

# Communities of Learning, Practice, and Scholarship: Applying Social Learning Systems Theory to an Association of Educational Stakeholders

John Settlage, *University of Connecticut*  
Adam Johnston, *Weber State University*

*Paper presentation at the annual AERA Meeting, NYC, March 24-27, 2008.*

## Foundation

In the beginning we gave no consideration to whether our undertaking would be researchable. At best, we were playing around – creating amusement for ourselves – with the notion of creating a new type of professional conference. From the outset we recognized our own peevishness, but simultaneously this gave us license to be playful with new ideas. We concede there was appeal in the potential to ruffle feathers within our science education research organization, but we contend that beyond pranksterism we were genuinely seeking an alternative to an antiquated conference format. Over the many years we attended annual research meetings, we discovered that the formal program served as a front for more productive exchanges of information and ideas. Paper presentations became the rationale for having our universities agree to send us to distant cities. But for the most part, the most powerful aspects of the conferences occurred in intermediate times and places: meeting for coffee before or instead of attending a concurrent session, spending time in an alcove discussing work instead of sitting at a keynote talk, or staying out late hatching new endeavors over a few cold beverages. In short, the annual meeting was useful in direct proportion to the amount of time spent not doing what appeared in the printed program. It was at one (or more) of these surreptitious events that we began to explore the idea of a conference that was deliberately designed to encourage conversation and compel authentic discussions. No doubt, we enjoyed the reflective nature of planning something in the very style we wished to emulate in the final place. We were slow to recognize that the interstitial spaces of a professional conference are where the real work occurs. Elliott Eisner (1984) recollects the impact that Joseph Schwab's keynote talk about curriculum in 1969 had on those in attendance:

*For those of us who heard Schwab's paper on the practical as an invited address to Division B at AERA in 1969, the experience was memorable. He received an enormous ovation at the end of it. His speech was discussed and debated in the halls, lobbies and bars that serve as the heart of an AERA convention (p. 202). [emphasis added]*

We accept this as additional evidence that others such as Eisner have wisdom that is greater than our own. Nevertheless, his assessment (albeit twenty-plus years ahead of us) about the soul of a research convention confirms our suspicions. The meetings rooms in which presentations are scheduled are not the sites to look for the best of what a convention can offer. In our naiveté, we saw this practice as, at best, unreflective, blindly continuing with a tradition without an apparent regard for the professionals needs of educational scholars. More disheartening was that the practice was simply disingenuous, perpetuating a mechanism that supported the participants and their growth only inasmuch as it provided institutional funds to visit metropolitan areas in the middle of our work week, stay in overpriced hotels, and then go out to the “halls, lobbies, and bars” with colleagues. Why, we wondered, should we participate in this charade? We brazenly conceived of a conference where the conversations in “halls, lobbies and bars” became the premise and the heart around which community might gather.

## A Theory that Found Us

From our perspective as “organizers” (one level above peevish pranksters) of a professional conference called *Science Education at the Crossroads*, we were afforded a perspective different from that of being a conference participant. Even though we required ourselves to make the same form presentations that we expected of all participants, we also were privy to the evolution of the proposals written by attendees. We took it upon ourselves to provide feedback on the proposals in a fashion more typical of an editor than a conference chair. Beyond issuing acceptance letters, we requested that authors revise their writing to make it more accessible to a wider audience, more situated in the concrete, and intellectually substantive. Whereas in the past, we would have been on the receiving end of such feedback, by imposing our requests on conference

---

<sup>1</sup> See <http://www.sciedxroads.org>

attendees, we found ourselves thinking about the process as a social phenomenon. We became aware of the relationships among individuals and within social groups in ways that we had only considered when running our classrooms or conducting school-based research. It wasn't that the conference was working perfectly — it was that we were viewing the professional gathering as if we had only just discovered socio-cultural theory. The emergent perspective (Cobb & Yackel, 1996) allowed us to attend to individual participation, to follow the interactions within the group, and to guide us appreciate the intellectual challenges of attending to efforts to coordinate the two. Much as identity is described as a dialectic between a person's representation of self and the community's endorsement (or reconfiguration) of that self (Carlone & Johnson, 2007), we grew to value the perspectives offered by considering the individual, the group, and the reciprocity between the two levels. However, our efforts to capture and comprehend all of this is admittedly a work in progress. We searched for a theoretical tool that might sort through our experiences and support our desire to make sense of it all — and Wenger's "communities of practice" (1999) offered a lens we applied to our annual conference.

