



Washington University in St. Louis

GRADUATE SCHOOL OF ARTS & SCIENCES

**ENGAGEMENT IN SUPPORTING NEW  
TEACHERS: A ROLE FOR COMPUTER-  
MEDIATED COMMUNICATION IN  
TEACHER LEARNING WITHIN INFORMAL  
PROFESSIONAL COMMUNITIES**

**Diane Hui, Ph.D.**

Department of Education

[diane.hui@wustl.edu](mailto:diane.hui@wustl.edu)

<http://artsci.wustl.edu/~dhui>

## BACKGROUND

### Central Thesis & Argument:

- E-Communities defined by *CMC engagement* in discourse forms and sustained threads. [Aim]
- Cultural texts or dialogic voices are integrated and used as thinking tools to generate new meanings.
- CMC engagement goes beyond the mere transmission of information, which in turn engage practitioners' learning.

### Research Questions:

- What properties characterize CMC engagement in informal professional learning e-communities ?
- Why are some CMC groups more engaging than others ?
- How might the communicative structures of network-based CMC enhance or constrain the development of e-communities ?

## Two Contrasting Excerpts

### **Excerpt 1 (Sponge activities):**

**I have a book called Activities for Fast Finishers (Scholastic). It comes in Math, Language Arts and Vocabulary. I got it at Barnes and Noble. The one I have is for grades 4-8... not sure if it would work for your grade level, but you might be able to adapt some of the activities.**

## Two Contrasting Excerpts

### Excerpt 2 (Writing practice):

*I think it's possible to agree with both Mary and Nicole* regarding organization in writing—and I'm going to try to do so. *While I absolutely agree that* the teaching of five-paragraph essays and other formulas leads to wretched writing and a minimal understanding of organization as only filling in the blanks, *I also agree that* most students need some scaffolding to understand organization. *I would, however, argue that* that scaffolding must be more varied than it may have been in many classrooms, including the ones in which I learned and some of the ones in which I taught!

*Here's my latest thinking . . . what's wrong with* formulaic writing is that we grade it, thereby indicating that we value it. *By that, I mean* ...

*But what if* we took grading out of that entire process? ...*For example* ...

This idea is consistent with my thinking that we grade far too many practices and that grading shuts down learning ...

... *I'd be interested in knowing if you think it has any merit and where you think I need to refine it. I don't think that ... But I think that* ...

# ANALYTICAL FRAMEWORK

## Different characteristics

Length

Form

Style

**\*Richness & Complexity**

**Build on earlier utterances**

**Use of texts as thinking tools**

**Exploratory**

**Seeking & Reflective**

**Structure**

*“dialogic engagement” vs. “univocal information exchange”*

*“High Engagement” vs. “Information Transmission” Communities*

## ONLINE INTERACTION FINDINGS

List	Message	Univocal information exchange	Dialogic engagement
1	1,693	946 (56%)	747 (44%)
*2	421	250 (59%)	171 (41%)
3	442	408 (92%)	34 (8%)
4	238	231 (97%)	7 (3%)
5	103	95 (92%)	8 (8%)
6	60	59 (98%)	1 (2%)
7	14	14 (100%)	0 (0%)
<b>Total</b>	<b>2,971</b>	<b>2,003 (67%)</b>	<b>968 (33%)</b>

*Note.* \*List 2 discontinued in Sept 2003.

