Moodle 3.x Teaching Techniques
Third Edition

Moodle, the world’s most popular free open-source Learning Management System (LMS), has released several new features and enhancements in its latest 3.0 release. More and more colleges, universities, and training providers are using Moodle, which has helped revolutionize e-learning with its flexible, reusable platform and components.

You will start by learning how to set up the best possible course so that your students can demonstrate their skills and knowledge, and feel confident in their outcomes. Moodle’s new features allow you to develop effective modules learning and to build in self-grading assessments that automatically record and generate certificates and badges. With Moodle’s new free, cloud-based hosting services, it’s easier than ever to use its flexible framework to create dynamic courses that incorporate texts, videos, graphics, maps, and audio files, and which include quizzes, portfolios, lessons, discussion forums, wikis, galleries, certificates, badges, and workshops. You can also develop courses that encourage collaboration along with guided or individual study. Finally, we will learn how to put it all together to create exciting courses that take your programs where you want them to go.

Who this book is written for
If you want to unleash your teaching talents and develop exciting dynamic courses that really get students moving forward, then this book is for you. Experienced Moodlers who want to upgrade to Moodle 3.0 will find powerful insights into developing more successful and educational courses.

What you will learn from this book
- Create a dynamic learning environment using different techniques
- Motivate your students to collaborate and demonstrate what they are learning and to create projects together
- Develop materials you can reuse in your future courses
- Create online workshops and galleries for your students to make presentations about what they have learned
- Engage your students in teamwork that helps them connect course content with their experiences and prior learning
- Develop high-quality courses that will last to create a personal inventory you can use and reuse

In this package, you will find:

- The author biography
- A preview chapter from the book, Chapter 1 'Developing an Effective Online Course'
- A synopsis of the book’s content
- More information on Moodle 3.x Teaching Techniques Third Edition
About the Author

Susan Smith Nash has been designing and developing online courses and programs for more than 15 years for education, training, and personal development.

In addition to Moodle 3.x Teaching Techniques, she is the author of a number of Moodle books and training videos, including Moodle Course Design Best Practices and Moodle for Training and Professional Development. She has also authored Video-Assisted Mobile Learning for Writing Courses.
Welcome to Moodle 3.x Teaching Techniques! I am delighted to have this opportunity to work with you and help you unlock new potential using the world’s most popular online learning management system program, Moodle. It has been a favorite of many of the world’s most distinguished and forward-looking online programs, and now that Moodle accommodates mobile learning, as well as social media, while maintaining its intuitive, easy-to-use and easy-to-manage interface, it is appealing to students who approach the course from a wide range of devices. In addition to its convenience and ease of implementation, Moodle’s cloud-based interface, Moodle has developed a solution for small users.

Moodle Cloud (https://moodle.com/cloud/) offers small users the ability to use Moodle via Moodle Cloud for free. You have webspace and up to 50 users, along with 200 MB storage space provided for free. It is a great opportunity for instructors, students, and administrators to create an exemplary course, which satisfies users on many different levels.

What this book covers

Chapter 1, Developing an Effective Online Course, covers how Moodle has kept up with best practices in online course development. Topics include the Moodle advantage, Moodle in a mobile world, instructional principles and activities, Bloom’s taxonomy, and Universal Design. You will learn how to determine course objectives, write learning outcomes that align with Bloom’s taxonomy, and map out an assessment strategy.

Chapter 2, Instructional Material, talks about how to create effective instructional material and how to organize it. Topics include selecting and organizing instructional material, guiding and motivating students, and incorporating social media and cloud-based resources. You will learn how to select materials, organize them, set up a discussion, and incorporate video, audio, and images from cloud-based sources or social media.

Chapter 3, Collaborative Activities, deals with the different types of forums and how best to set them up and use them. Topics include a discussion of productive online interaction, types of interaction, tying collaborative activities to learning outcomes, common pitfalls, and chat. You will learn how to set up Forums for discussions, select the right kinds of forums, and set up forums for different purposes.

Chapter 4, Assessment, talks about how to create different types of assessments and to match them with learning outcomes. Topics include the purpose of assessment, as it relates to learning objectives, motivation, and the automatic generation of badges and certificates.
You will learn how to develop assessments and an assessment strategy, and you will also learn how to created automatically generated certificates and badges.

