Collaborating on the Design and Assessment
of Knowledge-Building Environments in the 2000's

A Workshop to be held Sunday, December 12, 1999
at the 3rd Computer Supported Collaborative Learning Conference (CSCL '99)
Stanford University

One-page position paper submission deadline: October 1st

Purpose

The purpose of this workshop is to promote collaboration among research groups developing Knowledge-Building Environments (KBEs). This is a subfield of CSCL facing complex theoretical, technical and practical issues. The potential of software support for knowledge-building communities will not be achieved easily or quickly. Researchers with different approaches, backgrounds and interests need to share their experiences, data and tools. Discussion of potential areas of collaboration may include:

a. Identification of common KBE design issues and sharing of strategies to address them.

b. Proposals for exchanging data and for developing data analysis tools to assess learning in KBEs.

c. Suggestions for working toward interoperability of KBE system components.

d. Examples of effective classroom usage of KBE applications in curriculum.

A number of CSCL systems can be classified as KBEs. They typically extend threaded discussion forums and other technologies to foster the collaborative construction of knowledge. Although much effort has gone into the theory, design, deployment and assessment of these systems, their use remains generally problematic:

a. There is little clarity or agreement about what constitutes a KBE.

b. It is hard to evaluate the learning that takes place through KBEs.

c. Despite a tendency toward technical convergence among KBEs (e.g., increasing use of relational database back-ends, Web-based systems, typed links, Java, XML), there is currently no systematic collaboration among developers.

d. Several issues concerning the classroom use of KBEs surface regularly, for instance:

- Students avoid using KBE systems in favor of face-to-face interaction or email, despite the fact that these alternatives lack persistence and structuring of contents.

- Discussions in KBEs tend to diverge, rather than build toward consensus.

- Ownership of ideas is obscured as an individual's contributions get merged into group positions.

- The structure of growing discussions gets lost in their increasing complexity.

- Related themes frequently appear in different parts of a discussion with no links to connect them and to provide multiple paths into relevant discussion.

- The effective widespread use of KBEs requires radical changes in classroom practices, which in turn requires significant teacher training.

- A variety of computer supports, affordances and constraints must be carefully integrated into the KBE software and coordinated with content and classroom activities.

Some of these issues were discussed by a panel at ICLS '98, particularly the question of why it is so hard to get students to communicate through this new medium. Coming from more of a system design viewpoint, a group of researchers got together at CILT '99 to begin sharing their experiences in implementing and deploying KBEs and to launch a year-long project to promote KBE interoperability. This workshop will bring these two groups together to continue the discussion of issues like those listed above and to report on the continuing work of the CILT KBE project.

This workshop is explicitly conceived as one event in a growing conversation about enduring issues in supporting collaborative knowledge building. More concretely, it is part of a conscious strategy to create a working community among researchers who are actively addressing these issues. The workshop format is appropriate because this community is not yet mature enough to hold its own conference, but has too many issues to be covered in a single paper. Workshop themes will be structured to present contrasting or controversial views on the issues and to report on the work of the CILT KBE project.

Format of the workshop

Following a brief introduction and overview of participant position statements, we will break out into 3 or 4 theme groups. Most of the workshop will be spent in these theme groups, but the workshop will conclude with a plenary session in which the groups report their findings and future activities are proposed. The theme groups will be defined based on submitted participant position statements, but might include:

- **Growing the KBE Research Community**. What would foster increased collaboration among KBE researchers? Can we establish a digital library with easy access to important KBE papers, prototypes, resources? Should we have special workshops or SIGS at certain conferences, a newsletter, a KBE about KBEs?

- **Defining KBEs**. What are the defining characteristics of approaches we want to include in the subfield of "collaborative knowledge-building environments"? What are some paradigmatic systems; what are their important family resemblances; what are the characteristics of a taxonomy? How do KBEs differ from discussion forums, electronic notebooks, support for cooperation?

- **Assessing KBEs**. How do we assess collaborative learning? Can group learning be measured as distinct from individual learning? How can we tell what specific features of KBEs are effective?

- **KBE Data Interchangeability**. Can we define an XML standard that permits usage data from different systems to be imported into this standard for display, analysis or export into another system?

- **KBE Pedagogy**. What are the pedagogical requirements of a KBE? Does a KBE need to be embedded in curricula; does it need to incorporate scaffolding? How can a KBE best be used in a classroom or in a virtual community?

Intended audience

The workshop is designed primarily for people involved in research on collaborative KBEs, but it is open to the general CSCL audience. This will be an important opportunity for people in the CILT KBE project virtual collaboration to get together face-to-face in the middle of their project year to deepen and expand their community and to reflect on their progress, and for new people to join them.

Selection process

Anyone interested in attending this workshop should submit a concise position paper of 1-2 pages in length (a) expressing their interest in a particular theme, (b) stating their involvement with KBEs, and (c) summarizing their personal ideas on the theme. Submit this statement by October 1st to Gerry.Stahl@Colorado.edu. The workshop is limited to 30 participants. You will be notified by October 12th of acceptance to the workshop.

Preliminary and/or follow-up activities

The selected position papers will be circulated among participants by email. In addition, a discussion forum about the workshop will be initiated in a KBE on the Web a month before the workshop. This forum will include all accepted position papers. The discussion forum will continue after the workshop and all workshop attendees will be encouraged to participate. The forum will provide a means for keeping people informed about activities that arise from the workshop. It is expected that follow-on activities will take place into the 2000's in a systematic way because the workshop is part of the on-going collaboration of practitioners.

Important Dates

- Submissions due: October 1st

- Notification by: October 12th

- Discussion forum: November 12th

- Workshop: December 12th

Organizing Committee

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