

Innovative Tools for Community Collaboration - A History

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This poster presents the history of a 14-year-long web project supporting collaborative inquiry, developed in an LIS school. Rooted in the pragmatist philosophy of John Dewey, the project adopted an inquiry-based approach for both its interface and its construction. The Inquiry Page site's developers embraced an extreme version of participatory design—**"participative inquiry"**: users were invited to attend weekly discussions about the site online or in person, or to engage in "situated evaluations" through practical site use. Users contributed to ongoing site development through feedback, content provision, translations, and technical and systems support.

Originally conceived as a space for educators, as the user community expanded, the web platform also needed to become more flexible. Serving small communities, educators from around the world, classes of adults and children, research projects, and individuals in a time when brainstorming and collaborative software was scarce and unfriendly, the Inquiry Page eventually spawned the more modularized Community Inquiry Labs (CIL) web tool. CIL went through a variety of growing pains to eventually become today's Community Inquiry Labs (<http://cilabs.illinois.edu>), a Drupal-based web 2.0 platform.

2010: Plans underway to properly archive the Inquiry Page and older iLabs sites, which will be accessible via the GSLIS Community Informatics Initiative website (<http://www.cii.illinois.edu/>).

Seminal community inquiry team member **Professor Chip Bruce retires**. Other team changes coincide with the end of key funding sources. These and other issues lead the inquiry team to pass responsibility for the ciLabs website completely to CITES.

On ciLabs, institutional interests dictate a **more top-down approach** to site development. University affiliates must log in to the site using their existing university identification; non-university users need to register with a valid e-mail address and then be manually approved. Eliminating general user access is discussed.

Drupal-based website ciLabs allows registered users to develop customized spaces that can contain multiple inquiry units, a blog, calendar, file-sharing, etc. Users can invite other members to assume various roles, from reader to editor to admin.



2009: Inquiry Page, now a database of 2,827 public and 579 private Inquiry Units, locked down due to security issues, though still viewable. Similarly, there are 766 public iLabs and 560 private ones that can be accessed but not updated.

Researchers **form partnership** with University of Illinois's Campus Information Technologies and Educational Services (CITES) to develop the new (more secure) ilabs.illinois.edu.

2008: Devastating **security breach** shuts down iLabs. University questions whether inquiry sites should continue.

2007: Inquiry web tools and framework used in courses and interdisciplinary research initiatives, including several National Center for Supercomputing Applications science ed projects, Ethnography of the University, Youth Community Informatics, etc.

2005: 3 separate websites — Inquiry Page; iLabs 2.0 (course management system); 3.0 (modular collaborative tools web-suite). iLabs experience increase in **MySQL/PHP hacks**.

2004: Inquiry Page continues as is. iLabs in version 3.0 beta. Developers add style sheet functionality, use Smarty PHP templates to keep code separate from "look," and experiment with MediaWiki to allow non-tech users to contribute to **"low commitment" language translation** (see Jones et al. 2006).



iLabs developers work toward better integration with Prairienet to support non-university community groups.

2003: New CIL platform created — an open-source "community, content, and collaboration management system" called **iLabs**. MySQL database on Apache server with scripts in Perl and PHP. Modular CILs are user-designed. "Brick" modules include: a bulletin board; file sharing center; bookmark tool; syllabus creator; flexible list-creation tool; and the inquiry tool for developing Inquiry Units.

[iLabs Home](#)

1996: Seed of Inquiry Page begins as class project developed by 2 graduate students enrolled in an inquiry-based learning university course that also included school teachers studying part-time. They built a basic website to share course projects, so that class members could view each other's work and discuss it (face-to-face).

Static HTML pages.
Communication routed through webmasters' e-mail.

1997: Out of Dialogues in Methods of Education (DIME) group discussions, the **Inquiry Cycle** is born: *Ask; Investigate; Create; Discuss; Reflect*—a variant on the scientific method that serves as a flexible framework for engaging in inquiry.

Researchers Bruce & Levin propose new taxonomy for educational technology based on pragmatist concepts: **inquiry, communication, construction, expression**. "For us, the motivation arose in the midst of a debate concerning future directions for educational technology within our university. ... foregrounding the technology, the debate obscured the students' activities and learning, which ought to have been the central issue."

HTML; 2 basic web forms w/ Perl CGI scripts.



1998: **Inquiry Page laboratory launches** to support Chickscope Project. Includes inquiry-based learning resources for teachers and working scientists who collaborate to teach science topics to children. The Inquiry Unit Generator is a web form that assists teachers in creating lesson plans using the 5 Inquiry Cycle stages.

1999: Users can **"spin-off" Inquiry Units**, using other Units as a basis for new ones. Inquiry Page forms now generate RDF/XML metadata syntax for Inquiry Units to allow automatic updating and coordination with the Open Directory Project and other resource repositories. Experimentation begins with VisIT (Visualization of Information Tool) as a means of locating curriculum resources.

dmoz open directory project

Numerous funding opportunities due to strong institutional interest in innovative technologies to support science learning (e.g. U.S. Department of Education; NSF - EHR/DUE; Committee on Institutional Cooperation; State of Illinois Board of Higher Education; Lumpkin Foundation; and more).

Inquiry Page works to foster **"pro-social" member activities**. "[W]e are using member profiles and software agents as a way to facilitate connections among people, for example, teachers to other teachers, teachers to researchers, or students to content experts. ... the Inquiry Page is beginning to serve as the collaboration component for a variety of educational R&D projects" (Bruce & Dillon 2000).

