

Supporting and Changing Practices of Multiple Communities

Position Statement for

Community-Based Learning Workshop: Explorations into Theoretical Groundings,
Empirical Findings, and Computer Support

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Over the past several years, my colleagues (Violet Harada and Vicki Kajioka) and I have been attempting to build and support an online community of educators in Hawai`i. We are co-PIs of Hawai`i Networked Learning Communities (HNLC), a National Science Foundation Rural Systemic Initiative (RSI). The goal of HNLC is to empower educators to prepare students in economically disadvantaged rural schools for life and careers in today's complex and dynamic technological world by enabling them to attain high standards in science, mathematics, and technology (SMT). HNLC is the result of collaboration between the Department of Information and Computer Sciences (ICS) of the University of Hawai`i at Manoa (UHM) and the Advanced Technologies Research Branch (ATRB) of the Hawai`i Department of Education (HIDOE).

One component of our work is a "virtual community center," hnlc.org. We chose to use Internet technology to build and sustain a community of rural educators because they work in small and isolated schools separated by island geography. This website actually targets educators at two levels: teams of educators who are formally involved in HNLC, and the broader community of educational stakeholders in Hawai`i. The site includes a community forum for sharing news and stories of any nature deemed appropriate by members, and a database of Hawai`i-based resources for education. Two additional tools are specifically intended to support the work of HNLC school teams: a template that guides unit planning, and an "artifact-centered" discussion tool for sharing and discussing work.

A year ago, we undertook our first evaluation specifically targeted at determining levels of teacher use of our online community tools. This evaluation is summarized in a paper to be presented at this conference, Suthers et al., (2004). Overall, respondents had positive attitudes about the use of technology for a range of purposes, but as of Summer 2003 had not made significant use of hnlc.org outside of sponsored events, with the exceptions of school teams preparing for those events and the initiative of a few individuals. The results of this study challenged us to rethink our efforts to use community technology in support of systemic reform. In this section I summarize what I believe to be the most important portion of our deliberations, and the kinds of issues I would like to explore in this workshop.

What Community Should Be Supported?

Although our ultimate goal is increased *student* performance and participation in SMT, we want to accomplish this in a sustainable manner, which requires that we change the practices of those responsible for this outcome rather than working directly with students. Therefore we reaffirmed

¹ Portions of this paper are revised from Suthers, Harada, Doane, Yukawa, Harris & Lid (2004). I especially think Vi Harada and Joyce Yukawa for their insights and collaboration in working through the ideas expressed herein.

that we want to support the work of teachers (although, as discussed below, we cannot neglect support for students). HNLC has been working with teams constituted for the purpose of representing each school to HNLC. These teams may or may not be constituted of existing collaborators. An alternative approach is to identify existing communities within the schools (Kling & Courtright, 2003) rather than leaving this up to school administrators. Regardless of how formed, school teams should enable educators of different disciplines or at different grade levels within a school to work with each other towards continuity in the students' learning experience.

We also recognize that relevant communities can extend beyond the schools, and considered the following alternatives. Teachers specializing in a given subject or grade level may want to network with each other across schools, forming communities *of practice*, the second “knit” of a double-knit organization (Wenger, McDermott & Snyder, 2002). There are also groups defined by administrative structures such as the HIDEO complexes (high schools and their primary and intermediate feeder schools). We considered whether our HNLC colleagues within the HIDEO should be the primary targets of our technology support. The ATRB team members plan the leadership development program and carry it out in scheduled events, school visits, and (soon) online instruction. Although ATRB staff suggested that we focus on teachers, we recognize the need to work closely with the ATRB staff to ensure that the affordances of our technologies mesh well with their plans. Because participants will most likely try new tools and practices at face-to-face meetings, we need to design for transitions between face-to-face and online use.

Also of interest for our systemic reform agenda is the statewide community of SMT educators within HIDEO, and the even broader community of stakeholders and interested parties that includes parents, employers, and representatives of other federally funded programs that have an educational outreach component. The expectations and resources of these stakeholders are critical for shaping and sustaining the future of education.

