Using Asynchronous Communication to Support Virtual Faculty Learning Communities

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PROBLEM

To support participants of the Workshop for New Physics and Astronomy Faculty (NFW), we are offering virtual **Faculty Online Learning Communities (FOLCs)**, with the goal of developing a community of self-reflective teachers who can support each others' long-term growth as educators. It is challenging to create virtual communities that communicate as effectively as in-person communities. We analyze one FOLC cohort's interactions on a Facebook-like platform to argue that **they did form a vibrant community of support**.

CONTEXT, DATA, AND ANALYSIS

What is a FOLC?

A FOLC is a virtual community of new physics and astronomy faculty who elect to join the FOLC following their participation in the NFW. They meet every other week for a year via a teleconferencing platform (Zoom) and communicate between meetings via a Facebook-like platform (Socialcast). Meetings last about 1.5 hours and involve participants sharing teaching challenges and advice, outside experts presenting on teaching, and participants collaborating on reflective teaching (SoTL) projects.

Who was in the FOLC and what is Socialcast?

FOLC Cohort

- First full-year FOLC (AY 2015–2016)
- Nine participants (5 men, 4 women)
- Five or fewer years teaching experience (five had two or fewer)
- All untenured
- Wide variety of institutions:
  - 2 Ph.D., 2 Master's, 4 Bachelor's, 1 Mixed Bachelor's/Associate's
  - 3 public, 6 private
  - 700 to 36,000 students

Socialcast

- Facebook-like platform with a private group only accessible to participants and facilitator
- Intended for communication between synchronous meetings
- Users could create posts, comment on posts, and "like" posts or comments
- Users could upload files or link to external resources in their posts and comments

What data did we analyze?

We analyzed all of the posts, comments, and likes for this FOLC cohort. Posts and comments were coded according to the following scheme, developed for this project:

Question (Q)	Explicit or implicit question (not rhetorical).
Answer (A)	Directly answering a question (often co-coded with I or Sh).
Meta (M)	Discussing the operation of the FOLC (e.g., logistical questions).
Status (S)	Updating on what a participant is doing or planning to do.
Concern (C)	Expressing a concern or vulnerability about themselves or their teaching.
Reflection (R)	Reflecting on teaching, interpreting behavior, articulating assumptions, etc.
Share (Sh)	Sharing experiences, opinions, observations, advice, or a resource.
Information (I)	Sharing or referencing information or resources from an outside source.
Collaborate (Col)	Collaborating on a SoTL project. Never co-coded with Q, A, M, Sh, or I.
Social (Soc)	Empathy, emotional support, affirmation, humor, etc.

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SOCIALCAST FACILITATION

The **FOLC facilitator** (a tenured, male physicist from a private, mid-sized Master's university) used several techniques to encourage productive discussion among participants on Socialcast:

1. Before each meeting, facilitator asked participants to **post questions that they would like addressed**, based on the meeting topic.
2. After each meeting, facilitator encouraged participants to **share resources** that they mentioned during the meeting, **follow up on unanswered questions**, etc.
3. Between meetings, facilitator encouraged participants to posts about **aspects of their teaching that they were excited or concerned about that week**.
4. Facilitator posted about his own teaching struggles, innovations, etc. to **model how to share and be vulnerable** and to **position himself as a co-participant** rather than an expert with all the answers.
5. Facilitator made sufficiently many posts to **remain a genuine participant** and sufficiently few to **encourage participants to take ownership** over the discussions.

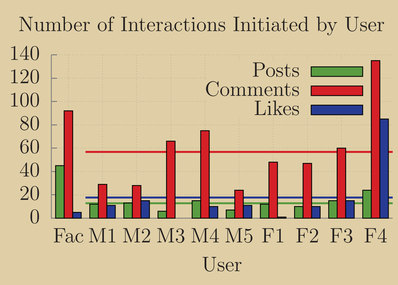
RESULTS

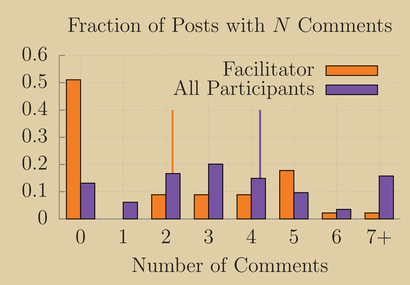
	N	N/user		N/user-week	
		Facilitator	Participant	Facilitator	Participant
Posts	159	45	12.7	1.1	0.3
Comments	604	92	56.9	2.2	1.3
Likes	163	5	17.6	0.1	0.4
Interactions	926	142	87.1	3.3	2.1

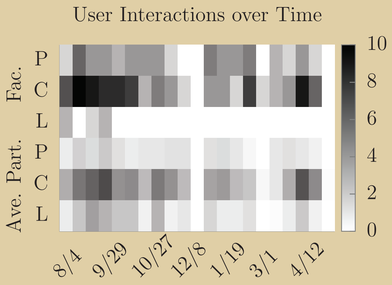
All results **exclude** data coded as Meta.

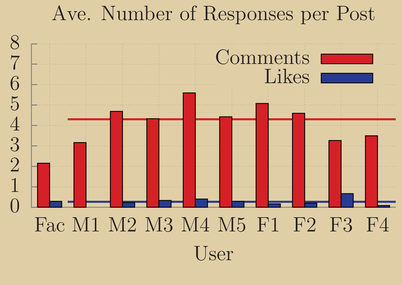
Notes on Figures:

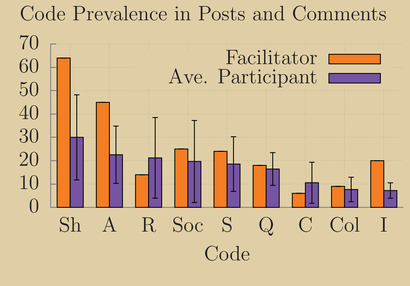
Fac is the facilitator, M1–M5 are the male participants, and F1–F4 are the female participants. Horizontal and vertical lines indicate average values. Error bars indicate standard deviations across participants. Each horizontal segment of the rightmost plots represents a two-week interval.

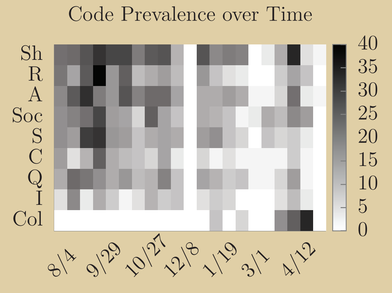












Some conclusions:

1. **The participants used Socialcast consistently to get help to improve their teaching:** Socialcast use fairly constant over time, evidence of participants asking for help (Q, C, and R codes) and offering help (A, Sh, and I codes).
2. **The participants formed a strong, supportive community:** Significant number of Soc interactions, Col interactions present even though projects not framed as group projects, participants receive much more feedback to their posts than facilitator and feedback comes from other participants.
3. **Facilitator navigated boundary between participating and bringing expertise:** Facilitator posts and comments more than average participant, acts more like expert than participants (more Sh, A, and I and less C and R), participants ignored facilitator posts much more often than each other's.