776
Legal class discussion (Spring'11)	748	41	0.65
Legal class discussion (Fall'11)	748	36	0.702
Education class discussion	254	13	0.708
Faculty negotiation	438	16	0.702
Workplace grievance	637	3	0.465
Total	**3221**	**140**	**0.667**

also: e-commerce ODR; civic-engagement/forest management

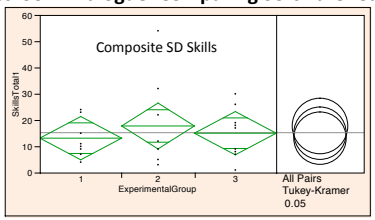
Auto-classification of Social Deliberative Skills

SVM supervised learning to discriminate social deliberative speech acts

Features	Best Model: SVM w/ unigram (TF-IDF)
Bag-of-words (unigram)	Accuracy (74.30%)
LIWC dictionary classification	Precision (73.27%)
CohMetrix text coherence classification	Recall (81.40%)
	F-measure (77.12%)



Classroom Dialogue: Comparing Software features



N= 26; 1: Vanilla forum; 2: Slider Tool; 3: three reflective tools

ODR Settlement classification & prediction

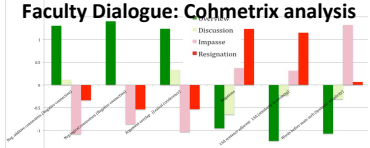
SVM (10-Fold CV)	
True Positive = 175	False Positive = 65
False Negative = 36	True Negative = 51
Accuracy = 69.11%	
Precision = 72.92%	
Recall = 82.94%	
F-measure= 77.61%	

DNM+SVM (10-Fold CV)	
True Positive = 159	False Positive = 52
False Negative = 52	True Negative = 64
Accuracy = 67.89%	
Precision = 75.36%	
Recall = 75.36%	
F-measure = 75.36%	

Topic Divergence Model (3 discovered topics)

Dialogue: Analysis Across Phases

Faculty Dialogue: Cohmetrix analysis



Sample Dialogue Text

e-democracy: Minneapolis Powderhorn Neighbors Forum

Post #1: ...while I still love my neighborhood for all its arty, community garden, Fair Trade goodness, I am disappointed -- and yes, angry.... these past few weeks [by what] feels disturbingly like [racial] targeting. This, coupled with the [documented] surveillance of parents of color...

Post #2: I'm so sorry that you are having this experience, especially in a neighborhood that prides itself on diversity. Thank you for sharing here so people can be more aware that this is still happening.

...Post #6: ...The whites in Powderhorn pride themselves on diversity, but few actually mingle with their neighbors of color. They tend to reach out to the other liberal artsy gardening whites...

EBay (e-commerce)

"This seller is fraudulent and should be removed from eBay. Why should a eBay buyer have to be put through this."

"...my good feedback be tarnished by these bottom feeders. That lay and cheat honest people out for there hard earned money."

Workplace dispute

Boss (Grieta) → Moderator: "Ryker has created a situation in which a continuation of the work relationship is no longer possible. What I am concerned, we are talking about terminating the work relationship...It is unlikely that I myself can come to a solution with Ryker."

Employee (Ryker) → Moderator: "Since late last year it has been a mess in the company. Management is unclear and inconsistent...They want to get rid of me. I am literally "sick" of it..."

Bi-community Faculty Deliberation on Conference Planning

". . . there is a significant contingent of us who do not want to be a part of that type of community. Instead of welcoming our input, the leadership has consistently tried to stop the conversation."

"The problem with the current process is that members not on the executive committee do not feel they are a part of the process. And apparently, somewhere from 1/3 to 1/2 of the advisory board feels the same."

"If the leadership, ..., does not feel this is important. . . then I will elect to spend my energies elsewhere and resign."