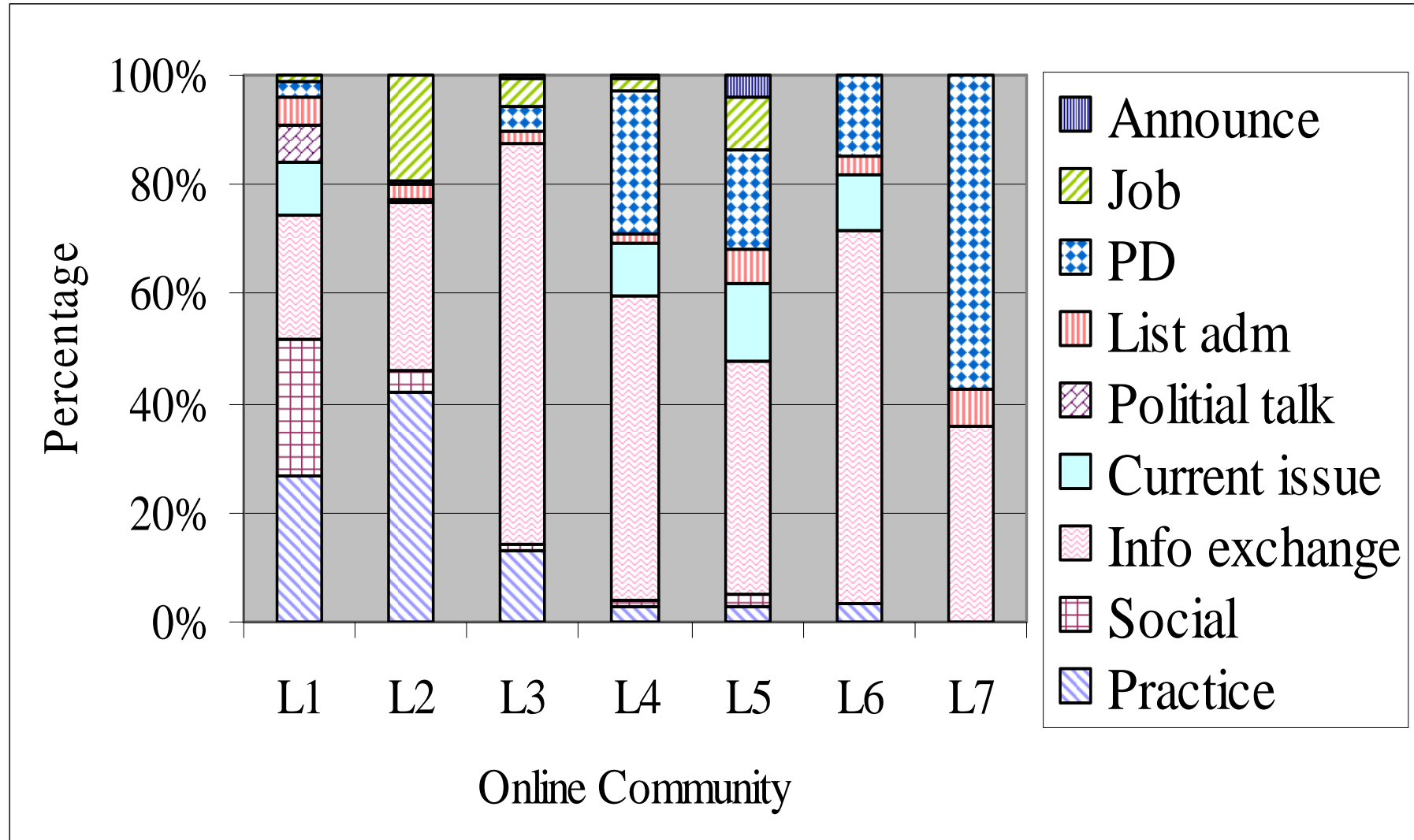
*Overall CMC Engagement between the Information Transmission and High Engagement E-Communities (N=2,971 Messages)*

---

<b>Discourse form</b>	<b>Information Transmission Communities</b>	<b>High Engagement Communities</b>
<b>Univocal information exchange</b>	<b>807 (94%)</b>	<b>1,196 (57%)</b>
<b>Dialogic engagement</b>	<b>50 (6%)</b>	<b>918 (43%)</b>
<b>Total</b>	<b>857 (100%)</b>	<b>2,114 (100%)</b>

