Educational Pathways

VENDOR SPOTLIGHT

Improving and Archiving the Educational Experience

by George Lorenzo

Adjunct professor in the Department of Computer Science at the University of British Columbia, Murray Goldberg, made a very big mark in the world of educational technology when he created WebCT back in the mid 1990s. Now he is on a different educational pathway - one in which he's carving out another innovative educational technology enterprise as president and CEO of Silicon Chalk, a learning platform software that enables teaching and learning in a wide variety of contexts.

Goldberg says that helping WebCT grow into one of the most successful course management systems used by colleges and universities all over the world was "an amazing experience." But he sold his interest in WebCT in 1999 and stayed on as president of its Canadian division only until the end of 2001, which, not by coincidence, was when Silicon Chalk was born into its early development phase. (Silicon Chalk actually started selling to educators in 2003 and is now at version 3.5.)

Changing the Dynamics of the Live Classroom

After becoming a highly recognized education leader and innovator noted for helping to revolutionize the online learning experience, Goldberg turned his attention back to his love of teaching inside the live classroom. He explains that from 1997 to 2001, "the pure distance education experience transformed tremendously because of web-based tools like WebCT, but the face-to-face experience had not changed significantly at all. . . That was why I got the idea for Silicon Chalk."

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– Murray Goldberg, president and CEO of Silicon Chalk

So, what does Silicon Chalk do for teaching and learning? As noted in a white paper authored by Goldberg titled "Supporting Learning in the Classroom and Beyond," the Silicon Chalk technology, in short, "revolutionizes traditional classes by providing a level of presentation, communication, and collaboration heretofore impossible in a face-to-face learning environment."

Teaching and Learning Tools

Brian Reithel, interim dean of the School of Business Administration and professor of Management Information Systems at the University of Mississippi, would agree with Goldberg's assertion. Reithel started using Silicon Chalk in his MIS-410 Decisions Support Systems class this past semester. He says that the tool has significantly improved his teaching and his students' learning by allowing him to "do things in the classroom that were not previously possible."

New Environment at Ole Miss

Reithel teaches MIS-410 in a computer lab where every student is sitting at an Internet-connected computer, which is the environment where Silicon Chalk works most effectively. It is also best used in environments where every student has a laptop computer that can connect over a campus hard wire or wireless network.

The Silicon-Chalk software is a client application installed on each class member's computer. It basically allows the instructor to broadcast the audio of the class lecture (if using a computer microphone or through a miked room), along with all PowerPoint slides and screen shots of any other open applications that may accompany the lecture, in real time to every student running Silicon Chalk. The Silicon Chalk software records and archives this entire classroom presentation for the student to review at his or her discretion. Additionally, instructors can pick from a tool kit of additional Silicon

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Chalk functions to facilitate some powerful teaching and learning experiences.

Taking Notes in Sync

One of the big features geared toward helping students is a function that allows them to open up a window alongside the instructor's presentation and add notes and annotations that are ultimately synchronized with the archived recording. For instance, students will often flag elements of the instructor's presentation with the word "exam" to signify something the instructor has emphasized as a future test or exam question. When it's time to review the material, students can do a quick search through the instructor's presentation and go back to that very moment in time he or she flagged to hear and view it again.

Finding What You Need in a Half Second

"Silicon Chalk has lots of metadata," says Goldberg. "We pay a ton of attention to navigating through these recordings and a ton of attention to searchability through these recordings; so, in half of a second, students can search through and get to exactly where they want, such as right in the middle of some lecture they were in seven weeks ago." The notes that students may add to the recordings are also editable, which allows them to modify their notes to reflect any new understandings of the elements they have reviewed - all of which becomes an updated, and newly synchronized and searchable, component of the archived recording.

