CoSN K12 Open Technologies Implementation Study #3

Moodle: An Open Learning Content Management System for Schools

Introduction

While the Consortium for School Networking is vendor-neutral and tries to help inform technology decision-making in K-12 environments by focusing on the choices available, there are times when examining a specific product can be very helpful. Such, we believe, is the case with Moodle. While this report is technically not vendor-specific (since Moodle is "Open Source" software it does not require going through a commercial vendor), we believe that the widespread and often enthusiastic response to Moodle by K-12 institutions creates a need to briefly define what Moodle is, to what it can do, and to give some specific examples of how it is being implemented.

Overview

Moodle is a software program for electronic or "e-learning," a category of programs that are variously identified as "Course Management Systems" (CMS), "Learning Management Systems" (LMS), or "Virtual Learning Environments" (VLE). Many of the mechanics of classroom operation—such as assignments, scheduling, and quizzes—can be easily set up through simple resource-based "courses." Moodle also has a broad variety of additional modular features and a relatively quick learning curve, helping educators easily and effectively develop full online classes, either in advance or as the course is being taught. This versatility allows Moodle to be used in a variety of ways depending on the needs and capabilities of the school or district: from simple classroom management to pure e-learning--or a "blended" combination of the two, with e-learning content and utilities extending on-site classroom learning.

Additionally, subscription-based media libraries, external web links, and other commercial software products can potentially be integrated into Moodle courses. Because Moodle provides utilities to easily backup, exchange, and restore course components, some anticipate that Moodle's growth in K-12 education could bring resource and course sharing by teachers as well. Teachers can also do professional development and lessons

planning from home, and where students have Internet access at home Moodle also provides a way to make the school-to-home connection, as reflected in Moodle's frequent use in one-to-one computing initiatives.

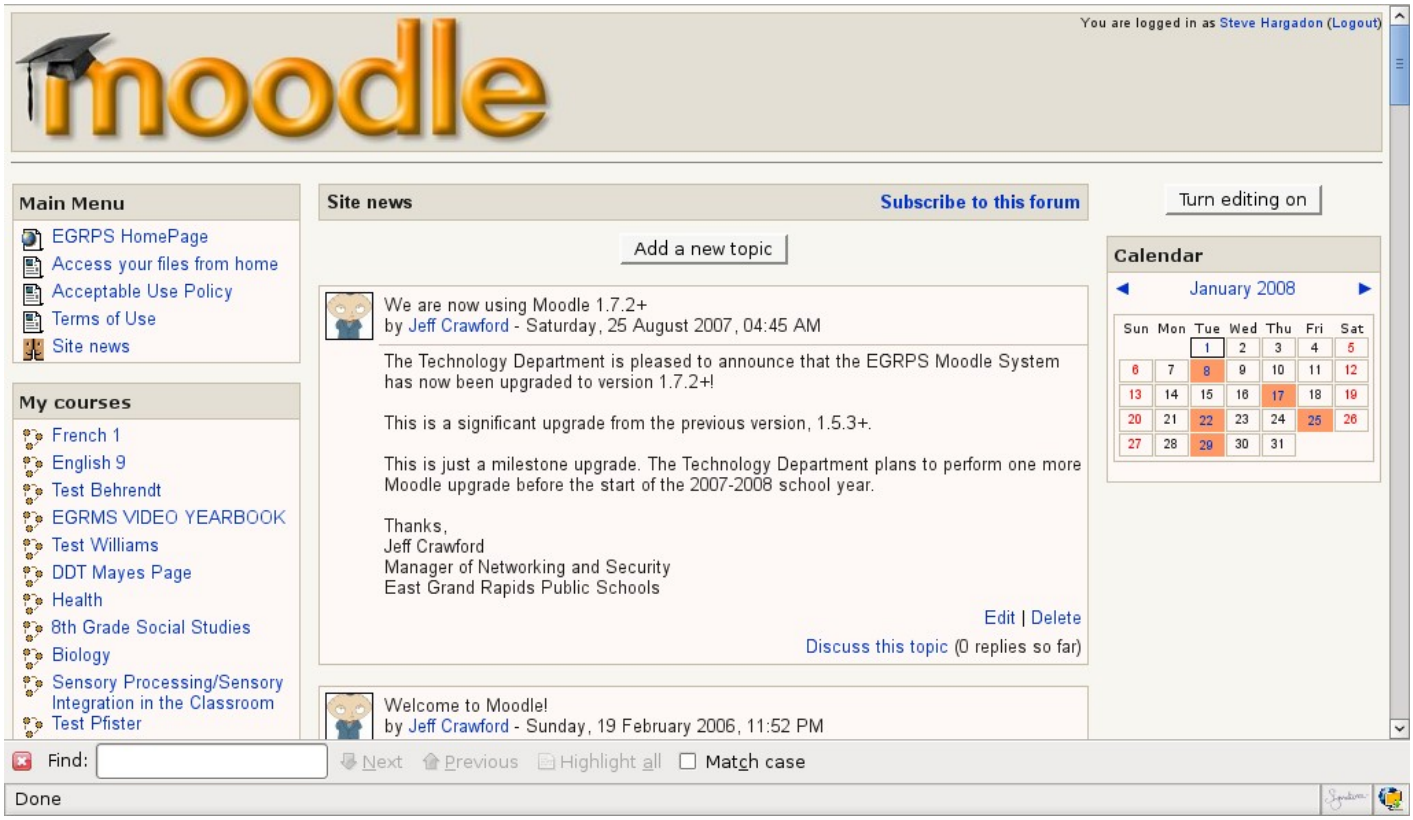
K-12 teachers and administrators use Moodle for a wide array of functions that reflects both the flexibility of Moodle and the heterogeneous nature of the K-12 education environment, including:

- As a classroom information portal for students and parents
- As a utility assignment drop box, scheduler, and collaboration center for blended classrooms
- As an in-house social and communications network for students and teachers
- As a way to provide e-learning courses in distance learning contexts
- As a way to provide e-learning for professional development and staff collaboration.

Functionality

Moodle's main screen is essentially a "classroom information portal" with customizable blocks such as calendar, login, and news. The centerpiece of this screen is a list of courses (classes) that have been created and are available, arranged into categories.

An individual "course" is an organized collection of lessons, resources, and activities. A course "author" or "authors" assemble the course material and format. The course can be organized on a time line with specific enrollment dates and fixed deadlines for assignments or it can be organized as a series of topics that can be covered in any order according to the student's chosen pace. For the online course "facilitator" (who may or may not be the course author), there are administrative functions including student enrollment, assignments, grading, and quizzes.



The front page from East Grand Rapids Public Schools Moodle site.

Moodle includes an assessment system that helps teachers track student progress and course completion. The system allows teachers to use a course at the same time they are developing it, and then re-use and improve it each year. Often classrooms start using a single feature such as a calendar or assignment drop box and then expand as teachers explore additional features. Moodle has also been built to support a "social constructionist pedagogy," which is based on the active contribution and collaboration of the students. In addition to the traditional lesson, calendaring, assignment, and quiz capabilities associated with online learning, Moodle incorporates a variety of modules that support this approach, including wikis, forums, and chat. A vigorous development community continues to add Moodle program features, and as well Moodle users are beginning to share courses as open content.

Background

Moodle was developed by a team led by the Australian Martin Dougiamas. Their goal was to create an e-learning platform that would help teachers build courseware that was

pedagogically sound and could be easily shared. One of the reasons for Moodle's popularity in K-12 education is that the program has been developed as "Open Source Software" under the GNU General Public License and there is no purchase price for its use. As of the Fall of 2007, Moodle claimed to have over 14 million users, with over 35,000 sites in 195 countries (http://moodle.org/stats, http://moodle.org/sites/index.php); however, since there is no requirement for registration when using Moodle, there are no definitive statistics on the actual number of total implementations or of those specifically in K-12.

The eLearning Guild gave Moodle the 2007 Platinum Award for satisfaction in education and government learning content management systems. The guild also noted that Moodle had the largest market share of LCMSs in small companies. There is a considerable degree of interest in Moodle in higher education, and UCLA recently chose Moodle for its distance learning programs citing its ease of use, robust user and developer community, functionality of tools valued by educators, and its rich set of administrator tools.

Technical

Moodle is server-based software, meaning that the program is installed on a server, which can be implemented in a variety of ways--from remote hosting by a commercial server farm to local installation on a personal computer. All the functions and content of Moodle are accessed through a standard web browser, and deployment is relatively easy. Moodle is built on the popular LAMP (Linux, Apache, MySQL and PHP) stack, and was developed first for Linux but has also been tested on Windows XP/2000/2003 (WAMP), Solaris 10 (Sparc and x64), Mac OS X, and Netware 6 operating systems.

