

# Moodle

## A District Solution to Online Learning

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### INTRODUCTION

Imagine a classroom where conversations go beyond the dismissal bell, a classroom where multimedia is shared and students work to construct their own learning, an environment where district personnel can learn and share resources at their own pace from the comfort of their own homes. This concept exists not only in the imaginings of the future, but exists now and is happening in districts like the writer's in the sunny state of Florida. Creating an opportunity for anytime, anywhere instruction establishes the need for learning management systems to house content and other resources while at the

same time being user-friendly enough that a highly advanced technical skill set is not required. With limited financial and human resources, districts need to adopt learning management systems that can meet multiple needs. Systems are needed that can meet the needs for professional development, traditional classroom sites for students and a place for growing district-run virtual schools. What can districts use to meet these diverse needs? Moodle.

With increasing demand for online solutions, Brandl (2005) states that this "places high demands on design, programming skills, and time. An alternative to using such applications is the deployment of course or learning management systems" (p. 16). With 70,282 registered sites in approximately 222 countries and 1,292,081 registered teachers from its inception, one can argue that Moodle is gaining in its use all over the world as a solution to this need ("Moodle Statistics," 2011). Martin Dougiamas created Moodle, which stands for modular object-oriented dynamic learning environment, in 1999. As a youth, Dougiamas attended one of Australia's "schools of the air," where students learned through shortwave radio communication while getting materials and most feedback through the mail, so the idea of learning from a distance was not new to him (Hargadon, 2006). Moodle's design and components are based on the constructivist theory of learning; "its goal is to provide a set of tools that support an inquiry-and discovery-based approach to online learning" (Brandl, 2005, p. 16). Moodle is not, how-



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ever, limited to the distance classroom; it can be used in traditional classrooms or for blended instruction (Hargadon, 2006).

Moodle is a “free, open-source software program that not only provides a set of features similar to those of its proprietary competitors but is often easier to use” (Perkins & Pfaffman, 2006, p. 34). Installations of Moodle can be as large as an entire school district or as small as one classroom. Although the initial download of the program is free of charge, it does need to be hosted on a server to get the most flexibility from its use. In the writer’s district, outside providers host the various installations of Moodle.

Many teachers and schools today have access to websites, free blogging sites and wikis, and even sites dedicated to provide teachers with online assessment tools to use with students. What sets Moodle apart from these is its ability to provide all of these options in one place and in a secure environment. Districts must be aware of who is interacting with its students and in many districts must be able to retrieve communications between students and teachers if needed. Sending students to multiple places can be confusing for both student and teacher and adds more time, as one must navigate or bookmark multiple sites. Many of these sites also require users to register and establish a user name and password, but these must be maintained by the individual providers and are not accessible for reset or monitoring by teachers or district staff. Moodle, however, provides two layers of security to its users, both of which can be managed entirely by the district and not an outside system. Before getting into any courses, users must log into the system itself. Moodle easily integrates into district active directories making it possible to use preexisting user names and passwords instead of establishing new combinations to maintain. As a second layer of protection, course teachers have the ability to set up a course enrollment key that students must provide to

gain access to the course and its content. Districts can allow guests to enter courses on a course-by-course basis or not at all. Parents have commented that they appreciate this security as it adds to a sense of safety knowing the general public cannot interact in the same forums, blogs and discussions their children are in.

A Moodle course is an empty shell when it is created, waiting for the teacher to add resources and information. It is organized into three columns; the main column down the center of the course is where all the activities and content of the course will appear. The two side columns contain tool blocks. Teachers can decide which blocks they wish to show to users. A variety of tool blocks are available. Blocks for a calendar, html editing, current participants, lists of recent activity, and many others are available and easy to add. Teachers, or course creators, add various pages to their course as they build it out for their students (teachers are the ones who are in charge of the course; students are anyone taking the course including adult learners).

The two main categories of pages that can be added to the center column are resources and activities. When the course creator clicks on the “turn editing on” button located in the upper right-hand corner of the course, two drop-down menus appear in each topic box. One lists all of the resources available and the other all of the activities. Combinations of these work together to build a course. Resources provide the foundation or support in the course and generally do not require student interaction. Resources include labels, web pages, links for displaying documents or linking to an external website and the ability to create a link to a directory of files within the course. According to McCall (2009), the activities available in Moodle can fall into “two categories of activities: social and individual” (p. 62). McCall (2009) further breaks them down into activities that are collaborative in nature and those that are completed individually. Under

activities, there are assignments that can be used to create places for students to upload files to the course, places for students to compose online text and a placeholder for offline activities. These assignments create a place in the Moodle grade book automatically. Course creators can also create forums, quizzes, glossaries, databases, lessons, and wikis. Administrators can also add additional plugins in both categories to customize the Moodle options for their particular version of Moodle.