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Layers of Functionality

A host of additional Silicon Chalk functions are catalysts for very interesting and productive teaching and learning management strategies. "Silicon Chalk has layers of functionality that offer me, as an instructor, additional dimensions of freedom and creativity to innovate in the classroom," says Reithel, who is a teaching-award-winning computer science and business administration faculty member with more than 20 years of teaching experience. "There's this sense of possibility that I have not found with any other tool."

Some of the functions/possibilities that are currently popular with users include:

Laptop Program at SAIT Utilizing Silicon Chalk

Silicon Chalk's tag line is "the future of education, now," and a glimpse of this notion can be found at one of Silicon Chalk's larger clients, the Southern Alberta Institute of Technology (SAIT) in Calgary.

Enhancing the Classroom with Technology

SAIT is a polytechnic institute with about 12,000 full-time students and 60,000 part-time students. In 1997, the administration at SAIT decided that it was time to enhance their programs with technology by outfitting classrooms with Internet ports and power at every seat, and providing its instructors in these classrooms with fully loaded desktop computer workstations, LED projectors, and, basically, all the typical features one would expect to find in an electronic classroom.

Foster Stewart, project leader and instructor for SAIT's Technology Enhanced Program in the Business and Tourism Department, says that in 1997 SAIT built three of these classrooms, and today the Institute has 69, with many more planned for the near future.

Additionally, in 1997 there were 4,000 wired ports on campus. Today there are 13,000 and growing. SAIT students hook up to these ports through an innovative laptop computer distribution program that is managed by the Institute. Stewart says that as the demand for computers and use of educational technology by students increased, SAIT came to the conclusion that it should supply its students with laptops that they could bring into these wired classrooms, instead of having students purchase laptops themselves.

How to Get a Laptop on Every Lap

So, today, as part of their

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Polling and Live Feedback - Instructors can ask students questions in a variety of formats during a live session and have their responses displayed in graphic summaries. For example, students can provide instant and anonymous feedback to the instructor about the pace and difficulty of the material being presented.

Student Questions - Students can privately or anonymously submit questions to the instructor who can respond to them either verbally or with text during or after the live session.

Chat - Allows the instructor and students in a live session to send instant text messages to each other in real time. The chat tool supports multiple chat sessions, and the instructor can monitor all conversations taking place during the live session.

Exercises and Document Sharing - The instructor can distribute a short exercise for students to complete during a live session and then collect all the student submissions/solutions and present representative examples back to the class.

Quizzes - Instructors can create and distribute quizzes that can be automatically graded after students submit them. Instructors can also view statistics and summary graphs for each quiz and student.

Class Management - Instructors can monitor applications being used by students during a live session and set policies that allow or disallow specific applications from running on the students' computers while using Silicon Chalk (see "Laptop Program at SAIT Utilizing Silicon Chalk").

Tool Selection - Instructors can tailor Silicon Chalk by selecting and combining different tools depending on teaching context and style. They can also provide students with privileges that allow them to access different functions.

Student Identification - Silicon Chalk maintains student profile information and can share that information with other popular course management systems.

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Providing a Clearer View

In Reithel's MIS-410 class, Silicon Chalk helped him to present high quality computer screen images that were demonstrations of various programming methods and source code he wanted his students to understand. "Silicon Chalk allowed them to see detailed technical materials in a way that we were previously unable to deliver when we used video (of screen images) and other more traditional recording technologies," he says. For example, prior to using Silicon Chalk to his class, the best method for recording screen images, with annotations and audio components, was by video taping LCD monitors and then digitizing and archiving these video presentations on a server for students to review online. Reithel explains that Silicon Chalk helped to streamline that process, plus, the videos tapes of the LCD monitors that were of "less than satisfactory quality" were now, through Silicon Chalk recording technology, identical mirror images of the actual screens being presented in class.

Reithel also notes that occasionally he likes to use the polling and live feedback functions. In particular, it comes in handy when teaching complex topics. He says that, for the most part, students are not as forthcoming as he'd like them to be when he asks them questions related to the understanding of complex topics in class, which is a typical live classroom scenario. By polling students through the Silicon Chalk interface, he has seen a dramatically increased response rate to such questions, allowing him to "spend more re-explanation time based on the patterns of responses I get on the polls."