Moodle is stable and well-supported, with extensive user and developer groups. The Moodle open source developer community is actively developing new modules and utilities, and the program, and regular improvements can be expected. Similarly, educators using Moodle frequently share their creative uses for the program in online forums.

Caveats

First, it must be stressed that software variously called "Free Software," "Free and Open Source Software," or "Open Source Software" is by the very nature of its licensing available to download and use for free, that does not mean that there are not costs associated with that use. Support, maintenance, and training costs are a significant factor in the overall cost of any technology, and should equally be calculated for the use of Moodle.

Second, it should also be noted that while the Moodle is Open Source, which has the appropriate connotation of openness and freedom, the trademark on the word "Moodle" is held by the Moodle Trust, part of the organization Moodle Pty Ltd (of which Martin Dougiamas is the managing director). This commercial organization contributes to Moodle development and receives compensation from licensed "partners." Moodle Pty Ltd asserts that: "The word Moodle is a legally registered trade mark, and can not be used to promote Moodle services without permission. For example, you can not advertise 'Moodle hosting' without permission because this is a specific service that Moodle Partners offer." Organizations who are charging *any fees*--even educational organizations seeking cost reimbursement--for Moodle services would have to seek direct and specific permission from Martin Dougiamas to do so. Those services would include training, support, hosting, and installation.

Unfortunately, educational institutions have not found Moodle Pty Ltd very flexible in this area, and Moodle Pty Ltd has sent cease and desist letters, including to public educational organizations, when they feel their trademark rights have not been protected. There are only three authorized Moodle partners in the U.S., so this policy could have a direct impact on an organization's decision of whether or not to use Moodle because of the complexity and confusion of not being able to use word "Moodle" even when advertising even internal cost-recovery Moodle training or services. It also means that there is increased difficulty in finding outside Moodle services because they also cannot use the word "Moodle" in their advertising, limiting choice and competition in the marketplace.

Appendix - Implementation Examples

This appendix contains brief profiles of some school organizations that are using Moodle. It is not a scientific or "best practices" review, and so should not be seen as comprehensive. It does, however, provide a few "snapshots" of Moodle usage that may be illustrative of the variety of ways the program can be used.

The five Moodle sites featured in this study range from ambitious statewide training programs to single-feature classroom solutions. Moodle can be used for critical training and certification purposes and for delivering self-paced materials for credit. Sometimes only a single feature is used to solve a critical classroom problem. Implementation models range from formal development programs to a grass roots "build as you teach" approach. The following studies compare how Moodle is used, how course developers are trained and supported, and how each Moodle implementation has grown and evolved over time.

Organization	Size	Grades	Overview of Moodle Use
East Grand Rapids Public Schools - Michigan	2,800 students in 5 schools	Pre-K to 12	Grassroots Miscellaneous
Clarksville-Montgomery County School System - Tennessee	28,000 students in 31 schools	Pre-K to 12	Professional Development
Arizona School Services through Educational Technology (ASSET) - Arizona	Statewide Program	K to 12	Professional Development
Valley Christian Schools - California	1,500 students	Pre-K to 12	Student e-Learning, Blended Instruction, and Professional Development
Eagles Peak Charter School - California	3,500 students at 27 academies and learning centers	K to 12	Home School, Blended Learning

East Grand Rapids Public Schools
Michigan (http://www.egrps.org)
2,800 Students in 5 Schools
Main Use of Moodle: Grassroots Miscellaneous

East Grand Rapids Public Schools (EGRPS) is an example of a district that is slowly adopting Moodle to meet specific needs. At EGRPS, Moodle is growing in a "grassroots" fashion, building on pockets of success without a concerted push from above. Manager of Networking and Security Jeff Crawford began experimenting with Moodle on his desktop Linux server six years ago. Encouraged with what he had found, he placed a Moodle server in a middle school. A social studies teacher became enthused and began to use Moodle with all six periods using mobile laptop carts, which give 30 students one-to-one access for a brief time.