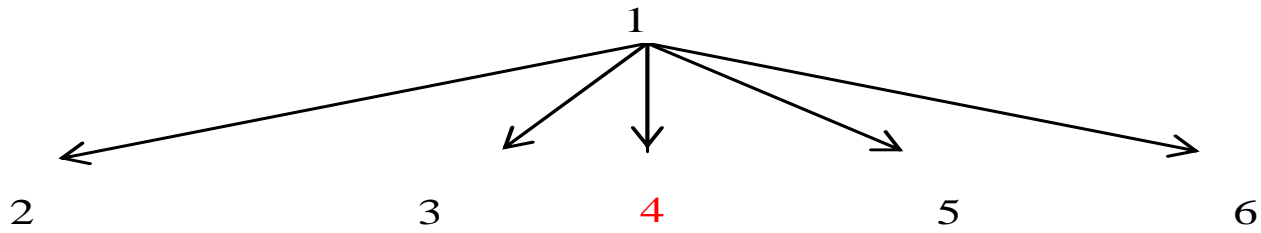
---

*Overall Topic Content across E-Communities (N=2,971 Messages)*

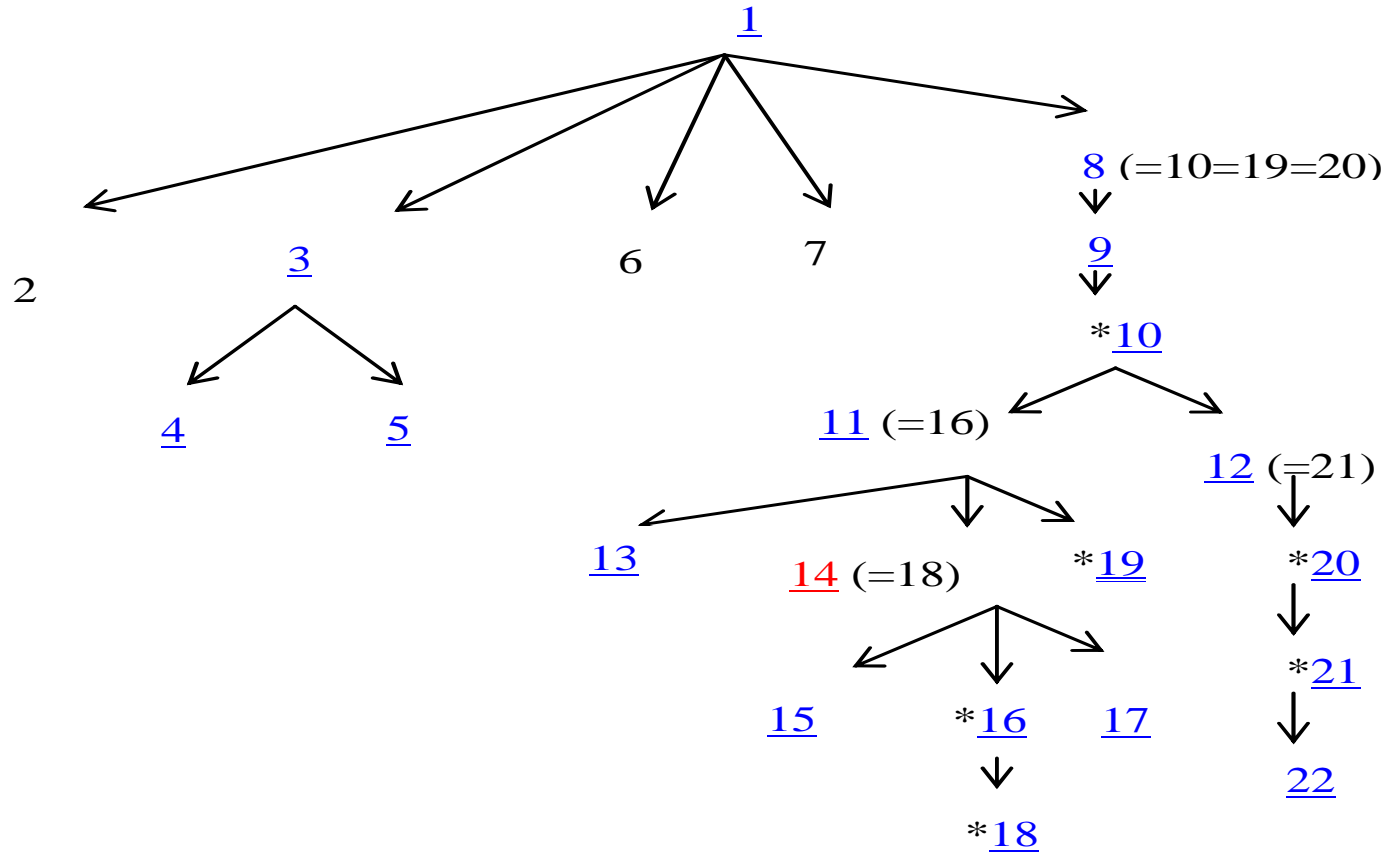




### Episode 1 (Sponge activities)



### Episode 2 (Writing practice)



# Topic Progression (N=1,070 Threads)

Topic level	Information Transmission Communities		High Engagement Communities	
	Univocal	Dialogic	Univocal	Dialogic
1	**666 (97.23%)	2 (9.09%)	**116 (67.05%)	17 (8.95%)
2	15 (2.19%)	**8 (36.36%)	38 (21.97%)	38 (20.00%)
3	2 (0.29%)	6 (27.27%)	12 (6.94%)	**43 (22.63%)
➡ 4	➡ 2 (0.29%)	3 (13.63%)	4 (2.31%)	31 (16.32%)
➡ 5	0 (0%)	➡ 3 (13.63%)	2 (1.16%)	24 (12.63%)
6	0 (0%)	0 (0%)	0 (0%)	8 (4.21%)
➡ 7	0 (0%)	0 (0%)	➡ 1 (0.58%)	8 (4.21%)
8	0 (0%)	0 (0%)	0 (0%)	5 (2.63%)
9	0 (0%)	0 (0%)	0 (0%)	2 (1.05%)
10	0 (0%)	0 (0%)	0 (0%)	2 (1.05%)
11	0 (0%)	0 (0%)	0 (0%)	2 (1.05%)
12	0 (0%)	0 (0%)	0 (0%)	0 (0%)
13	0 (0%)	0 (0%)	0 (0%)	3 (1.58%)
