

Technology meeting the challenges of computer-supported collaborative learning



KBIP supports the implementation of intelligent technologies in the classroom for collaborative learning and knowledge building activities in elementary and secondary education and integrates networked learning environments around the world. KBIP explores how the responsiveness of learning and knowledge building environments increases the motivation of learners and, enhanced by advanced technology, exploits synergies between classrooms in the efficient management of collaborative learning.

KBIP is a living lab, where each year, partnered classrooms select a common theme or subject matter where research is carried out to identify solutions for local problems that can be viewed within the context of global threats. The common theme for the KBIP 2010-2011 school cycle is water, which affects every person on this planet.

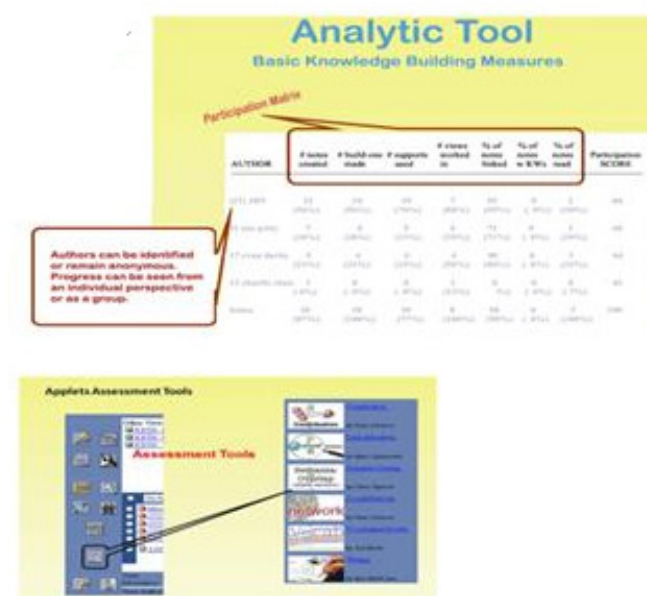
In order to develop intentional learners, a curriculum must go beyond helping students gain knowledge for knowledge's sake to engaging students in the construction of knowledge for the sake of addressing the challenges faced by a complex, global society. Finding innovative solutions to major societal problems should start with students at an early age to capture natural curiosity, creativity and innovative thinking. In KBIP, technology is integrated into inquiry-oriented activity to provide opportunities for students as young as 6-7 years of age to experience and explore topics in real-world contexts. Knowledge building activity can be customized for students in elementary school, middle school, and high school, as well as in post-secondary education.

Cloud computing in KB classrooms enable students to share resources that support learning and knowledge building activities:

- an Internet-based platform supports a shared database, learning resources and appropriate learning and knowledge building paths for students;
- assessment tools analyse reading and writing skills as well as mastery of subject matters;
- scaffolding of the learning process takes place in accordance with the curriculum and learning objectives.

Videoconferencing connects students of partnered KB classrooms to get to know each other, share progress on research and contributions to the database, and bond. Teachers use the videoconferencing for peer-to-peer training, networking, and access to professional development activity.

Java Assessments

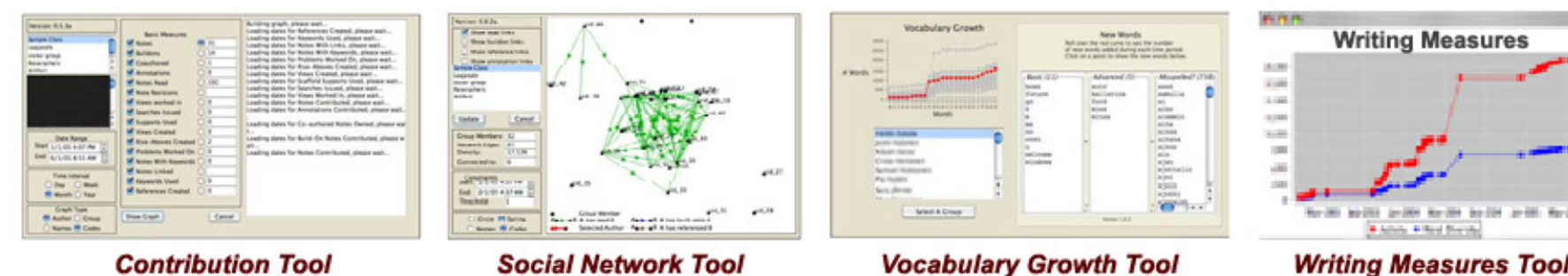


Applets help teachers analyze different aspects of knowledge building when students are engaged in Knowledge Forum.

Assessment applets can analyze contributions, social networking, vocabulary growth and writing measures, and have the capacity of analyzing progress made by both the individual student as well as the small group or entire classroom in meeting learning objectives.