Crawford next did a small scale pilot involving eight teachers across all subjects for two periods a day. The response was positive. A middle school science teacher developed a course for use at home including webquests, quizzes, and other resources that complemented his classroom program. However, the added time demand that Moodle classrooms placed on the mobile computer carts soon overwhelmed the capacity. The one-to-one Moodle program couldn't be expanded without more equipment.

Another trend soon emerged: Moodle became the "Swiss army knife" of instructional technology. Teachers began using single Moodle features to solve individual problems.

- A speech teacher needed a way for students to turn in a series of speech drafts and outlines. Crawford showed her how she could create assignments with student drop boxes in an otherwise empty Moodle course.
- One high school teacher created an AP genetics course that she offered in the summer in true distance learning mode.
- Another teacher was eager to use the ebook version of a textbook for the whole class. The publisher required that the resource only be available to the class that had purchased the book. This was easy to accommodate through Moodle by enrolling students in a course that had the ebook as a resource.
- An art teacher found a way to use the forums feature to build an art gallery for each of the 192 students.
- A tobacco avoidance program uses Moodle as its web presence for announcements and information.
- The yearbook group placed yearbook pictures in Moodle for review.

These examples are not the most sophisticated uses of Moodle, but they meet legitimate technology needs. Moodle was selected because the costs are low and the interface is simple to use.

EGRPS provides limited Moodle training for new teachers and offers a summer in-service crash course. Soon they will be adding new computers to replace their aging laptop carts. Ninety-two percent of students have access to the Internet at home, and those with laptops are invited to bring them to school. Even so, EGRPS will not reach the level of one-to-one access anytime soon, and Moodle will remain a classroom enhancement and utility program rather than a core requirement. Michigan already has a comprehensive e-learning program called Michigan Virtual University (MIVU.org), so

there is no pressing need for EGRPS to create its own distance learning courses. Nevertheless Moodle is finding its place in the EGRPS technology tool kit.

Crawford has advice for others considering implementing Moodle:

> "[Moodle] has been successful because we have not set any benchmarks or goals. We kind of view it as a ... multipurpose tool. It has done a lot of cool and creative things and provided solutions for teachers and students were there might not have been. My advice: Do not push your staff to hard to use Moodle. Let Moodle sell itself. For example, we had a 6th Grade Science Teacher go nuts with Moodle and do all sorts of cool stuff." Sure enough, a year later the rest of his department started using Moodle and continue to this day. Crawford recommends considering Moodle for specific use cases without necessarily implementing full e-learning functionality. "You don't have to focus on Moodle as a classic online learning system. You can use just certain parts of the program."

He also recommends that schools ensure that their students "have adequate access to computers before requiring them to use Moodle." "In our first couple years of rolling out Moodle," he says, "we ran out of lab space. A number of teachers were frustrated because they developed this awesome Moodle course, but yet we could not guarantee them access to a lab everyday."

Clarksville-Montgomery County School System
Tennessee (http://www.cmcss.net)
28,435 Students in 31 Schools
Main Use of Moodle: Professional Development

Helen Gooch is Instructional Technology Coordinator for Clarksville-Montgomery County School System (CMCSS) in Tennessee. CMCSS has 31 schools serving more than 28,000 students and 1,800 classroom teachers. CMCSS requires all teachers to complete an information and communication technology (ICT) course. All teachers are required to complete courses on FERPA (Family Educational Rights and Privacy Act) and procedures with child services. To this end Gooch established a Moodle distance learning system to support district professional development. After evaluating Blackboard and WebCT they chose to adopt Moodle, primarily for cost reasons. They contracted with a technology integrator, who set up the Moodle site, hosted it, and imported their previous Blackboard-based courses using the SCORM (Sharable Content Object Reference Model) import feature. Usually three courses are offered at a time using the timeline format, which has specific start and stop dates for each course component. After teachers complete the required course during the set period, the course is left open for a while so teachers can review it. Course facilitator Gooch is able to read teacher posts and download the quiz results as an Excel file. Thus far, 120 teachers have completed the advanced level ICT course online. This year all 200 new teachers in Clarksville will complete the new teacher orientation online module.

Gooch was familiar with standard e-learning features because she previously worked with Blackboard. She learned to use the basic Moodle features in just three hours. She then trained other teachers as facilitators for the ICT courses. In what might be considered as a "best practice" for using Moodle, Gooch has found that teachers who become familiar with course features—first by taking a course and then facilitating a course—are best prepared to learn to author a course.