14	0 (0%)	0 (0%)	0 (0%)	1 (0.53%)
15	0 (0%)	0 (0%)	0 (0%)	2 (1.05%)
16	0 (0%)	0 (0%)	0 (0%)	1 (0.53%)
17	0 (0%)	0 (0%)	0 (0%)	1 (0.53%)
18	0 (0%)	0 (0%)	0 (0%)	0 (0%)
19	0 (0%)	0 (0%)	0 (0%)	0 (0%)
20	0 (0%)	0 (0%)	0 (0%)	0 (0%)
21	0 (0%)	0 (0%)	0 (0%)	1 (0.53%)
➡ 22	0 (0%)	0 (0%)	0 (0%)	➡ 1 (0.53%)
<b>Total</b>	<b>685 (100%)</b>	<b>22 (100%)</b>	<b>173 (100%)</b>	<b>190 (100%)</b>

\*\* Modal points

*Experience Level: CMC Engagement Differences within the High Engagement E-Communities (N=2,114 Messages)*

<b>Discourse form</b>	<b>Novice</b>	<b>Experienced</b>	<b>Not known</b>	<b>Total</b>
<b>Univocal information exchange</b>	<b>149 (14%)</b>	<b>480 (46%)</b>	<b>414 (40%)</b>	<b>1,043 (100%)</b>
<b>Dialogic engagement</b>	<b>208 (20%)</b>	<b>506 (48%)</b>	<b>342 (32%)</b>	<b>1,056 (100%)</b>
<b>NA</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>15 (100%)</b>