Chapter 5, Lesson Solutions, covers developing and sequencing content for lessons, and building lessons step by step. Topics include building lessons step-by-step, selecting the elements, and controlling the flow through a lesson. Students will learn how to build a lesson and to sequence it for ideal performance. They will also learn how to develop a lesson and then how to control flow through it.

Chapter 6, Wiki Solutions, deals with how to create different types of wikis and how and why to use them. Topics include using a wiki to achieve learning objectives, and using social media and cloud resources. You will learn how to build different types of wikis and control student input.

Chapter 7, Glossary Solutions, talks about creating glossaries for activities, collaborative interaction, and assessments. Topics include helping students learn via schema building, glossaries and learning objectives, and the functions of the glossary. You will learn to build a glossary and to use it to create test questions, technical terms, and a class directory.

Chapter 8, The Choice Activity, deal with using the Choice activity to create polls and quizzes to engage students. Topics include polls, learning styles, using a quiz. You will learn how to create quizzes and polls.

Chapter 9, Course Solutions, covers creating a template for a full course. Topics include creating a course template and a course design document, and then prioritizing and selecting based on learning objectives. You will learn how to map out the steps to build a course from start to finish, create a syllabus, engagers, quizzes, assessment, and develop automatically generated certificates and badges.

Chapter 10, Workshop Solutions, talks about creating a workshop to encourage collaborative development of material and to use peer review to learn from each other. Topics include workshops and collaborative learning, creating the workshop that allows peer assessment. You will learn how to build a workshop and to create examples.

Chapter 11, Portfolio/Gallery Solutions, covers the design and development of portfolios which encourage engagement and collaboration, with results displayed in a gallery in Moodle. Topics include the advantages of collaborative activities, the design of project-based assessment, the benefits of creative capstones, the analysis of an example ("Our Hometowns"), and tips for success. You will learn how to build an effective portfolio assignment, create examples/sample portfolios, and build a gallery of examples.
Developing an Effective Online Course

Welcome to Moodle 3.x Teaching Techniques! Moodle offers teachers and course designers a toolbox full of online teaching tools. This book shows you how to use those tools to create effective learning solutions. These learning solutions are based on proven, accepted instructional principles and best practices for online courses and traditional classroom activities.

Moodle is a Course Management System (CMS) that is used to produce web-based courses. It is a Free and Open Source Software (FOSS), which means that you are free to use, modify, and redistribute it as long as you:

- Provide the source to others
- Do not modify or remove the original license and copyrights
- Apply this same license to any derivative work

Under these conditions, thousands of developers have contributed features and functionality to Moodle. The result is the world's most popular, free, and feature-packed course management system, which is also an online learning system. Its flexibility makes it ideal for learning that is delivered by many different organizations, including schools, colleges, universities, corporate and association training, and professional development.
The Moodle advantage

Many of the features in Moodle are carefully chosen to support a philosophy of learning called **social constructionist pedagogy**. Simply stated, this style of learning and teaching is based on four concepts: constructivism, constructionism, social constructivism, and connected and separate:

- Students acquire new knowledge as they interact with their environment, your course activities, and other students.
- Students learn more when they construct learning experiences for others. You might be familiar with the process of learning described by Jerome Bruner in his *Learning Pyramid*. It states that students remember 10% of what they read, 20% of what they hear, 30% of what is demonstrated to them, 50% of what they discuss, and 75% of what they practice. This pyramid states that students retain 90% of what they teach others. You can check the learning pyramid at [http://homepages.gold.ac.uk/polovyna/learnpyramid](http://homepages.gold.ac.uk/polovyna/learnpyramid).
- When students become part of a culture, they are constantly learning. For example, you and your partner would probably learn more about ballroom dancing when you’re in a dance class versus watching a video together. The interaction with other students, and possibly a variety of teachers, would enrich and accelerate your learning process.
- Some students try to remain objective and factual, some try to accept more subjective views, and others try to integrate both approaches. Constructed behavior is when a student can choose whichever approach is more appropriate.

You are probably not accustomed to an application’s features being chosen based on a philosophy. Usually, features are chosen based only on what is technically feasible and what customers are willing to pay for. These are certainly factors to consider for Moodle developers. However, the educational philosophy behind Moodle is also a criterion for adding features. This gives Moodle a tremendous advantage.