Another simple use for Moodle is the forum feature. Many of the CMCSS middle and high schools have an "Academic Coach" to assist with implementation of a reading intervention program. A Moodle discussion board for teachers was established as a way to communicate, troubleshoot, and problem-solve both individual and group concerns as the program began. The teachers are able to access, read, and post to the forum after a thirty-minute training session. This provides an open dialog allowing all to work through struggles and celebrate successes as the program was implemented. This use of Moodle has been so popular that discussion forums are now being run for many of CMCSS's other new program implementations as a way to for teachers to share and discuss issues and successes.

To promote growth in online professional development in CMCSS, "How to Facilitate Using Moodle" and "Authoring a Moodle Course" courses have been developed. These courses will be offered to consulting teachers and academic coaches in the district who routinely provide face-to-face professional development. The goal is to provide yet another avenue to assist teachers in helping students achieve success as these select individuals begin writing and facilitating online. CMCSS has no immediate plans to open Moodle for student use, but there is growing interest.

When asked how successful she felt their implementation of Moodle had been, Gooch

said: extremely. She did leave a word of caution about e-learning, though, amidst her enthusiasm: "School districts are going to need to realize the time factor not only in developing a course but also facilitating… anytime/anywhere is wonderful but it is very easy to 'forget' the true number of man hours involved because it is not done in face-to-face time."

Arizona School Services through Educational Technology (ASSET) Arizona (http://www.asset.asu.edu)
Main Use of Moodle: Professional Development

Arizona Department of Education needed to consolidate their professional development materials for educational technology. The DOE funded the Arizona School Services through Educational Technology (ASSET) program to provide training and teaching resources to all public and charter schools in Arizona. The main ASSET portal provides links to instructional resources and subscription services such as digital video-on-demand and online teaching services. The ASSET system consists of more than 36,000 active user accounts with 3,000 logins per day. The ASSET leadership team and associate director Mark Becker evaluated commercial e-learning systems that were available and even considered building a custom e-learning system. Eventually they decided that Moodle offered all the features and flexibility they required. A private vendor provided installation and hosting.

ASSET develops its own Moodle courses for in-service teacher training. These courses deal with educational methods and technology and are arranged in 15, 30, or 45 contact-hour formats. Many districts accept ASSET e-learning courses for teacher salary schedule advancement. The courses also count toward the 180 hours of professional development teachers must complete every five years for recertification. College credit through Northern Arizona University, University of Arizona, and South and Scottsdale Community College is also available for select courses (ironically, this requires completing a paper application; interoperability with college systems is not easy). Currently there are 20-25 online courses. Most courses are offered four times a year in both self-paced and facilitated modes. Facilitated courses have a distinct start and completion date and are led by a teacher "navigator" who is paid a stipend to run the course, read, and score assignments, and to moderate online discussions. Teachers log into the main ASSET portal and are automatically authenticated for using Moodle and other subscription services with a single sign-on. To date more than 15,000 teachers have been trained online through ASSET.

ASSET courses are developed by teachers who are paid a stipend to serve as "authors." Authors are given 2-3 hours of Moodle training and are provided a topic outline. They are also asked to follow general ASSET e-learning guidelines that specify durations, numbers of quizzes, and features; ASSET encourages authors to use the many learning modalities supported by Moodle. After the authors create the bulk of the content, ASSET developers polish the product and create graphics as needed. ASSET courses make extensive use of forums, assignments, and journaling. Direct instruction is provided with html pages that often contain video that is produced by the ASSET team or linked from other partners such as WGBH and other PBS sources. Videos are provided in QuickTime and Windows Media Player formats but are not streamed (files are downloaded but they can begin playing almost immediately on fast connections). Bandwidth *from* the ASSET servers has not been a problem; however, for many of the small rural schools in Arizona, bandwidth *into* the building or home can be an issue.

Moodle has had few technical problems, and authors learn the system very quickly. ASSET invites teachers to set up their own Moodle instances for collaboration with peers at their home schools. Associate director Becker notes that Moodle tends to be more

linear than other commercial systems that are more "button based." The resource users can still skip around when using the resource list organization mode. Currently there is no statewide move to provide Moodle access for students; that is left up to local schools. Indeed many teachers who experience Moodle first as a student of an ASSET course will later go back to their schools and get their own Moodle system set up for classroom use.