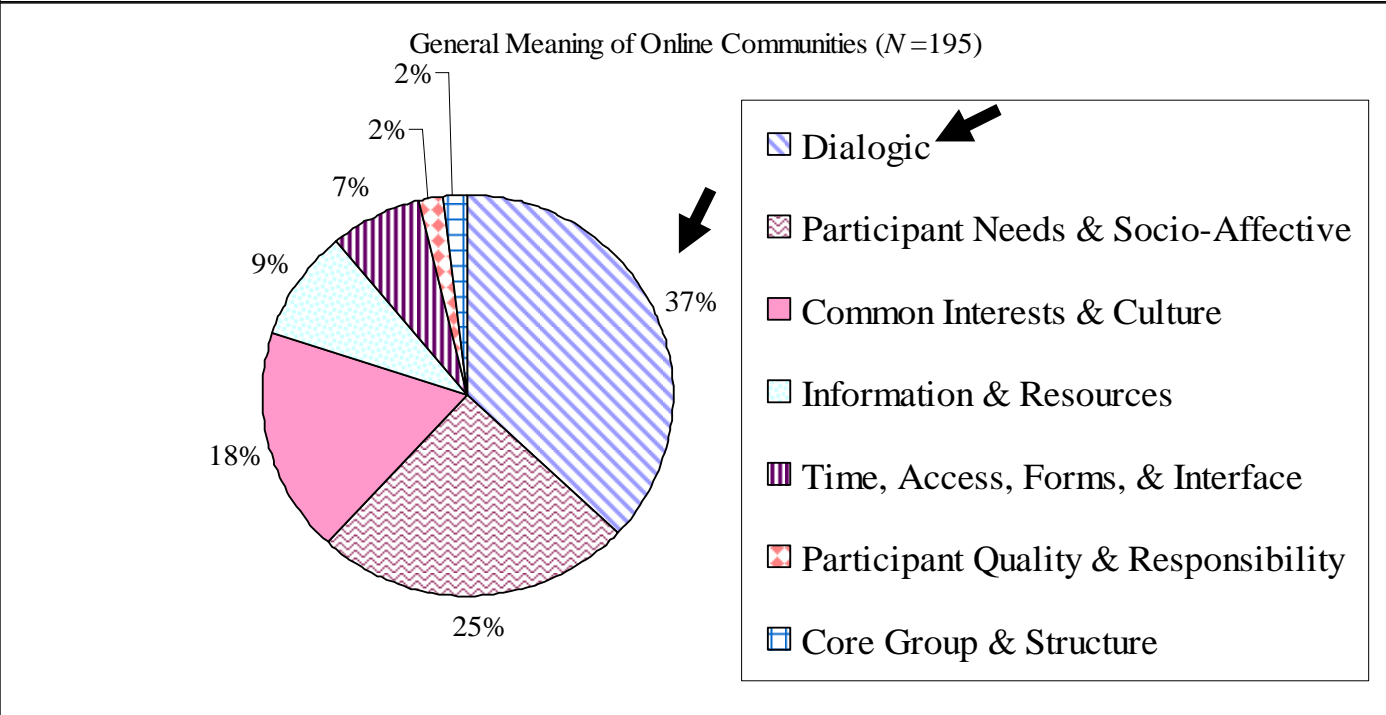
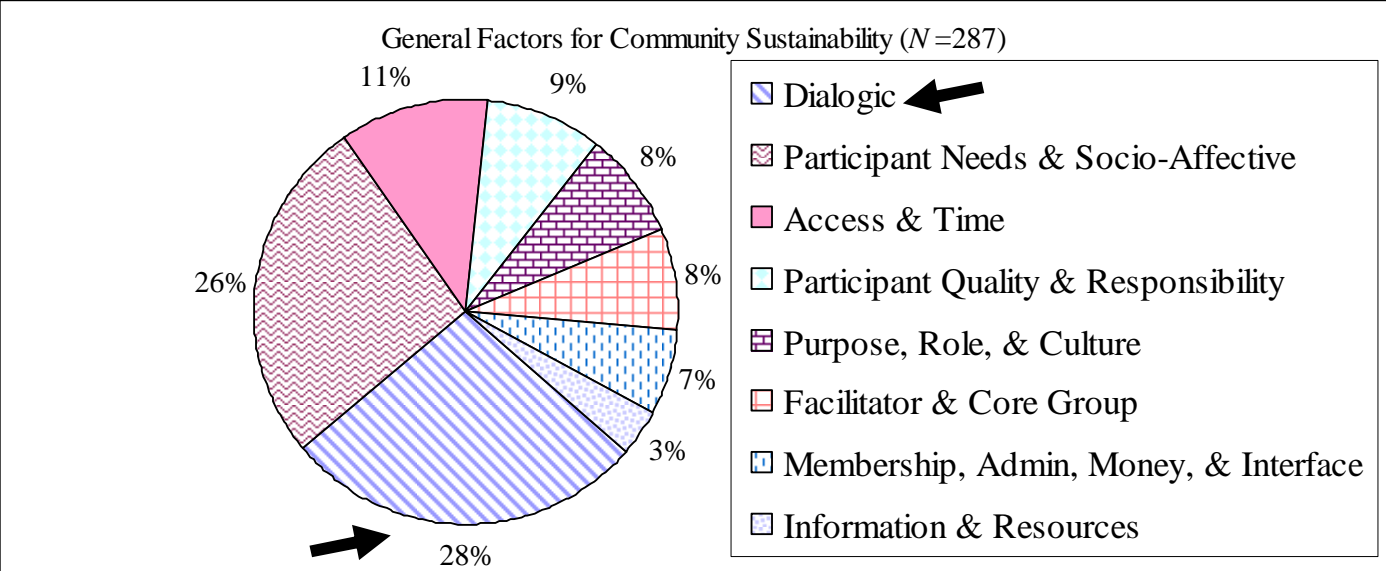
## **FACTORS FOR DIFFERENCES IN ENGAGEMENT**

