Social Networking

By Jim Klein

Education technology leaders are ever seeking new ways to eliminate the traditional social and geographic boundaries that hinder communication and collaboration for both K–12 students and educators. Larger districts with geographically dispersed schools often find that innovative ideas for technology use and integration are balkanized into "islands" of inspired creativity, bound up within the borders of an individual site or department. On rare occasions, these ideas actually spread beyond their immediate sphere of influence, but often only after such an excessive period of time that the technology or idea is less relevant, innovative, timely, or effective.

Recent Web technology innovations such as blogging, RSS, podcasting, online profiles, and Web-based document sharing have offered a glimpse of what the free flow of ideas, information, and resources might bring, but their disparity, cost, and complexity have often limited their adoption to small groups of educators and students. Worse yet, in the absence of standardized, centrally provided solutions, many have turned to the unbridled landscape of free Internet services, further limiting the establishment of effective, integrated communities and in some cases, opening themselves up to potential legal liability.

By building the SUSD Teacher and Student Community sites, dubbed "learning landscapes," we aimed to provide the tools and resources our educators and students needed to better communicate, collaborate, learn, share, and grow not only among themselves, but with the community at large.

Throughout this project, we sought out a way to make all the latest social networking technologies available to our teachers and students in a cohesive platform. Specifically, our goals were:

- to provide an approachable, easy to use, technology-rich environment for the creation and sharing of a variety of content
- the establishment of technology-driven workgroups, efficient communication with both staff and the community

for the K–12 Set

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- opportunities to discuss social, ethical, and legal issues, and
- the creation of effective learning environments.

With a low point of entry and Web-based delivery, social networking tools are ideal solutions to a complex problem.

Our natural tendency toward open technologies, along with the reality that the bulk of innovation in the social networking arena exists within the open source community, led us to explore our open source options. The primary problem with most tools, however, is that they are generally "public oriented," meaning that they lack the access controls and accountability necessary to satisfy the needs of a school district and its staff. Our group of three—two IT staff members and one curriculum specialist—settled on a base platform for our project, modified the code to meet our needs, and delivered an unrivaled solution in three weeks, at no cost to the district other than our time. The platform is incredibly flexible, and every day our teachers, staff, and students are coming up with new ways to use it—many of which we never dreamed of! (See "The Open-Source Web Applications Stack" on page 14.)

Through the SUSD Community sites, individual members can employ any of a diverse set of content creation and sharing tools, each of which provide the option of sharing the created content with the general public, site members only, small groups, or even just themselves. Only employees and students of the district have the ability to create content on the site. Comments are subject to a variety of employee- and teacher-defined access controls on the system, as are student posts and comments, as each requires review and approval by the student's teacher before going public. The tools include:

- User profiles that contain basic information about the employee or student. Each individual piece of information in a profile is controlled by sophisticated access controls, which allow the users (or teachers, in the case of students) to choose what information they wish to share and with whom.

The Open-Source Web Applications Stack

This project is based on software from the most popular software "stack" for developing Web-based applications in the open source community—the "LAMP" stack. LAMP stands for Linux, Apache, MySQL, and PHP (sometimes also Perl and/or Python, although most applications of this type are using PHP.) Saugus uses Linux on the majority of its servers, so adding an application of this type is really a no brainer in our environment.

It's important to note, however, that there is one key element that can be easily swapped out in the LAMP stack without having any effect on an application's functionality, and that is Linux. If you are more comfortable with or would rather run these applications on some other operating system, such as Windows or Mac OS X, you can easily install a "WAMP" or "MAMP" stack, respectively, on your platform of choice, and achieve the same functionality. Apache, MySQL, and PHP are available as separate packages from their respective sites, as well as together in bundles for easy installation.

For the SUSD Teacher and Student communities, Saugus realized one of the key benefits of open source software—access to the source code. Although the original Elgg software includes some excellent access controls for a typical social networking site, it was not built with a focus on a K–12 environment, where teacher oversight of student content is required. Because the source code was available, we simply modified the program to add the capabilities needed to achieve our goals. In true open source fashion, we make the source code—including our changes—available to the public for re-use and/or modification.

By making these changes, Saugus has enabled its teachers to manage every aspect of their classes and content, significantly reducing management overhead for the IT staff of four people. Along with complete oversight over all content, comments, and data posted by their students, Saugus teachers also have the ability to manage their student lists and passwords right in the online interface. This not only saves time, but empowers teachers to make appropriate decisions at the classroom level.

The SUSD Teacher Community Web site.