ASSET plans to continue to develop more in-service courses. Most recently they partnered with Casey Family Foundation to produce training courses for educators who have students in foster care.

Valley Christian Schools
California (http://www.vcschools.org)
1,500 Students
Main Use of Moodle: Student e-Learning, Blended Instruction, and Professional Development

Valley Christian Schools (VCS) has created an extensive set of Moodle courses to support blended classrooms, to offer full e-learning, and to provide professional development for teachers. Four-and-a-half years ago Director of E-Learning Werner Vavken decided to look into online tools that could be used to supplement instruction. He was hoping to adapt to the collaboration and learning styles of this generation of technology-literate students. Initially his team used the commercial product Tegrity, which allowed teachers to digitally record classroom video, audio, and interactive whiteboard sessions and then post them online. Students were able to review classroom presentations and discussions multiple times. In the first year VCS discovered the test scores of students using the system improved one letter grade. This proved to them the value of providing an online supplement to the traditional classroom.

Three years ago VCS began using Moodle so teachers could have an online contact point for their classes. Initially teachers used Moodle to deliver and grade quizzes online and as a digital drop box for homework assignments. Teachers could grade materials at home and students could get their results immediately. Semester exams and other higher stakes tests are not delivered using Moodle so that test-taking can be overseen in person. About 25% of the teachers use Moodle regularly. Students can be enrolled in three ways: manually by the teacher, enrolled by the school technology support team, or students can self-enroll when they are given the enrollment key. Sometimes an entire class roster is registered using the Moodle utility that accepts a formatted Excel file of student names and info.

Moodle for what they call "Virtual Valley"--Valley Christian Schools' e-Learning portal--is hosted offsite by an independent vendor. A core group of VCS staff was trained by a staff member of that vendor. Vavken estimates that it takes about 20 hours of training for teachers to learn to author with Moodle. His only complaint about Moodle is that assessment authoring is cumbersome and could be streamlined. He also finds that Moodle's threaded discussion chat, which is asynchronous, is not as motivating as real-time student collaboration. He uses a commercial "live collaboration" product to allow students and teachers to interact in real time online. He cites a study reporting that e-learning courses that included real-time interaction for 20% of the time resulted in improved course completion rates from 30% to 50%.

Virtual Valley has also moved into full e-learning. They offer fully accredited courses including algebra 1 and 2, geometry, and digital photography 1 and 2. Between 10 and 60 students enroll in each course. The courses were developed by VCS teachers who were contracted to develop courses and then facilitate them online during the summer. Teachers working on courses collaborate by reviewing and proofreading one another's courses. Surveys are given to students and parents after each course, and they are averaging an 80% satisfaction rate. Six more courses are currently in development. Summer 2007 is the first time that a course will be facilitated by someone other than the course developer. VCS teachers also use Moodle for professional development, and the

technology group develops courses dealing with technology and pedagogy.

The biggest barrier to greater use of Moodle at Virtual Valley is teachers' lack of awareness and reluctance to innovate. Vavken notes that teachers are less eager to try new things than people in the technology industry with whom he worked in his previous career. At VCS he works first with the 15% of the staff that are immediately open to the new technology. When these teachers become successful they become the promoters. He finds that teachers are more receptive of advice and guidance provided by other teachers instead of technical experts.

Distance learning course development is time consuming. Vavken has exhausted the in-house resources of staff time for new course development and has not found free sources for quality Moodle courses. He plans to collaborate on course development with the Quest Institute for Christian Education. He hopes that he can get other Christian schools to develop and share Moodle courses that cater to their unique needs.

Eagles Peak Charter School
California (http://www.eaglespeak.org)
3,500 Students in 27 Academies and Learning Centers
Home School, Blended Learning

Eagles Peak Charter School (EPCS) serves approximately 3,500 K-12 students in San Diego, San Bernardino, Orange, Riverside, and Imperial counties. EPCS serves a broad range of students who complete some or all of their schooling at home. The EPCS motto is "Charter of Choice"; as such they attempt to offer a wide variety of onsite blended, real-time online, and on-demand online courses using Moodle. Currently they offer online courses for American history, physics, algebra, English, pre-calculus, chemistry, biology, geometry, Spanish, and earth science.