As a result of this discussion, we now explicitly acknowledge that hnlc.org must support *nested* and *overlapping* communities of practice (c.f., “nested learning communities,” Resnick & Hall, 1998; and “double-knit organizations,” Wenger, McDermott & Snyder, 2002) that extend beyond the schools and into the community. We need to focus on teachers as those primarily responsible for student achievement, but not neglect the larger community context of education. Our primary focus in the design of hnlc.org remains on the school teams and on inter-team collaborations (communities of practice) in which educators and ATRB staff share ideas and advice. Our secondary focus remains on the larger community that forms the environment of resources and expectations within which our primary communities grow. It is *essential* for the sustainability of systemic reform that we not only address the needs of the practitioners, whose work immediately impacts upon student performance, but also initiate change in the broader community that places expectations on the school system as well as provides the resources to meet those expectations.

What Practice Should Be Supported?

Having clarified the overlapping and nested spheres of communities of practice that we intend to support, we are still faced with the question, “What practice?” Should we design to meet practitioners' immediate needs and working practices (as conventional wisdom in human-computer system design suggests)? Or would we be neglecting the systemic reform's objective of *changing* practice if we merely focus on supporting existing practice? We face a triple

challenge: by asking teachers to (1) work collaboratively (2) via online technology (3) to plan and engage in inquiry learning, we are asking them to do three things they are not accustomed to doing.

Systemic reform requires that something sustainable change in the *system* beyond an immediate impact on this year's cohort of students. Furthermore, systemic reform means change, and that may mean trying to get educators to do things other than that which they think they most need. We need to change their practices as well as support them. The objective of this reform is a reflective-action form of practice – akin to action research – in which teachers use embedded assessment to examine the effects of their instructional interventions and the learning opportunities they create on student performance in SMT, and adjust those interventions and seek new opportunities as needed to improve performance. If *this* were the prevalent practice of our user community, then would the tools that they need and indeed demand be different than at present? Can we offer technology (integrated with leadership development) that meets the demands of this imagined community of practice of the future, and thereby perturb the present activity system to change towards that future? This strategy will not work if educators don't use the tools, and they won't use tools that don't meet their present needs. Our hope is that the distinction between supporting and changing practice may be artificial or irrelevant, if the tools we offer are amenable to supporting both practices in teachers' current zone of proximal development as well as more reflective practices of the future. Strategically, we need to build tools to support current practice, gain acceptance, and then build on this base to change the practice along with and through the tools. This process could be supported by technology serving as a collaborative workspace with functions to enable socialization and interpersonal connection (Barab et al., 2003).

A related question is how teachers will learn to use technology. We began under the assumption that educators could learn to teach with technology by first learning to learn with technology. However, through surveys and focus groups as well as informal experience we found that HNLC educators tend to view technology as resources for use with their students, and are more likely to be inspired by their students' use of technology than vice-versa. Yet they also acknowledge that technology is an important resource for their own professional development. Perhaps the resolution to this apparent tension between teacher-first versus student-first use is to shape professional and leadership development so that participants use the tools in the way students would be asked to use them in inquiry-based learning. They would thereby gain simultaneous training in the practice of inquiry-based learning and the use of technologies as specifically applied to the inquiry activities of themselves *and* their students.

What do we build?

We have so far considered what we can do to support multiple communities and teams. A deeper issue arises if many of these communities of practice do not already exist. Then the question becomes, "What do we build – the community, the practice, the tools?" Communities of practice need to be built from a complex array of factors and in a manner that is timely and unique to each group. A community design cannot simply be proffered to a group (Fullan, 1993). Communities evolve within groups around their particular needs and for purposes that they value. Fostering trusting and respectful relationships is paramount. This is the basis for community building, and, once established, each community of practice then directs the development, adoption, and use of technology for its specific needs. The process combines both

bottom-up and top-down efforts to answer the questions we pose here. When multiple, nested communities of practice are involved, our responsibilities for attentiveness and technological responsiveness are correspondingly increased and should be clearly prioritized.

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