- Blogging tools, which provide a WYSIWYG editor for creating any combination of rich (highly formatted) text, weblinks, pictures, and file attachments.
- Secure file storage and sharing, which allows any member to upload and/or download documents, images, sounds, short videos, and any other file, subject to user-defined access controls.
- RSS and podcasting. Blogs and file stores are exposed as RSS, and mp3 audio and video can be posted as a podcast for subscription, or even played directly from a blog post by a thin, Flash-based player.

We currently have more than 350 users on the Teacher Community site using the system for regular newsletters, updates, announcements, file sharing, student Internet lessons, lesson plan and presentation sharing, video, podcasting, and creating communities of interest. Several departments and support staff are also actively participating. Barriers have been effectively eliminated, and our employees are communicating and collaborating more than ever before.

The newer Student Community site now has more than 450 students online, with students as young as second grade posting podcasts and creative writing projects. Upper grade (4–6) students work on more sophisticated group projects, such as informational science podcasts, in which they explore details beyond those covered in textbooks and lessons. The groups collaboratively research topics and develop their content together. They work as a team to record their discoveries, and use the technology to share their thoughts and knowledge in a safe and controlled environment. Some even subscribe to a variety of RSS feeds generated by the systems, both at home and at school, containing such content as lesson reviews created by their teachers or podcasts from other schools. They

The SUSD Student Community Web page.

An SUSD Teacher Blog.

even sync to their iPods and take the content on the go.

In addition, due to the very nature of this student community, students from across the district have the opportunity to view and review the work of their peers. They can discuss their thoughts on another's work in a semi-open forum—subject, of course, to teacher review/editing. And perhaps most important, the sense of community is real and relevant, in that its members are direct peers on similar educational tracks, rather than lost among thousands of students in a large online system with different goals and objectives.

One of the key benefits of this initiative has been improved communication and the establishment of a sense of community. Departments now have an effective vehicle for delivering news, updates, forms, and files to the staff as a whole (now nearly 2,000) that is easy to use, flexible, timely, and more effective than traditional paper newsletters, Web sites, or centralized document distribution. Students and staff can share information about themselves, find others with like interests, discover and share new ideas, lessons, notes, and other content. Teachers can keep their parents and students informed with public blog entries, video, and podcasts, while at the same time share and collaborate privately with their peers through access-controlled blog entries and files. Students can share their work with each other, their parents, their friends, and the world. Educators and students can create and host communities where they collaborate on a project or interest, communicate as a group, and share or exchange content. And they all have an access-controlled, centralized file store that allows them to share, store, and retrieve their data from anywhere they happen to be (with Internet access, of course.) Perhaps most important, no one has to worry about spam or inappropriate comments or content.

We've also realized some early gains academically. We are still collecting and evaluating data, but have already discovered that teachers leveraging the tools to bolster science curriculum through group projects and lesson reviews have seen an average nine-point gain in test scores and student achievement. We are seeing similar results in writing and language fluency,

The effects of student engagement through the use of these technologies are not only measurable, but striking.

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and expect the growth to continue. The effects of student engagement through the use of these technologies are not only measurable, but striking.

The low acquisition cost (i.e., free) has allowed for wide deployment, and the extraordinary ease of use encourages even our most apprehensive users to take advantage of the system. We have people building and sharing content in ways they never would have dreamed of.

Many schools and districts have explored one or more of the technologies used in our platform, but few (if any) have so integrated them all in a compelling, useful way. We often see a teacher or student here or there with a blog, maybe even a podcast or a video on a Web site, but these are typically few and far between, and are often the "techies" of the school or district. Rarely have we seen these tools turned inward in our industry, providing a platform for communication, collaboration, and growth to an entire district.

Our advice to other schools and districts is twofold:

1. Don't be afraid of social networking or the Read/Write Web (i.e., Web 2.0.) It is possible to create a safe and comfortable, relevant environment for students, teachers, and staff to create, collaborate, and grow in.
2. Don't be afraid to look to open source for innovative software and solutions. Many of the tools and technologies used to enable the Read/Write Web were invented in the open source world. Hundreds of mature tools and systems are at your disposal, which cost nothing to try, and might bring lasting change and improvement to your education landscape.

Resources

Apache Web Server: http://httpd.apache.org
Elgg: http://elgg.org
MAMP (Mac-Apache-MySQL-PHP): http://www.mamp.info
MySQL Database Server: http://www.mysql.com
PHP Scripting Language: http://www.php.net
WAMP (Windows-Apache-MySQL-PHP): http://www.wampserver.com

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