As Moodle is designed around a well-defined educational philosophy, its user interface is very consistent. I don’t just mean in the traditional sense, where you compare icons, colors, menu actions, and layouts on each page to ensure that they match, but as you go through a Moodle site, things look, feel, and function consistently. More importantly, you interact with each activity, your classmates, and the teacher in a consistent way, whether it’s in a chat room, forum, or by leaving feedback for a workshop. When interaction becomes easier, a student can focus more on learning and less on the software.
Further, Moodle’s interactive activities and features allow developers to create courses that are self-guided and self-paced and can be utilized with mobile devices as well as desktop computers.

**What will we accomplish with this book**

As teachers begin to use an online learning system, the first thing most of us do is explore the system’s features. We discover it has online forums, electronic flashcards, interactive quizzes, Wikis, collaborative workshops, and other features. Our question now becomes, *How can I use this feature to teach my course?* or *What features of this software can be used to effectively to teach my course?* For example, we discover that the software has an Assignment module and ask, *How can I use online assignments in my course?* We start by exploring the software and figuring out how we can use it to effectively teach our courses. When given a new tool, it’s natural to explore the tool’s functions and think of ways to use it.

This book gives you solutions that help you make the most of the many features found in a standard Moodle installation. Some of these solutions require several hours to build, while others are just a matter of selecting a single option in one of Moodle’s setup pages.

Effective learning and teaching principles are not just for academic teachers. If you’re a corporate trainer, your students will benefit from the learning solutions in this book. These solutions are based on instructional practices that have been proven to work for young and adult learners.

**Some Moodle requisites**

You don’t need to be an expert Moodle teacher or course creator to use the solutions in this book. However, this book assumes that you can use Moodle’s basic features. You can learn Moodle before reading this book or learn it as you practice implementing these solutions.

For example, one of the learning solutions in this book is *Group Project*. This solution uses Moodle’s standard wiki module. To implement the solution, you should know how to create a wiki in Moodle. You could learn how to create a wiki from another book on basic Moodle usage, online help, or from the [https://moodle.org/](https://moodle.org/) forums. However, this book will not give step-by-step directions to create a wiki. It will give you directions to adapt the wiki for Group Project.

If you’re new to Moodle, consider practicing on the Moodle demonstration site at [https://moodle.org/demo/](https://moodle.org/demo/).
If you need more information about any of the features of Moodle, Moodle provides updated documentation at moodledoc. For Moodle 3.0, the moodledocs site can be found at https://docs.moodle.org/30/en/Main_page.

**Standard modules**

Moodle is an open source software, so new modules are constantly being developed and contributed by the Moodle community. The modules that are a part of Moodle’s core distribution are covered in this book. Moodle’s capabilities are enhanced by additional modules, which enable better learning solutions.

Some of the techniques in this book are workarounds that can be directly accomplished by adding a third-party module to your Moodle site. However, as each new version of Moodle is released, only the standard modules are guaranteed to be compatible. There is no guarantee that a third-party module that you have installed will be compatible with future versions of Moodle. This can hold back the upgrade process for your site.

All of the solutions in this book can be implemented with Moodle’s standard modules. I encourage you to explore the add-on modules available at https://moodle.org/.

**Instructional principles and activities**

The solutions in this book are based on accepted, research-based instructional principles and traditional learning activities. Learning principles can be applied to a wide variety of activities. For example, the principles of Distributed Practice and Immediate Error Correction can be applied to Quiz, Lesson, and Assignment activities in Moodle. When we go through the solutions for quizzes, lessons, and assignments, we will briefly discuss how to apply these learning principles to those activities.

**What are we trying to do in an online course?**

In order to make the most of Moodle, it’s useful to look at our overall instructional strategy. It’s easy to get very excited about all the tools and activities that Moodle offers and then try to incorporate all of them. How do you decide which activities to use and how to organize the course?
The best approach is to start with your overall learning objectives. Ask a few simple questions: what do you want students to be able to do at the end of the course? How and what is the best way for them to demonstrate what they’ve learned in a way that is measurable?

As you answer the questions, identify five or six of your most important learning outcomes. Those will be your learning objectives.

For example, if you are teaching a course in Introduction to Geology, one of the outcomes might be for students to be able to identify three major rock types. As you state this objective, you can start thinking about how you’ll have them demonstrate the fact that they can identify these major rock types. Thinking ahead to Moodle, you might have them take a quiz that requires them to recognize rock types. Or, you may ask them to post photos from their field trips with descriptive labels.