- **Commitment of participants and their high-quality participation both at individual and community levels**
- **Communicative culture's norms**
- **Writing style**
- **Social relationships**
- **High-quality facilitative leadership**
- **Infrastructural issues**

## SURVEY FINDINGS

- **Their community sustainability:**
  - **yes (73%)**
  - **no (9%)**
- **Online communities can:**
  - **improve both teacher retention and professional learning (61%)**
  - **others (12%)**
- **Changes:**
  - **both personally and professionally (34%)**
  - **only professionally (27%)**
- **Time spent on browsing/responding each day:**
  - **Less than an hour each day (73%)**
  - **1-3 hours each day (21%)**
- **Preferred PD mode:**
  - **both, with more face-to-face contact (35%)**
  - **both, with more online communication (26%)**

# Participants' Responses: Community Sustainability and the Meaning of E-Communities



## **SURVEY FINDINGS: USE OF EMAIL LISTS**

- **Why did you join the list?**
  - **Gather information and share resources (105 or 37%)**
  - **Be a member of a teaching community to connect with people (71 or 25%)**
- **Which of the following do you find particularly engaging online?**
  - **Curriculum activities and teaching resources (106 or 50%)**
  - **Concepts and beliefs about pedagogy and socio-educational issues (48 or 23%)**
- **What one factor might determine the type of postings to which you would most often respond?**
  - **Whether or not the topic is interesting or relevant to own interest (225 or 90%)**
  - **Whether or not I know the writer (7 or 1%)**

**(Responses are similar between the two types of e-communities)**

## INTERVIEW FINDINGS

### **Consistent with my notion of engagement:**

- 75% of interviewees agreed with the survey findings (community sustainability)
- Dialogic and more, e.g., needs, usefulness, infrastructural issues (also survey)
- CMC alone is not enough to support teacher learning, they also need FTF