We were drawn to the description of practice dimensions that are properties of community: mutual engagement, joint enterprise, and shared repertoire. Conference evaluation data, in the form of post-meeting individual interviews (key people invited to participate, semi-structured, and audio-recorded) and an online survey (posted for all attendees and including a combination of Likert-type items and open-ended prompts) were interrogated using these three constructs. These were existing bodies of data that were gathered for other purposes (i.e., documentation and dissemination) but seemed to offer promise when considered from a communities of practice perspective. However, we discovered that this theoretical lens and our ongoing gathering of science education stakeholders did not align in an obvious nor necessarily informative fashion. Thus we find ourselves in a conundrum: either the theoretical framework is insufficient as a tool for describing the situation or the context in which we are interested fails to represent an actual community of practice. We would also allow and even suspect that the issue may be a by-product of our shortcomings as researchers. And yet, by most accounts, the conference is providing something of value to its participants. In what follows, we give a fuller description of the three dimensions of practice as offered by Wenger. Then we reveal the difficulties experienced in trying to align theory with data.

### ***Mutual Engagement***

Members of a social group are bound together because of a shared sense about what they need and want to do (Hansman, 2001). In defining mutual engagement Wenger stated that practice exists because people are engaged in actions whose meanings they negotiate with one another. "Interrelations arise out of engagement in practice and not out of an idealized view of what a community should be like" (Wenger, 1999, pp. 76-77), indicating that wanting to be together is not sufficient to constitute a community of practice. Instead, it is by working with others, either through shared or complementary activities, that mutual engagement exists. Our sense was that the structure of the conference provided a context that would fall within this category. However, as we examined the data, while there was apparently great mutuality to the conference, both in terms of the discrete sessions as well as for the entire two-day event, we have struggled to uncover this domain as defined by Wenger. The domain may still exist, but our attempts to identify its presence eluded us.

The sessions at our conference are 75 minutes in duration with two presentations scheduled within this timeframe. Briefly, the focus of each presentation (which we call an Incubator) is for an individual to articulate a challenge they are facing within science education (the "vexation") along with a description about an approach they are contemplating in an effort to address this difficulty (the "venture"). By virtue of the session's structure, feedback from those in attendance is given equal time to the sharing of information by the presenter. A facilitator keeps strict control over turn-taking. The most distinctive element of the presentation is when the facilitator asks the presenter to remain silent for fifteen minutes while others comment upon the vexation and venture.<sup>2</sup> This is a deliberate effort to inform and/or adjust the direction of the putative undertaking, refocusing the "presenter's" attention to listening and receiving, rather than defending. Within the online evaluation, attendees were prompted to identify experiences during the conference that influenced changes (that they had described in a previous prompt) in their science education identity. Very often, the presentation sessions were identified as the catalyst:

Response 3: The most important is sitting on the "hot" seat...

---

<sup>2</sup> A Google search of "vexation and venture" will lead those who are interested to a fuller description of this structure.

Response 11: Most specifically, I found ideas as well as the difference perspectives shared among people at my session were the most specific factors that advanced my thinking.

Response 13: The incubator session, specifically the sit and listen time. As well as reflecting back upon the entire incubator session.

Response 23: The incubator session was the key "moment"

Response 24: I alluded to this above, but largely this is a result of both my incubator talk and contrasts with others. I think some of the questions asked of me were important in nudging me. However, the main issue for me is the mismatch between what I hoped for and what happened in the incubator. I feel this is largely my presentation and not so much an issue of the format or session.

However, what is less clear is whether the mutual benefits provided within the Incubators along with the engagement by those in attendance accurately represent Wenger's conception of mutual engagement. By describing engagement as "active involvement in mutual processes of negotiation of meaning" (p. 173), we question whether that description matches the phenomena we have observed. In point of fact, the mutual processes are short-lived and there are few indications that attendees are mutually engaged in practices past the time of the conference itself. At best, the practices are the mutually supportive exchanges that take place — but solely within the temporal boundaries of the conference. While one might claim that the community is mutual engaged in shared practices while gathered in one place, we struggle to offer evidence that an annual two-day assembly equates with a community of practice defined by mutual engagement — at least in the ways construed by Wenger. This does not diminish the satisfaction we experience as coordinators of the conference. It also does not question the value the participants ascribe to their involvement. Nevertheless, when viewed from Wenger's domain of mutual engagement, it seems inappropriate to claim that the conference is representative of his notion of a community of practice.

