

## Mentoring Alex Bick

By Ed Dieterle, Harvard Graduate School of Education

On February 10, 2004, Alex Bick contacted Chris Dede, the Timothy E. Wirth Professor of Learning Technologies at the Harvard Graduate School of Education, seeking a mentor for his work to determine whether handheld computers regularly carried by high school students generally affect academic achievement. At the time, Bick was a 10th grader enrolled in an independent research program called "Science Research" that allows students to complete individual and original research based on a topic of interest. In his initial e-mail, he cited the Handheld Devices for Ubiquitous Learning Project (HDUL), a research project that seeks to determine how wireless handheld devices can enhance learning and teaching in which Dede serves as principal investigator. As the doctoral research assistant for HDUL, Dede forwarded Bick's letter of introduction on to me and asked if I had the time and interest in working with him.

After reading the letter, I was intrigued by Bick's strong intrinsic motivation to learn more about a phenomenon he observed in his own education and his interest to determine if it was specific to him or if it was replicable in other students. Because Bick lives in New Jersey, Dede lives in Massachusetts, and I live in Washington, D.C., I was also interested in learning what it would be like to mentor a high school student over distance. Thus began a steady stream of e-mails, instant messages, and videoconferences between Dede, Bick, and me to refine and clarify the research questions, design, analysis, and findings.

After receiving text documents from Bick by e-mail, I embedded comments, suggestions, and questions using Microsoft Word's track changes feature. This produced a chronological record documenting how his work changed over time. As his work moved from theory to implementation, the three of us began using synchronous communication technologies (i.e., instant messaging and videoconferencing software) to touch base and discuss ongoing issues and puzzles.

Dede and I have been working with Bick for more than a year. I am very impressed by how much his work has matured in such a short period, and I look forward to our continued collaborations. Although he started with a driving motivation to learn more, I believe that it was his interactions with researchers that helped transform his high school project into solid research valued by the learning and technology community.