Reithel's future plans includes the possibility of having a graduate assistant take notes during his live presentations and then sharing those notes with the students in the class who will have the option of merging them into the presentation recordings and their personal notes taken in or out of class through the Silicon Chalk technology.

On Becoming a More Effective Instructor

In the meantime, however, having used Silicon Chalk for only one semester thus far, Reithel plans on taking things one step at a time. "I used it, but not extensively," he says. "I have learned that anytime I have a new tool like this, there are two or three things that I can actually integrate immediately into what I'm doing and master those. Then I'll find the next two or three things to expand my repertoire of tools and things that I want to do more dynamically in class. I think this particular tool has a lot of room for me to get better at using it and to consequently become an even more effective instructor."

SAIT

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tuition payment, any student who is enrolled in any applicable classroom-based program, which SAIT refers to as e-Learning programs, gets a brand new "loaner" Toshiba laptop for the duration of their enrollment. These students also plop down a $500 "damage deposit" for the laptop when they enroll. When and if it breaks down, they take it to a technical support center on campus where it is either fixed immediately or they are given another loaner laptop until the repair is completed. Once they graduate from the program, they have the option of purchasing their laptop at its market-value rate, which, today is somewhere around $600 to $800, most of which is obviously covered by their damage deposit if they so choose.

Currently this laptop program is getting a good run for its money in a two-year Business Administration (BA) diploma program, where 1,300 students are using these school-sponsored laptops. At press time, there was a total of 2,600 students in all e-Learning laptop programs at SAIT.

Silicon Chalk to the Rescue

In January of 2003, Silicon Chalk entered this picture by supplying its software for a small pilot project within the BA diploma program. Today, all 1,300 SAIT BA diploma students have Silicon Chalk installed on their laptops.

One of the primary initial reasons why SAIT liked Silicon Chalk had to do with keeping students in these e-Learning classes with laptops on task. Perhaps not surprisingly, instructors in the BA diploma program, which is comprised primarily of younger traditional-aged students, were finding their students doing a bit too much web surfing, game playing and instant-messaging on their laptops during class time.

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> – Foster Stewart, project leader, Technology Enhanced Program, Business and Tourism Department, Southern Alberta Technical Institute

"Our approach was to go out and research the market and see what was out there from a control point of view," says Stewart. Enter Silicon Chalk with its application monitoring feature that allows instructors to see what applications Silicon Chalk users are running on their computers and turn off any or all of those applications that are deemed inappropriate for use in class.

Moving Beyond Control

"Silicon Chalk solved the control problem," says Stewart, "but now this feature is about fourth on the list of features we use, because it has enriched the classroom environment significantly. It really facilitates teaching and learning; it really encourages interaction; we can do assessments through Silicon Chalk; we can do attendance and more class participation activities; there are all kinds of things now that we could not do in any other environment."

Thus far, Stewart has used Silicon Chalk for two semesters in two face-to-face courses that he teaches in the BA diploma program: "Introduction to Management" and "Organizational Behavior."

"Basically it is an interface between me and the students," he says. "It sits there; I start my class; my students and I log on to Silicon Chalk and basically every part of my presentation flows through to them."

Stewart adds that he is a "constant poller," stopping in the middle of his lectures to ask students anonymously through the Silicon Chalk interface if they are understanding the material. He says that it has completely eliminated any peer intimidation or shyness factors that he previously found when asking questions in the face-to-face method.

"I think it has made me more effective," he adds. "I can do things I could not do before."

More information about Silicon Chalk can be found at **www.silicon-chalk.com**, where visitors can read customer testimonials, watch video demonstrations of how the software operates, and read white papers about how Silicon Chalk can benefit both faculty and students.

Licensing and pricing information is available at **www.silicon-chalk.com/licensing.htm.**