**Without quality of dialogue, lists may survive, participants may drop out**

**Community: dialogicality, contribution, life span, support, activity**

**Experienced teachers, novices, policymakers: different needs & concerns**

- common problem: “really busy, little time and energy”

**More qualitative than quantitative impact:**

- On student achievement: “I get 100% pass in the exam” (1 interviewee only)

**Have “great possibilities” as well as limitations**

**Policymaking: cost-effectiveness, reverse brain drain, numbers, show proof, regional, portfolios, convention, invite participation, research, etc.**



## Interview Excerpts

**Engagement:** “Well, engaging would go back with dialogic, um, that is that people are not simply giving an answer to a question, but they are reframing the question in their own terms, elaborating on the questions, um, bringing their own experience to bear on the question in a way that um encourages others to jump in and possibly offer more nuanced approach to the same question. ... So, I think what engaging means to me is that after several rounds of communication, the discussion has moved from where it was to beginning, but not simply going off task, but it's going deeper.”

**Impact:** “All the above is qualitative. I would like to be able to say that as a result of the listserv (and the longer induction via the internship we now require during the semester before student teaching) *we now lose fewer new teachers during, let's say, their first 3 years in the classroom.* Nicole and I are tracking these data (and following up with student teaching alums who write to tell us they're going into real estate) but there is not enough yet to say.”

## **IMPLICATIONS & RECOMMENDATIONS**

- **Evaluation of the effectiveness of learning with larger e-communities (conditions)**
- **A sustainable model of learning e-communities:**
  - **Be aware of both the potential and limitations of online communities**
  - **Utilize both discourse forms to achieve goals**
  - **Encourage participants to participate in a particular way**
  - **Facilitate greater options for complex discussions of pedagogical issues**
  - **Provide mixed modes of interaction**
  - **Scaffold communicative strategies**
  - **Address differential needs and concerns of experienced vs. novice teachers**
- **Policymaking issues:**
  - **Continuous dialogue to establish shared goals**
  - **Gather both quantitative and qualitative evidence of learning**
  - **Support teachers to achieve the intended goals (reform)**
  - **Collaborations**
  - **Systematic mentoring programs (statewide)**
  - **Encourage self-motivated communities from bottom up (cf. top down)**

## CHALLENGES & LIMITATIONS

- **Challenges:**
  - **Large amount of data**
  - **Insecurity – social relationships and trust**
  - **Joining conversations midstream**
  - **Content**
  - **Stance regarding relationships between time & space**
  - **Constructing teacher friendly evaluation templates**
  - **Informed consent and ethics issues with larger public e-communities**
- **Limitations:**
  - **Different levels of communicative activity**
  - **Technical failure**
  - **Limited to teachers' online communication and self-reports of their participation**
  - **Not capturing peripheral participation**
  - **Represent only a small portion of the overall PD activities**

## CONCLUDING REMARKS

**Growth in taxonomies, & understandings of:**

**Analytical framework: 2 dimensions - discourse forms & sustained threads**

**Co-constructing “High Engagement” Vs. “Information Transmission”  
Communities**

**“Dialogic engagement” Vs. “univocal information exchange”**

**Discussion culture of e-communities**

**Different participation in online communities: Experience level**

**CMC engagement bridges CMC & sustainability:**

**Consistent with survey & interview responses**

**Higher levels of CMC engagement can indicate sustainability**

**Bridging reflective ideas and practice – future changes**

**Provide new usable knowledge in the field – rewarding experience**

## **FUTURE RESEARCH**

- **Impact of teachers' online participation on improvements in their own practice and students' achievement**
- **Identify additional methods and e-tools for analyzing e-learning environments**
- **Efficacy and ethics of CMC in PD**
- **How policy comes to shape, and be shaped by, e-communities and teachers' pedagogical knowledge and beliefs**
- **Differential learning conditions and needs of teachers based on experience level (especially early years) and gender**
- **Invisible participatory presence**