- Contribution Tool - shows participants' use of various features and functions of the platform.
- Semantic Overlap Tool - determines the degree of semantic overlap between two groups of notes.
- Social Network Tool - shows patterns of interaction amongst the participants.
- Vocabulary Growth Tool - shows how the participants' vocabulary changes over time.
- Writing Measures Tool - examines participants' writing at both the group and individual levels and presents a graphical representation of writing activity and word diversity.

Sampling of Knowledge Forum[®] applets.....



Knowledge Forum (KF) Web-Enabled Platform

Online environment designed to support knowledge building discourse.

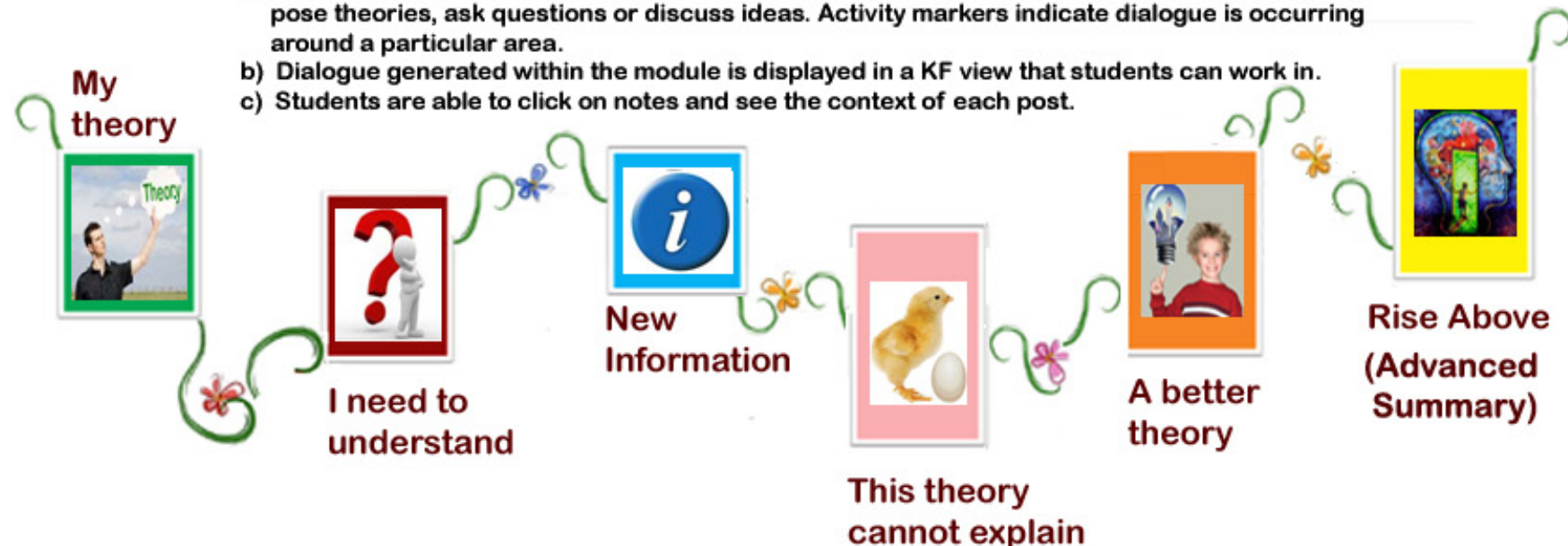


In KF, students contribute ideas, questions, evidence, etc., as multi-media notes into a shared "view", that serves as a collective knowledge space.

Scaffolds

Customizable scaffolds help students frame their thoughts and strive for continual idea improvement.

- a) Students create notes on a centralized theme or subject matter being studied, where they can pose theories, ask questions or discuss ideas. Activity markers indicate dialogue is occurring around a particular area.
- b) Dialogue generated within the module is displayed in a KF view that students can work in.
- c) Students are able to click on notes and see the context of each post.



Scaffolds help students clarify and organize the writing of their concepts in a note and consists of support that enables students to perform tasks they would not be able to perform by themselves.

Most knowledge building scaffolding can be classified as either **soft scaffolds** or **hard scaffolds**:

- Soft scaffolds are dynamic and refer to the teacher's actions in support of learners' efforts at the moment when a learner has a specific need.
- Hard scaffolds are static supports that can be developed in advance based on anticipated or typical learner difficulties associated with a task.

Editors and managers can create and edit scaffolds from the KF Scaffolds window. Writers can create and edit scaffolds if granted permission to do so from an editor or manager. Editors and managers then associate scaffolds with groups and specific views, making the scaffolds available to authors when they create notes.

Videoconferencing

By participating in regularly-scheduled videoconferences, KB students come together to meet the students from their partnered classrooms, report on progress made in their research and database contributions, and bond with each other. Teachers use the videoconferencing applications for an exchange of information and for peer-to-peer teacher training and mentoring. Both students and teachers are able to upload presentations, plan future activity, utilize the white board function and review archived sessions.

By being a closed session where participation is by invitation only, online privacy and Internet safety is assured.