With the initial launch of the district e-learning center, the Moodle administration team created courses for teachers upon completion of an online training in Moodle and the submission of a request approved by the school principal. Establishing new sites in Moodle can be done in less than four steps from adding the site, naming it, giving it an enrollment key and assigning the role of teacher. This makes managing new courses in the program easy.

The Pinellas county school district is the seventh largest in the state and the 24th largest in the country, serving 142 elementary, middle and high schools and over 101,000 students and 17,000 teachers (Pinellas County Schools, 2011). The writer works as a district distance learning and referendum coordinator. With such a large number of teachers and students to serve, in addition to other district personnel, the need for effective and efficient systems was a must. In 2007, the Pinellas county school district decided to begin using Moodle. It began with a small pilot group of teachers creating courses for use with their students. While that began, professional development courses; ESOL training specifically; were being created using Moodle. From then until today, the district now has over 71,000 plus registered users in the original eLearning Center instance and has three additional instances of Moodle, each having their own unique focus.

Professional development for such a large district is a struggle to achieve. With limited time available to provide much

needed development, districts must look to other ways of presenting this training. Online learning has the potential to meet those needs. Dillon, Dworkin, Gengler, and Olson (2008) found that online professional development could be just as effective as face to face. Learner discussion is cited as enriched in online courses as it offers "a valuable form of reflection, and the quasi-anonymity of the online environment makes it easier to be honest and ask questions" (Hiser, 2008, p. 29). Moodle is one of these solutions. Limited budgets are also making the Pinellas county school district find ways to reach its teachers without the need for numerous trainers and learning coaches. The writer's office consists of a director, a secretary, and three coordinators. The team is tasked to offer technology related professional development to the entire district. Early in the adoption of Moodle, the office began to create opportunities for teachers to complete professional development 100% online. Currently, the writer's office offers training in Elluminate Live!, SMART tools, Moodle course design, iMobile devices, digital storytelling, facilitating an online course and trainings for several other software applications. Teachers enroll in the courses and complete them at their own pace. Hiser (2008) states that this "online format is ideal for new faculty. It's convenient and provides a '24-7' outlet that new faculty can use for their questions, frustrations and elations" (p. 29). The state of Florida recently changed the teacher appraisal system. Districts must monitor the trainings teachers take and how they relate to each individual professional development plan. Online training has become a staple for every office in the writer's district, in an effort to better support professional development in the tracking of teacher training. The district has established a version of Moodle dedicated to professional development named MoodleLMS. The district has utilized a program called ELIS for Moodle, an add-on to Moodle that can "provide the

administrative, business intelligence, data mining, learning management, content management, and longitudinal record keeping functions that standard Moodle does not provide" (Remote-learner, Introduction to ELIS section, para. 1, n.d.). When the professional development department opens a new course, regardless of its delivery format, the system automatically creates a Moodle course for the training. Every professional development course that is created in the system automatically has a Moodle instance. The district has also moved away from using paper-based training evaluations. Participants must log into MoodleLMS to fill out their evaluation form so they get credit for the component. With this new effort the district is working to encourage all trainers to use Moodle as a spot for either blended instruction or a repository where they can post training notes, copies of PowerPoint presentations, or other helpful materials they would have otherwise had to print for participants to have a copy. Other trainings are 100% online in the system. By providing this opportunity, personnel who do not adopt Moodle early on are given the chance to see how it works which may encourage them and provide the spark needed for them to create a Moodle course for their own classroom or office. Maikish (2006) found "that when teachers see how other teachers are using Moodle, they will be moved to figure out how they can use it effectively in their own classes" (p. 27).

Willard (2010) predicts, "the shift to [twenty-first] century education, enriched with Web 2.0 technologies, will result in incredible opportunities. This shift will, however, present challenges" (p. 23). The need for more secure environments where teachers can introduce students to Web 2.0 application is vital. The writer's district introduced Moodle as a solution to this problem. As teachers began to see the possibilities for Moodle's use in their classrooms, more applications for classroom sites were submitted. Teachers who used

Web 2.0 tools like wikis, blogs, and threaded discussions were able to create these same tools in a safe, secure, district approved space. Within this space, educators can work to ensure students learn and "gain competencies in the safe and responsible use of digital media technologies and resources (Willard, 2010, p. 22). At first, many early adopters of Moodle courses used them as repositories of sorts. They posted links to class documents and web resources for students. Others created Moodle quizzes taking advantage of Moodle's ability to automatically grade most types of questions. As Brooks-Young (2008) discovered, new users of Moodle "rely primarily on features that enable them to automate traditional tasks, such as test giving or assigning and collecting work" (p. 28). Simple tasks like posting homework calendars and PDF versions of homework sheets in the course can help to provide support to parents when students forget what they were supposed to do or lose that much-needed resource.

