Knowledge Networks on the Web

KNOW

Support for Curriculum Enactment and Community Building in Systemic Reform

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Overview

Knowledge Networks on the Web (KNOW) is a place where teachers can go to exchange ideas and information related to their classroom teaching with others of like mind. A system that supports this kind of activity is not unique – a range of interesting and useful on-line tools have been built to facilitate teachers talking to other teachers about teaching. What makes KNOW different is that it is constructed around specific curriculum materials that are common to KNOW's target user population, and indexed so that teachers can quickly move to areas of the curriculum that are of interest. In this, KNOW is designed not for the "leading edge" teacher who engages in a voluntary exploration of advanced pedagogical ideas, but rather for the "everyteacher" who is engaged in system-wide reform and seeks support for using standards-based and inquiry-oriented curriculum. To date, KNOW materials have been developed for hi-ce (http://www.hi-ce.org) middle school curriculum units on Water Quality, Physics (force and motion), and a special unit on Internet search using hi-ce's *Artemis* scaffolded search tool. More materials are in development in Air Quality, Physics (simple machines), and Biology/Communicable Diseases.

KNOW content is written by teams of teachers who have taught the curricula featured in the system. On-line content is keyed to specific days in the unit, so a teacher planning to teach the part of the curriculum on stream tables, for instance, can quickly navigate to the appropriate portion of KNOW. For each curriculum day, KNOW includes a "Big Idea" page that briefly describes what students should take away from that day of instruction, with links to sample student materials, tips on assessment, information about how to acquire needed materials and resources, and videos of teachers and students carrying out the activities in real classroom settings. Additionally, asynchronous and synchronous chat facilities are provided so that teachers can ask questions both of each other and of facilitators and subject-matter experts who created the curriculum. This collection of materials is intended to help teachers interpret the printed curriculum guide for use in their individual classroom context, by reading tips written by other teachers who teach in similar contexts. Printed curriculum guides, by design, must be generic in order to be used by a broad range of teachers. The web allows for multiple customizations so that, for instance, a teacher who must take his students to a computer lab can get different advice and see different examples from a teacher who has computers in her science classroom. Additionally, we have implemented simple tools to help teachers create classroom-oriented web pages to help alert parents and community members to the activities and events taking place in their classroom (*SiteMaker*, created by Jonathan Maybaum, Department of Pharmacology UM Medical School).

Research Questions

We are developing (KNOW) with the goal of creating a self sustaining community of teacher learners engaged in knowledge building activities that enhance their ability to use complex standards-based and inquiry-oriented curriculum materials. This is more than a technology design project; it is an inquiry into the design of professional development to support teachers in systemic reform. The questions that guide our work include: How should the design of KNOW evolve so that it supports teacher learning? How can KNOW provide a place where teachers can discuss their trade as professionals? How can KNOW become a forum for strengthening the curriculum through teacher input? How does a tool like KNOW become useful to (and used by) urban teachers who may not be volunteers in reform? Can KNOW be used by teachers who have widely variable technology access and experience? And finally, does KNOW support the scaling up of curriculum to teachers both within and across school districts?

KNOW is a work in progress, and as designed, will likely always be growing, expanding, and evolving to meet the needs of the teachers who helped develop it. As KNOW grows, we continue to focus on the core questions for its design and use.

http://know.soe.umich.edu/

KNOW is developed with support from the W.K. Kellogg Foundation

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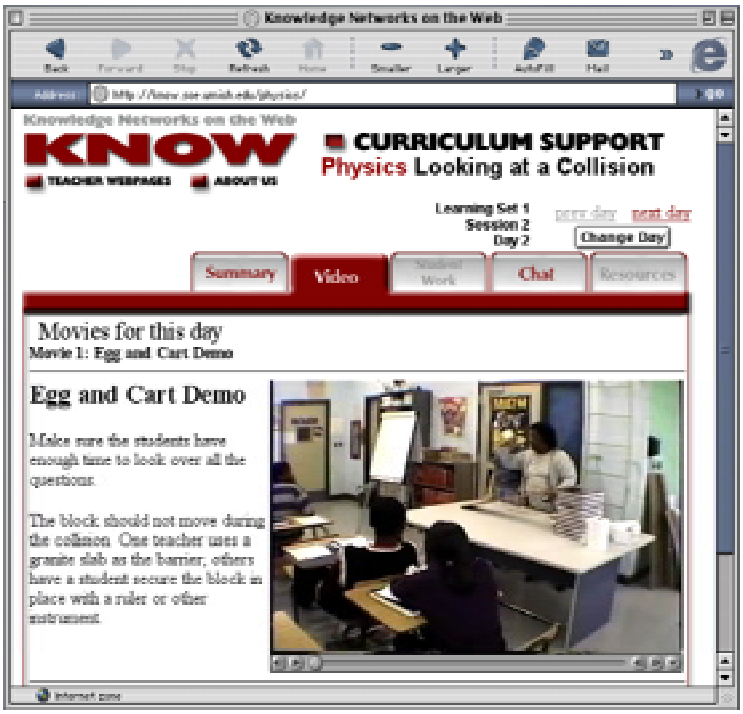
The KNOW welcome screen.



A video of a teacher using an egg and cart as an anchoring activity in the Physics unit.

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