Onsite students attend classes two to five days a week. Teachers of these courses use Moodle to present assignments, homework, and quizzes. These courses are conducted on a timeline and sometimes have little online content, serving mainly to assist classroom organization and communication. About 200 9th-12th grade students are using Moodle at this time in the program called Renaissance High School Academy. These students attend site base classes 2 days a week and then use Moodle to retrieve course content and assignments.

Previously, approximately 150 students could attend one or more "real-time" online courses using the timeline format; these were courses facilitated by an education specialist (ES). (Real-time synchronous classes have recently been suspended due to an administration change and a restructuring of the school.) When offered, they had fairly complete content consisting of assignments, quizzes, videos, and external web links. Real-time students were required to log in simultaneously twice a week in an online video conference for group discussions. In addition online student met in-person with an instructor every 20 days. Even though EPSC students are spread out geographically, the online system was able to offer a synchronous course with 15 participants.

On-demand online students take the courses anytime they choose—without being monitored by an ES. These courses are used for support of independent study, home schooled students. Independent study students can also receive individual tutoring by EPCS teachers.

EPCS began using Moodle three years ago. The first year they hosted everything internally and shared a MySQL installation with another commercial program. This led to an unfortunate crash of the database with an almost total loss of the courses that had been created to that point. As a small school they felt it would be more practical and reliable to move their Moodle server off-site where it could be professionally maintained and backed-up. They selected a commercial host, which could also provide on-site Moodle training for a core group of teachers. Typically teachers receive about 15 hours of training over three days. EPCS has found that training by educators is preferable to training by technical people because educators know how to emphasize the classroom application of Moodle features. Eighty teachers have been trained; 58 serve as ES for remote learners.

EPCS had a paper version of their course outlines. These "pacing guides" formed the basis for the first generation of Moodle courses. Teachers were asked to build their

Moodle courses "on-the-fly" as they conducted their courses. Since teachers typically do not teach everyday, they had the time to devote to Moodle course development. In the following years the basic courses were honed, reused, and improved. Each semester courses are copied from a master course template for a subject, and a new instance is created and customized by the instructor for that period. Jim Olson, the Resource Library Director at EPCS, has searched for free Moodle courses that could be integrated but was only able to find a few math resources on the Moodle share site.

The most popular Moodle features include the schedule and assignment features, which keep students on track and provide a common drop box for grading. Wikis are used to create common spaces for students to collect their work as a digital portfolio, which they nicknamed “Moodlespace.” General courses are created to serve as "headquarters" pages to reach students who are also enrolled in specific content courses. Portfolio wikis and "headquarter” courses are examples of creative uses of Moodle features that were originally designed for other purposes.

Moodle’s pace of change has been a challenge. Olson created a narrated screen-capture training tool that shows how to use Moodle and emphasizes useful classroom features. This tool has proved to be frustrating as each new version of Moodle brings new features and slightly changed interface that necessitate redoing the training materials. Version 1.7 of Moodle provided an extensive new permission system that gave the administrator control over who was allowed to see every resource in the system. This proved to be too much for the database to handle and performance suffered. Version 1.8 will remedy this problem.

Teachers sometimes find the Moodle authoring procedure inefficient and tedious. For example, as you copy and paste content from one course to another it ends up being pasted in the same position as it was in the original course. The grading system is slow and frustrating as well. The nice thing about open source initiatives like Moodle is that these complaints are echoed in the development forums, and almost immediately someone starts working on a solution.

A majority of the course development is complete for the high school level where courses are well-defined and somewhat prescribed in content. At the K-8 level, where parents play a greater role, there is less uniformity. To meet this audience’s need for distance learning, Olson plans to create a larger number of small topical modules that can be used individually or collected by home school parents to create custom units. Olson is also investigating ways to make interfacing with their SIS system more efficient. This will help with state reporting and free-up teachers’ time to focus on instruction.

About CoSN

The Consortium for School Networking (CoSN), a national non-profit organization, is the premier voice in education technology leadership. Our mission is to advance the K-12 education community's capacity to effectively use technology to improve learning through advocacy, policy and l eadership development. Our members represent school districts, state and local education agencies, nonprofits, companies and individuals who share our vision. To learn how membership in CoSN can make a difference in your district, visit us Online or send an e-mail or call 866/267-8747 x115.