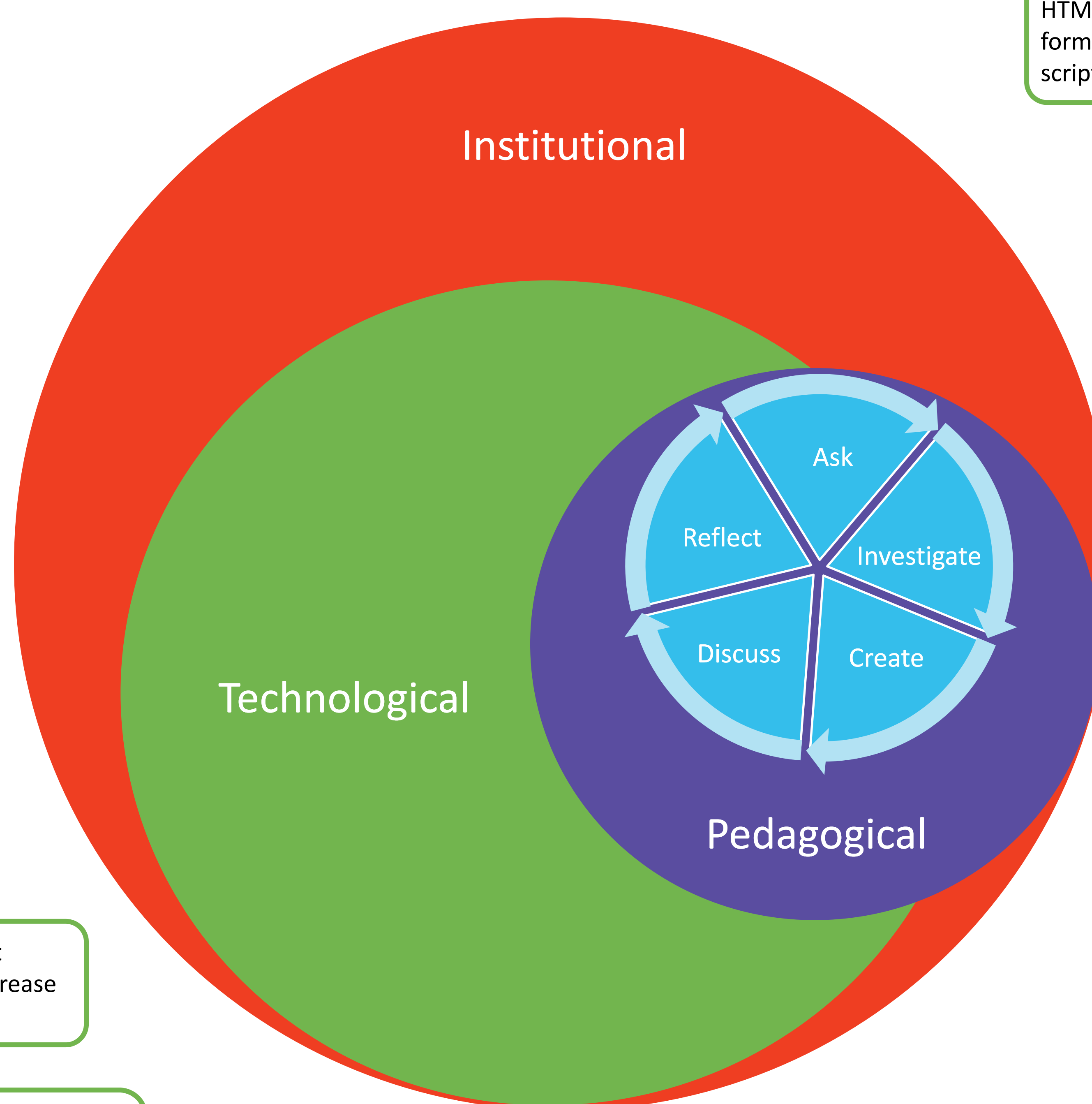
2000: Partially in response to Children's Online Privacy Protection Act, the Inquiry Page institutes password-protected teacher profiles. Schoolchildren's work is also secured.

2001: New efforts are made to partner with grassroots community groups. Inspired by feedback from SisterNet, a network of African American women "committed to nurturing healthy lifestyles and community activism," who felt Inquiry Page catered too heavily to educators in both language and format, more flexible **Community Inquiry Labs (CIL)** tool is conceived.

2002: Inquiry Page upgraded to MySQL database. Allows more efficient searches of Inquiry Units, posted events, and member profiles.



Major usability upgrades based on user evaluations including customized view on log-in; profile sharing; commenting features; ability to share events.



Discussion: What socio-technical factors charted the course of this project? With heavy input from user groups, these online collaborative inquiry tools were developed and sustained by an ever-changing cycle of faculty and students, and a number of campus units were involved in its functioning. While the unusual "cross-cultural" teamwork brought diverse perspectives and skills, unsurprisingly, it also led to challenges. These discrepancies in values, motivations, and objectives can be viewed as constraints, but for many years they also acted as stimuli to further development. In today's world of the social web, ciLabs has a less captive audience than its predecessors. Once a maverick collaborative environment, ciLabs now finds itself one more fish in a sea of popular web 2.0 tools. Was this inevitable?

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