You’ll find that, in Moodle, learning objectives (LOs for short) will soon become your best friends. They will help you determine how to organize the course, select course content, and create assessments.

Here are a few key points in developing learning objectives:

- Make sure that you do not have too many learning objectives. Limit them to five or six. Too many learning objectives will result in repetition and a muddy focus.
- Use active verbs that lead to measurable outcomes. One of the most important elements of course design is developing activities and instructional content that enable students to engage in tasks that can be assessed in a measurable way. Thus, it’s good to avoid such fuzzy phrases such as “understand a concept” or “believe in a concept.” Instead, verbs should be active with measurable outcomes. Examples of these are “describe”, “list”, or “create.”
- Use Bloom’s Taxonomy to help develop your learning objectives. Bloom’s Taxonomy is a framework that was first developed in 1956 by Benjamin Bloom and other collaborators, who sought to develop categories of learning levels. Their goal was to help teachers and instructional designers plan and develop appropriate instructions, design-appropriate assessments, and align instructions and assessments with learning objectives. They did so by identifying six cognitive processes, from the most basic (on the base of a triangle) to the most complex. There are six categories (in the 2001 update), each with associated action verbs, which help teachers and designers organize instructions, from the most basic to most complex, and design effective assessments.
Here is a diagram that shows levels and then includes cognitive processes. It also includes basic verbs that you can use in designing and developing your course. You can also refer to https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/#why for more information.

As you progress through this book, you'll find that we'll be using Bloom's Taxonomy and learning objectives to make sure that we're selecting the right materials, putting them in the right places, and also developing the right kind of assessment strategy.

How does learning take place in an online course?

If you are new to e-learning, you might think of an online course as something that involves a great deal of reading and perhaps a certain number of videos in which you watch a professor delivering a lecture to a group in a traditional classroom as he/she writes something that you can't quite see on a dusty chalkboard. The dominant mode in such a setting is passive and the very idea of this experience may give you a bit of a sinking feeling. How can you learn if you're falling asleep?

Well, the good news is that you're likely to be kept wide awake in e-learning courses, both online and mobile. You're going to be engaged and active in ways that you may never have expected from an educational setting. All the things you love about learning, connectivity, social networking, and Web 2.0 applications can be found in a well-designed course that uses Moodle as its learning management system.
A course that has been built in Moodle encourages learners to engage with the material on many different levels. Learning takes place in many ways and in different places and, above all, there is a built-in flexibility that allows the learner to approach material in ways that work for them.

Keep in mind that each learner has his/her own style and the best learning programs accommodate learning styles and preferences. So, whether or not the participants in the course are auditory, visual, or kinesthetic learners, they must be taken into consideration, and the instructional activities and assessments should reflect those possibilities. Learners should have options, not just with regard to course content but also in the approach they take to the material and to their peers.

Once the decision has been made to employ an instructional strategy that accommodates multiple learning styles and preferences, then it is possible to move forward to the next couple of steps.

How people learn
Cognitive psychologists have researched how people learn and, in doing so, have developed a wide array of models that provide explanations of how people learn. They have mapped the processes in ways that can be utilized to create effective learning experiences in both formal and informal settings.

Categories, classifications, and schemata
One of the most fundamental ways in which people learn is by creating mental file cabinets, which cognitive psychologists call schema or schemata. The approach is not new—you may be familiar with Aristotle's development of categories and, later, the classification system that the botanist Linnaeus developed. British cognitive psychologist, Frederic Bartlett, applied the concept of creating categories to learning activities and his work was further developed in the 1970s by Richard Anderson. Categories and classifications help people file, sort, retrieve, and talk about things and concepts. The development of schemata is automatic and people create categories without realizing it.

Not only do the schemas work effectively in keeping items well organized, they can help people learn to make connections across categories and compare and contrast the items.
Further, as learners begin to identify, discuss, and evaluate the items, they also practice taking the items in and out of working memory and thus the approach of classification helps in developing memory and knowledge retrieval skills as well.