## SELECTED REFERENCES

- Bakhtin, M. M. (1986). The problem of speech genres. In M. M. Bakhtin, *Speech genres and other late essays* (V. McGee, Trans. & C. Emerson & M. Holquist, Eds.) (pp. 60-102). Austin, TX: University of Texas Press.
- Berge, A. L., & Collins, M. (Vol. Eds.). (1998). *Wired together: The online classroom in K-12: Vol. 3. Teacher education and professional development*. Cresskill, NJ: Hampton Press, Inc.
- Carspecken, P. F. (1996). *Critical ethnography in educational research: A theoretical and practical guide*. New York, NY: Routledge.
- Cazden, C. (2001). *Classroom discourse: The language of teaching and learning* (2nd ed.). Portsmouth, NH: Heinemann.
- Cochran-Smith, M. (2003). Learning and unlearning: The education of teacher educators. *Teaching and Teacher Education*, 19(1), 5-28.
- Cole, M. (1996). *Cultural psychology: A once and future discipline*. Cambridge, MA: The Belknap Press of Harvard University.
- Fahy, P. J., Crawford, G., & Ally, M. (2001). Patterns of interaction in a computer conference transcript. *International Review of Research in Open and Distance Learning*, 2(1), 1-18.
- Franke, M. L., Carpenter, T., Fennema, E., Ansell, E., & Behrend, J. (1998). Understanding teachers' self-sustaining, generative change in the context of professional development. *Teaching and Teacher Education*, 14(1), 67-80.
- Gee, J. (1999). *An introduction to discourse analysis: Theory and method*. London, UK: Routledge.
- Gunawardena, C. N., Lowe, C. A., & Anderson, T. (1997). Analysis of a global online debate and the development of an interaction analysis model for examining social construction of knowledge in computer conference. *J. Educational Computing Research*, 17(4), 397-431.
- Lampert, M. (2000). Knowing teaching: The intersection of research on teaching and qualitative research. In B. M. Brizuela, J. P. Stewart, R. G. Carrillo, & J. G. Berger (Eds.), *Acts of inquiry in qualitative research* (pp. 61-72). Cambridge, MA: Harvard Educational Review.
- Lotman, Y. (1990). *Universe of the mind: A semiotic theory of culture*. Bloomington, IL: Indiana University Press.
- National Commission on Teaching and America's Future. (2003, January). *No dream denied: A pledge to America's children*. Washington, D.C.: National Commission on Teaching and America's Future.
- Nieto, S. (2003). *What keeps teachers going?* New York, NY: Teachers College Press.
- Nystrand, M. (1997). *Opening dialogue: Understanding the dynamics of language and learning in English classroom*. New York, NY: Teachers College Press.
- Putnam, R. T., & Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher*, 29(1), 4-15.
- Riel, M., & Fulton, K. (2001). The role of technology in supporting learning communities. *Phi Delta Kappan*, 82(7), 518-523.
- Snyder, K. M., & Acker-Hocevar, M. (2003). Building international cultures of synergy through online social networks. In F. K. Kochan & J. T. Pascarelli (Eds.), *Global perspectives on mentoring: Transforming contexts, communities, and cultures* (pp. 311 -334). Greenwich, CT: Information Age Publishing.
- Vygotsky, L. (1986). *Thought and language* (A. Kozulin, Ed. & Trans.). Cambridge, MA: The MIT Press. (Original work published in 1934).
- Wenger, E. (1998). *Communities of practices*. Cambridge, UK: CUP.
- Wertsch, J. V. (1991). *Voices of the mind: A sociocultural approach to mediated action*. Cambridge, MA: HUP.



Washington University in St. Louis

GRADUATE SCHOOL OF ARTS & SCIENCES

**THANK YOU!**

**Diane Hui, Ph.D.**

**Department of Education**

**[diane.hui@wustl.edu](mailto:diane.hui@wustl.edu)**

**<http://artsci.wustl.edu/~dhui>**