### **Joint Enterprise**

Wenger (1999) describes the internal workings of a community as an indigenous enterprise represented by the practices of the group. In his conceptualization, standard agreements emerge about relevance, properness, focus, importance, behaviors, and so on. As these agreements are or have been negotiated, they provide boundaries for inclusion and exclusion, not of individuals, but for beliefs, knowledge and activities that either fulfill the tacit or explicit standards of accountability. These accountability agreements shape and define a joint enterprise.

If there is a joint enterprise within this community, it takes the form of mutual support about the challenges individuals face after they leave this community to re-enter their employment-based communities. While there may be no tangible products generated through the joint enterprise, there are nonetheless standards of behavior that give shape to the group. In this regard, the community of the conference is more like a support group as opposed to a manufacturing enterprise, a difference akin to an Alcoholics Anonymous group contrasted with Liberian tailors (Lave & Wenger, 1991). If we allow for an enterprise to generate products that are not tangible, then there are indications that the conference creates a context wherein participants are involved in a joint enterprise.

Bahadur, an assistant professor of science teacher education, articulated the liberating qualities of the community within his interview. He articulated being vulnerable as a crucial aspect of his participation. In our interpretation, this is an indication that the community functions against a background of opening oneself to uncertainty and even professional vulnerability. As such, the joint enterprise of this community manifests as standards of practice that encouraged and endorsed self-disclosure and risk-taking. Recognizing that everyone was enterprising jointly in this opportunity to be vulnerable afforded powerful conversations. At the first Incubator session he attended Bahadur discovered it was acceptable for individuals to share their uncertainties and that allowed him to open himself more than he might have been in other settings:

*That really put me at ease when I presented. And that reinforced that this is [a] fundamentally different kind of community. And this is a community where you make yourself very vulnerable in front of everybody else. They are there to support you in whatever way they can, in whatever way they know. I think in larger conferences you don't want to show your vulnerable side. ... It doesn't allow you to learn more from others. And at the same time, when you participate in other presentations you hold back because you don't want to say something that will make the presenter look bad.*

In describing the community's norms of interaction, Bahadur contrasted this enterprise with his experiences in other professional settings. Thus, he defines this particular community as "fundamentally different," suggesting that there is a distinctive mutual accountability in place. Further, this accountability contrasts with the standards in place within other research conferences. According to Wenger (p. 81) the mutual accountability that characterizes joint enterprise:

*plays a central role in defining the circumstances under which, as a community and as individuals, members feel concerned or unconcerned by what they are doing and what is happening to them and around them, and under which they attempt, neglect, or refuse to make sense of events and to seek new meanings.*

There are difficulties with trying to document individual beliefs about whether they feel respected and appreciated within the context of the conference. The criteria offered by Wenger about individuals' feelings as they "attempt, neglect or refuse" to engage in exchanges that are putatively indicative of joint enterprises would seem quite difficult to detect. Therefore, from our data at hand, we find ourselves speculating about our informants' perspectives when it comes to the question about the existence of a genuinely joint enterprise. Despite this challenge, we suspect that "joint enterprise" may be the strongest component of the overall communities of practice model when applied to the conference.

In claiming that Wenger's joint enterprise was present within the conference community, we are suggesting that the common focus upon making plans for action represent a shared purpose. Insights into the manner in which this manifested itself, that is, where participants reconsidered their professional identities, was elicited by the online post-conference survey as participants were prompted to respond to this question: "What would you say has changed about your perceived roles within science education?" In what follows, a participant described a renewed commitment — and we contend that realigning oneself to deeper purposes has emerged as this community's joint enterprise:

*[An] Unexpected outcome ... stemmed from a comment Professor M made in response to Doctor P's presentation about what to do now that she had "won the game" of academia. Professor M challenged her to focus on what about her work would give her the most joy. Perhaps an obvious thing to focus on but it really hit me that I don't approach my job that way at all. Granted, there are things that we all need to do at our jobs that we don't enjoy, but in our profession, we have much more flexibility to define our work for ourselves that just about any other job. So, my new commitment is that when I get to make the decisions, I will choose the option that gives me the most joy. That approach just really feels right to me as I have considered it over the last few weeks -- I was wondering if it was an ethically defensible stance, and I've come to the conclusion that, in the big picture, it will allow me to be more productive for a longer time in my career without burning out. Thus, in the long run, I am likely to contribute more to the field.*