Social learning

According to many psychologists, our culture shapes us and we learn from the environment and each other. According to the Russian theorist, Vygotsky, who developed his theories in the 1920s while working with school children in group settings, knowledge is transmitted (or created) by culture and groups. This may seem obvious, but the implications are rather dramatic, particularly in the case of e-learning. The group establishes what is knowledge and, by the same token, also determines what is not considered knowledge at all. An excellent example of social learning in the e-learning space is a wiki.

Of course, the major wiki that people are most familiar with is Wikipedia, the online collaborative encyclopedia. Think of how numerous authors contribute to a single Wikipedia piece and the same who contribute can also delete or challenge an item. The group decides what is knowledge and, perhaps more importantly, what is not. The Wikipedia item is always in flux and ideas about what a thing is or is not are subject to constant discussions, debates, negotiations, and mediations. The socialization process that occurs in the discussions is also a part of the social learning equation. If you don't post on Wikipedia in the correct manner, you will quickly be informed of the correct rules and approaches.

Vygotsky points out that people who fail to accept the process quickly find themselves outside the group. They may seek their own group of like-minded people. But, even in this case, knowledge is constantly in flux and people gain knowledge and learn acceptable behavior from the group.

Emulatory learning

We learn from each other and our leaders. We watch and copy what we observe. You may wonder how this is different from social learning and, certainly, there are areas of overlap. However, the idea of emulatory learning is much more basic—we see, we imitate; we hear and we echo.

You may be familiar with the Bobo Doll experiments of the early 1960s. In this experiment, Canadian psychologist, Albert Bandura, asked a teacher to hit a life-sized clown-shaped blow-up doll named Bobo. The teacher was filmed as she hit the Bobo doll with a stick.
Later, children around the age of five were required to watch the film of the teacher hitting the Bobo doll with a stick. Then, each child was put in a room alone with only a Bobo doll and a stick for company. Researchers observed the children's behavior behind a one-way mirror and they also filmed what transpired. What they found was that the children invariably picked up the stick and then used it to hit the Bobo doll. The interesting point is that the children seemed to enjoy the experience, which is illuminating and disturbing at the same time. The children imitated what they saw and they did it with relish.

Lesson learned? Be careful about the behavior that you are unconsciously modeling. Someone will learn from you. They will imitate you, which is either a very good thing or potentially harmful. In the e-learning space, it's an invaluable thing to keep in mind as you model positive behavior, which will then be imitated.

At the same time, knowing that people will imitate what they perceive an authority figure to be doing can help you develop examples and also recognize and reward the behaviors that you'd like others to emulate.

Making sure that the courses include a good guide and a model to follow is important. Not only will learners imitate the behaviors, they will start to feel comfortable with the processes. In the e-learning world, Bandura's notion of emulatory behavior is a cornerstone to learning in Moodle, which contains a high level of interactivity.

**Communities of practice**

People who share interests and skills like to work together. They share similar interests and have a strong sense of affiliation, which is often based on trust and a firm sense of mutual comprehension and acceptance.

Communities of common interests are sheltering, nurturing, and liberating. They allow freedom of expression, which is simply not possible in the world at large. People (and learners) thrive when they can work in a friendly, non-judgmental environment. This is almost axiomatic with e-learners and at-risk populations (which often comprise a large segment of the online learning community).

Communities of interest that arise from shared prior knowledge, commonly held beliefs and cultural values, and shared experiences are often powerful because they motivate learners to stay as a part of the group. They provide a strong sense of affiliation. An e-learning program that builds communities of interest around cohorts can achieve great success.

Some of the new plug-ins available for Moodle encourage the building of communities by holding synchronous live webinars, which can be archived and viewed later. An example is
BigBlueButton, which has been adapted for use in Moodle and can be used to keep people with similar interests in touch with each other for not just the duration of the course but on an ongoing basis, depending on the access provided.

Social practices

You've probably heard the term learning by doing many times but have not really considered how it relates to e-learning. The key is application. Applying the concepts by doing activities is one way of keeping the learning experience from becoming passive. In an ideal e-learning environment, application of concepts would occur often and big chunks of content are broken down into small chunks, which are then to be followed by exercises and activities. Many effective practices involve collaborative activities that encourage learners to share and build on prior knowledge.