Still others began to branch out and use Moodle as a tool for collaboration. Using the forum activity, teachers are able to create threaded discussions in their courses moving conversations beyond simply taking turns and raising hands and into opportunities for all students to have meaningful discussion about a topic beyond the time allotted for class. In one scenario, a high school English class in the district was reading *Romeo and Juliet*. The teacher assigned students to small groups and created a discussion forum for each group. The students were then assigned to act as different characters in the book. The teacher posed a question to the group and they had to discuss it in the forum from their character's perspective. Not only did this class have the opportunity to look at a scenario from another point of view, but as Maikish (2006) notes, the use of Moodle "also fulfills many of the ISTE NETS standards for students, teachers, and administrators" (p. 27).

Moodle wikis also provide the opportunity to teach students while keeping technology standards in mind. In another scenario, one of the early adopters of Moodle, a fourth grade teacher, used wikis with students as a way to increase collaboration and teamwork. For a reading assignment, students were assigned the task of picking a topic to research. This was part of a celebration exercise at the end of a reading unit of study focused on nonfiction. Groups of three or four were assigned a wiki space that they used to build a short write up telling all about their student-chosen topic. The students used the wiki to plan each person's role and responsibility in relation to the project. Moodle wikis work in much the same way as other options available, but also allow the teacher to see every change an individual user makes. The teacher can see if student x added information and can trace the wiki page back to each saved instance; this is helpful when working with young students who may realize too late they have deleted something they did not mean to. As the students worked independently to add information to their wiki page, they were also able to see the information other members of their group had added in and worked together to complete the assignment. Creating activities like this in Moodle "allows students to use technology to enhance learning" (Maikish, 2006, p. 27).

Some of the very early adopters in the district have begun using Moodle for blended learning in their classrooms. Students in these classrooms, several of which are able to have one-to-one laptop labs, use Moodle to receive a bulk of their instruction working with the teacher in small groups as needed. Many users have begun to add embedded videos or talking avatars to their courses to help provide directions about the tasks for the day, and as a way to reach auditory learners.

As more users adopted Moodle as an integral tool in their classrooms, the district and the writer's office was working to

build its own district-run virtual school. Beginning in 2008, all Florida school districts had to provide options for full-time virtual school to their students. Knowing what a wonderful tool it had in Moodle, the district decided to create their own middle school using courses written by district teachers. A group of 12 teachers was brought in and each one was tasked to write a course. Each of the teachers was already using Moodle in their classrooms and was eager to create a complete course. By the next school year, the district brought in a second group of high school teachers tasked to write courses for grades nine through ten as they would be introduced in the 2010-2011 school year. The writer's job was to work with and train the teachers writing the courses. With the International Association for K-12 Online Learning national standards for quality online courses in hand they organized Moodle's topic boxes into weeks of content. Labels were used to organize content and present the standards and purpose for each week and individual activity. Resources were used to present information and content. One such resource was used often—the book. Writers were able to create mini lessons broken down into manageable chunks. Using the chapters of the book, links were made to resources provided by BrainPOP, SAS Curriculum Pathways and Learn360. After each piece of information, students had independent activities and collaborative activities to complete for each week. Threaded discussions were a vital part of each week's content, since the students in the program would be participating 100% of the day virtually. In one activity, students in the Algebra class would participate in a forum dedicated to algebraic properties. Each one had to research an assigned property and provide information and helpful online resources to assist their peers learn the property. Moodle forums allow posters to add links to documents and websites so students had to post a link to their presen-

tation. They were then directed to review a presentation from a classmate for each of the five properties that were assigned and to leave feedback about the presentation. Prior to this the teacher discussed what makes good feedback. Students were able to take a part in the building of their own learning and that of their peers. With the help of additional plugins to Moodle, teachers are able to post grades for student work, interact with them via e-mail, and keep track of other data and attendance.

Moodle manages to meet numerous needs in the Pinellas county school district by creating an option for housing online professional development, a secure environment for classroom teachers and other staff and the portal by which the district launched its own virtual school. It is a vehicle worth the time and investment put into it as it gives districts back so much more than they have to put in.

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