Over the three-year lifespan of this conference, the idea of science educators as "scholar activists" has become a rallying point (Moss, 2008). If we could identify the core of a joint enterprise within this community, then the vision of a scholar activist, and the continued efforts to refine this notion into a clarified and agreed upon construct, seems to fill that role. Antonia, an early-career educational studies scholar, described in an interview her experiences within the conference. Although she appreciated being energized by the conference, she also realized the need to prioritize where she invested her energy once she returned home. For example, she wants to collaborate with scientists who are literally on the other side of campus:

*I have been more careful about not moving too fast, particularly if these are individuals who I foresee creating access. I remember my first year, just based upon some of the questions I was getting asked, it dawned on me that they really didn't know what I'm talking about. In addition to starting to think more strategically and having the conference as a place where I could put an idea down, and then by seeing it out on paper, then I could start to think more carefully. I think it's the combination of all those things that has helped me to be a little more patient.*

The prospect of becoming scholar-activists has taken root within this community. This has emerged as a joint enterprise that unites the participants as well as carries over from one annual meeting to the next. Further, Antonia described how such commitments transcend the times when the community is together and shapes her interactions with scientists as well as strengthening her resolve as an instructor.

### **Shared Repertoire**

Within Wenger's claim that communities of practice are defined by the mechanisms that provide coherence, he identifies "shared repertoire" as the third and final dimension. Within this dimension he includes the cultured practices (e.g., terminology,

communication styles, gestures, symbols, etc.) along with the products of the community. To show the relationship and interdependence of the actions and objects, he invokes a yin and yang figure that depicts the duality of participation and reification. We can simplify this combination as the “style and stuff” of a community. Wenger sees the two as complementary and points at the problems when these two realms are not balanced: “Participation and reification must be in such proportion and relation as to compensate for their respective shortcomings” (Wenger, 1998, p. 65). And it is the conference’s resistance to creating products (akin to Wenger’s reification) which creates confusion. One possibility is that a strict application of Wenger’s representation of communities of practice would require reification and without such objects, a community of practice label should not be applied. Alternatively, Wenger’s seeming insistence upon reification (which we confess is not entirely clear to us) may need to be expanded to include intangible products that extend beyond documents and other concrete artifacts. Moreover, the question of where the products should be situated is a compelling question: Should the group be creating such a grand synthesized product? Or is it sufficient for individuals to be provoked and inspired to each create his or her own product?

It is to this question of products that we draw upon the post-conference survey results. Participants were asked to consider possible outcomes of the Crossroads conference and to rate what they believed should be important goals. Below we present select items that address the topic of shared repertoire:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Crossroads should be considered an outcome in its own right without being concerned about what it generates.	38.50%	38.50%	0%	23.10%	0%
Crossroads should restrict participation to those who are actively involved with science education research.	3.80%	19.20%	15.40%	38.50%	23.10%
Crossroads should work toward providing a more unified agenda to focus discussions.	3.80%	23.10%	26.90%	34.60%	11.50%
Crossroads should provide a supportive setting that helps people begin pursuing individual efforts.	57.70%	34.60%	0%	7.70%	0%
Crossroads should assist individuals with producing tangible written products.	11.50%	30.80%	42.30%	15.40%	0%

In testing whether the conference and its attendees represents a community of practice as outlined by Wenger, these data run counter to his definition, especially in his claim: “the process of reification so construed is central to every practice” (p. 59). The first row of the table reveals a wide distribution of views relative to outcomes; some respond favorably to the suggestion that the conference itself is the outcome (10 of 28 strongly agreed) while six respondents disagreed. In terms of restricting participation to active science education researchers, the responses were skewed in favor of allowing non-researchers to attend. The third row reports responses to the whether there is a need for unifying the agenda to offer a focus and respondents were more likely to disagree (or strongly disagree) with this option. As to the suggestion that this conference should support individual endeavors (as opposed to collective works), the distribution of response strongly favors the pursuit of individual projects (fourth row) even though our table reveals neutrality about whether the production of textual materials should be a focus (fifth row). In short, the notion of shared repertoire does not seem to apply to the style and structure of this conference group, suggesting that this gathering fails to fulfill Wenger’s conceptualization of a community of practice. The following quotes serve as further counter-evidence to any claim that the conference fits Wenger’s model; these responses were part of the optional, open-ended following the Likert-scale items posed above:

*A strength of Crossroads is that many different objectives are accomplished in the midst of the conference. I'm concerned that **if it gets too targeted, some of its beauty and strength will be lost.***

*Crossroads should continue to amplify the kinds of discussions small groups take on at larger meetings-- between sessions, at meals, etc. I like how Crossroads has "formalized" these informal, often intense and serendipitous, and very meaningful conversations. The structure prompted interaction with nearly all who attended. The lack of hierarchy was welcome. The supportive atmosphere among strangers [and] non-strangers was a special accomplishment. **I would not make Crossroads a means to some other product.***

*[The prompt that read:] "Crossroads should focus attention upon issues of educational equity and access for learners of science." I want to comment on this. This is ordinarily at the top of my list. But to focus on this at Crossroads might deprive individuals who have other serious and interesting vexations the opportunity to air them. I like the format of Crossroads so much that a themed conference like this would be something I would participate in, if invited. But if Crossroads focused mainly on this issue, I wonder if individuals would get caught up in the angst that sometimes accompanies this topic, and posture might replace **the openness and honesty that seemed to characterize the meeting that I attended.***

## Discussion

As we started to look back upon the series of conferences we have been orchestrating, mentors and colleagues urged us to capture what was occurring. In casting about for a way to frame this study, we wondered whether Wenger's "communities of practice" might be an appropriate lens to use. While the outcomes of the conference have been favorable (i.e., we have won external funding and the ratings each year are almost embarrassingly high), we are forced to confront the possibility that Wenger's model does not align with the phenomena as interpreted by the participants. This has been a hard lesson to learn, beginning, as it did, with the following feedback from the AERA reviewers of our proposal:

*I liked the coherence in the theory, methods and analysis but I have to wonder whether the coherence was "found" in the data or the data were forced to be coherent with the theory.*

*I'm not understanding how you've resolved the tension between the emphasis on the individual in learning and a social construction of knowledge.*

*This is a potentially important line of research, but the data do not support the conclusions.*

While we feel justified in believing that our conference series is a "good thing" we feel that we must establish some distance from the idea of communities of practice. Or perhaps the distancing should be from Wenger's representations of communities of practice. We have begun to work backwards to contemplate whether Lave and Wenger (1991) offer a model in the form of legitimate peripheral participation that may more closely explain the data. If this proves to be fruitful, that may signal that the more recent model of Wenger is more suitable to corporate communities whereas the work he did with Lave might be more appropriate in circumstances where learning prevails as a key organizing feature.

## References

- Anfara, Vincent A. & Metz, Norma T. (2006). *Theoretical frameworks in qualitative research*. Thousand Oaks, CA: Sage.
- Carlson, Heidi B. and Johnson, Angela. (2007). Understanding the science experiences of successful women of color: Science identity as an analytic lens. *Journal of Research in Science Teaching*, 44 (8), 1187-1218.
- Cobb, Paul & Yackel, Erna. (1996). Constructivist, emergent and sociocultural perspectives in the context of developmental research. *Educational Psychologist*, 31(3/4), 175-190.
- Eisner, Elliot. (1984). No easy answers: Joseph Schwab's contributions to curriculum. *Curriculum Inquiry*, 14 (2), 201-210.
- Hansman, Catherine A. (2001). Context-based adult learning. *New Directions for Adult and Continuing Education*, 89, 43-51.
- Lave, Jean & Wenger, Etienne. (1991). *Situated learning: Legitimate peripheral participation*. New York: Cambridge University Press.
- Moss, David M. (2008). *In search of scholar activism*. Paper presented at the annual meeting of NARST, Baltimore, MD, March 30-April 2, 2008.
- Packer, Martin J. & Goicoechea, Jessica. (2000). Sociocultural and constructivist theories of learning: Ontology, not just epistemology. *Educational Psychologist*, 35, 227-241.
- Wenger, Etienne. (1999). *Communities of practice: Learning, meaning and identity*. New York: Cambridge University Press.