With today's emphasis on mobile computing and the increasing ability to connect to high-speed networks, many learners want to be able to connect from any place and at any time, and, more importantly, to be able to collaborate. Further, they are accustomed to working with social media platforms such as Twitter, Facebook, LinkedIn, WhatsApp, Instagram, YouTube, and more. They are used to using social media for the purpose of obtaining and transmitting information as well as ideas. This is a breakthrough for social learning because it means that the primary philosophy of Moodle, which has social constructionism as its core, has received a big vote of confidence by the learner populace.

It is good to keep in mind that Moodle has evolved with the times and accommodates mobile devices with its “responsive” themes, which means that a device is automatically detected and Moodle’s appearance will be adjusted accordingly. So, if you choose a “responsive” theme, you can expect it to have functionality and an appealing appearance on tablets, desktops, and mobile devices, such as smartphones.

Experiential learning

People sometimes wonder if the virtual world has any connection at all to the experiential world-the world of phenomena. It is easy to argue that there is no connection at all between virtual and real, particularly if it’s a matter of role-playing in simulations that are not grounded in a corresponding real-life scenario.

However, when serious games, simulations, role-playing, and other virtual world activities have a corresponding counterpart in the real world, then it is possible to have experiential learning. Further, experiential learning that has taken place in the real world and is then reinforced by role-playing, simulations, or serious games, can be highly effective.
Experiential learning in Moodle can take place in a traditional e-learning space and it can also occur in a mobile learning environment. When the content of a course is related to what one has learned previously or involves actual field work, data collection, and peer interaction via a mobile device, the experience can be quite powerful. For example, a course on environmental management could incorporate the use of mobile devices in conjunction with GPS. The GIS information could be collected, photos taken and tagged according to latitude, longitude, and time/date, and then the details could be shared with group members. The concepts, practical application, and social reinforcement would take place in a single learning event.

Another possible way to share experiential learning would be to post videos to share and then post “response” videos. A variety of “conversations” can ensue across disciplines and learning modalities and these can enable students to feel like they are working with a live document and dynamic process, rather than the static experience that characterizes much of traditional learning.

Moodle’s learning environment incorporates the practices of social media, which makes it comfortable for individuals who are used to using apps on their smartphones, tablets, and computers to incorporate Moodle’s similar functions.

Further, depending on the level of access at the institution, the administrator may also enable the use of social media sites such as Facebook and Twitter. Plus, it is easy to embed HTML code in order to provide instant access to videos on sites such as YouTube, audio on SoundCloud, or images on sites such as Flickr.

**Conditions of learning**

In order for the mind to be receptive to new ideas and start the learning process, it is necessary to capture the learner’s interest. Gagne and other researchers investigated the problem of getting learning started and they found that, unless certain “conditions of learning” were met, it would be very difficult to assure that learning takes place. One of the most important elements was to have an engaging experience. There must be spillover from the affective domain to the cognitive domain. In other words, learners must feel emotionally engaged in order to have ideal learning conditions.

In an e-learning course, there are several ways to create conditions of learning. One can engage the learner by making them feel curious, puzzled, or emotionally connected to the course content. You can relate the content to their lives and current controversies or contemporary issues. You can use sound, color, design, and animations to keep the course lively (without being too distracting).
Developing an Effective Online Course

One good way to start a course or unit is to kick it off with an illustrative scene or a case study that resonates with the learner's own experience of life. One might use the strategy of *in medias res*—jumping in the middle of things—for an emotional appeal. Remember that you're using a sound rhetorical strategy—one that Aristotle referred to as "pathos", and this is one of the most effective strategies in order to gain and keep the attention of others.

Cognitive psychologists have also looked at the importance of readying the brain to learn by having learners engage in "brain warm-ups". These typically consist of questions that trigger the desire to learn by sparking interest and triggering curiosity. Moodle's activities, such as *Choice*, can be set up to create little *did you know* introductory interactive experiences that use not just text but also graphics.

Not only do the "brain warm-ups" help trigger interest, they also motivate the learner and thus build in mechanisms that are designed to help students successfully complete their course.

**Behaviorism**

Operant conditioning has a place in e-learning. We're not really talking about conditioning as basic as Pavlov's dog, but it is important to keep in mind that positive reinforcement works wonders in e-learning.

There are several ways to build positive responses to desirable behaviors. For example, feedback from the instructor can be timely and always start with a positive note. Students can be guided to provide positive responses in collaborative work. In the case of automated activities, responses can be built and information is provided in a positive way.

Recent versions of Moodle, including Moodle 3.0, accommodate exciting new plugins that reward the successful completion of both small chunks of learning as well as completion of the entire unit or course. Badges can be displayed not just in the course but also on one's personal website or social media site, such as Facebook or LinkedIn. For example, Moodle works well with Mozilla's Open Badge program, which can be found at http://openbadges.org/.

In addition to this, Moodle can be set to automatically generate certificates of successful completion after completing all the activities in a unit plus achieving a passing score (which is set by the administrator). Seeing the fruits of one's labor, especially when it can be used to advance one's career, academic, and personal aspirations and goals, can be a powerful way to reward actions, reinforce positive behaviors, and motivate learners.
Course-building components in Moodle

As you start building your course in Moodle, you’ll have a number of components to choose from. As in the case of all formal learning programs, it is important to start by identifying course outcomes and learning objectives.

After you have finished learning objectives and course outcomes, you will develop a plan to build your course, which maps the Moodle components (resources and activities) to your learning objectives. How to create effective course outcomes and learning objectives will be dealt with in a future chapter. At this point, we’ll simply list the materials you have to work with in Moodle. You will come to appreciate and enjoy the variety and flexibility.

Resources

As you build your course, you may wish to start clustering your readings, links to outside resources, and media. The Resources group, with all the tools associated with it, will help you do so. We are not going to go over every resource tool in Moodle. We’ll just start with the most popular ones. We will discuss more complex tools in future chapters and sections.

Book

The Book tool allows you to create a collection of digital assets that you can bundle together in order to create the instructional content for your course. In Moodle, a Book is not an e-book, a PDF, or any other kind of rigid content item. Instead, it is a dynamic collection of digital objects that come together as a kind of repository for learners.

The Book is generally a collection of web pages and so what students will see is a set of links, usually with descriptions and perhaps brief instructions. This repository constitutes the core knowledge base in your course and from it, learners should be able to define, describe, list, and recognize key concepts.

Link to a file or website

Perhaps the most used instructional content tool besides the Book tool is the link to a file or website tool. This tool allows you to create a link to outside web-based resources and incorporate a description and guiding materials.

It is useful to point out that it is possible to incorporate html and embed a resource as well. Embedding is particularly useful for graphics, video, and audio resources because it makes
it possible to play media resources from within Moodle without having to leave the site and
to go another site. Further, embedded media sites are often sized so that they fit well on a
page and one can conveniently stop and restart the media.

Activities
Many instructors like to organize their course chronologically, not only because it is
practical, but also because the tools lend themselves to the sequential presentation of
material. Once they have their basic structure in place, they then add Resources and
Activities.

Many Moodle users like to build their courses on a foundation of Forums and then, when
they feel more comfortable, they take advantage of the more complex resources such as
Books, Assignments, Choices, and more. Keep in mind that, in Moodle, the resources are
added by using the tool of the same name. So, if you want to add a Forum, you would need
to use the Forum tool. This section lists many of the popular Activity tools and provides a
brief overview of each to give you an idea of how to use them.

Assignment
The Assignment tool is where the instructor defines a task that the learner must complete. It
often links back to study materials (which have been created in using the Book tool).

Choice
The Choice tool allows you to create multiple choice questions. They can be used in both
reviews and assessments. They can also be used to create polls and questionnaires for
students to indicate interest and for the instructor to find out important things about their
group.

Database
The Database tool allows instructors and students to upload information. This is a great way
to share resources, makes it possible to ask students to give final presentations (using
presentation software), and develop engaging assignments and final projects such as
student galleries and portfolios. It is also an excellent way for students to share resources
and evaluate the reliability of the online sources that they have found.
Forum
The Forum tool will allow you to create dynamic and highly engaging collaborative learning activities. You can develop discussion boards, peer review areas, and also group project spaces.

Glossary
The Glossary tool is excellent for courses that require students to be able to identify and define a broad range of items and master and use a new vocabulary. If designed well, activities that employ the Glossary tool can help students develop schema-building approaches.

Quizzes
Moodle allows you to use quiz builders. Moodle 3.0 has four new quiz types, which makes the experience even more enjoyable and interactive.

Journal
The Journal tool allows students to keep learning diaries and to update journals as living documents. It also accommodates peer reviews and collaborations and can easily be incorporated into a workshop.

Lessons
The Lesson tool is an organizational tool that allows you to organize elements, list key concepts, and provide unit overviews and learning objectives.

Wiki
The Wiki tool is often used when collaboration is needed because it is a bit more flexible than the Forum tool.
Course Timetable
This tool is one of many that is excellent for assuring student success. It allows students to set deadlines, which facilitates the process of goal setting, which can be very motivating.

Instructional principles and activities mapped to Moodle features
The following table maps Moodle features to their instructional functions:

<table>
<thead>
<tr>
<th>Moodle feature</th>
<th>Instructional function</th>
<th>Learning theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Book</td>
<td>Knowledge base, core instructional material, content repository, and comprehension</td>
<td>Schemata-building</td>
</tr>
<tr>
<td>Assignment</td>
<td>Organization</td>
<td>Conditions of learning</td>
</tr>
<tr>
<td>Chat</td>
<td>Interactive, collaborative learning, comprehension, and evaluation</td>
<td>Social learning, communities of practice, and emulatory learning</td>
</tr>
<tr>
<td>Choice</td>
<td>Classification, application, analysis, and comprehension</td>
<td>Schemata</td>
</tr>
<tr>
<td>Database</td>
<td>Analysis and collaborative learning</td>
<td>Experiential learning and social practices</td>
</tr>
<tr>
<td>Moodle feature</td>
<td>Instructional function</td>
<td>Learning theory</td>
</tr>
<tr>
<td>Forum</td>
<td>Collaborative learning, analysis, and synthesis</td>
<td>Social practices, communities of practice, and experiential behaviorism</td>
</tr>
<tr>
<td>Glossary</td>
<td>Comprehension and schemata-building</td>
<td>Schemata and conditions of learning</td>
</tr>
<tr>
<td>Quiz</td>
<td>Comprehension and analysis</td>
<td>Schemata, emulatory learning, and behaviorism/operant conditioning</td>
</tr>
<tr>
<td>Wiki</td>
<td>Collaborative learning, application, synthesis, and evaluation</td>
<td>Social learning, social practice, and communities of practice</td>
</tr>
<tr>
<td>Workshop</td>
<td>Application and evaluation</td>
<td>Social practice and experiential learning</td>
</tr>
<tr>
<td>Timetable</td>
<td>Organization</td>
<td>Conditions of learning</td>
</tr>
</tbody>
</table>
Access for everyone

One of the concerns that learners have about e-learning is access. What if you have low-vision and limited mobility? Can Moodle work for you?

As you put together a course in Moodle, you may wish to follow design principles that assure access and are also compliant with laws designed to assure access for those with disabilities. In the United States, the Americans with Disability Act (ADA) is the law that defines the ways in which organizations need to provide access.

In order to assure compliance, the U.S. Department of Education and the Center for Applied Special Technology (CAST) collaborated in 2011 on a set of guidelines, which are known as the University Design for Learning.

There are three main categories:

- Provide Multiple Means of Representation
- Provide Multiple Means of Action and Expression
- Provide Multiple Means of Engagement

The key in UDL is to provide viable alternatives for individuals who may need accommodations. Giving options and multiple means of representation, action, expression, and engagement is possible using Moodle and this book will incorporate UDL guidelines.

For an excellent graphical representation from CAST, download the PDF file from http://www.udlcenter.org/sites/udlcenter.org/files/updateguidelines2_0.pdf.

Summary

This chapter presented ideas about how people learn in an online environment and it provided a brief overview of the functions and features of Moodle. Some of these features include book, chat, assignment, quiz, wiki, workshop, and more. These constitute building blocks that allow you to create unique courses that you can easily replicate thanks to the object-oriented philosophy of Moodle.

We also discussed competing theories about how people learn and why that matters to the instructor and also to the instructional designer who is building the course. The chapter also presented basic information about how Moodle is organized and what type of resources it has that can be used by instructors to build the kind of courses that they find useful. Finally, the chapter described a strategy to get started with Moodle that helps instructors develop a course, which facilitates the learning process and helps create a learning community.
Where to buy this book

You can buy Moodle 3.x Teaching Techniques Third Edition from the Packt Publishing website.

Alternatively, you can buy the book from Amazon, BN.com, Computer Manuals and most internet book retailers.

Click here for ordering and shipping details.