6Customized Roles

Educational programs usually track students' progress on a macro level via the use of evaluative tools such as tests, individual course grades, and more frequently, cumulative grade averages through the use of Grade Point Averaging systems. In addition to being able to record, and thus track this type of information in your Moodle site, it is also possible to monitor student access and activity at a micro level. We can, for example, determine how often a student logs into the site, what time of day he or she most frequently logs into the site, and what he or she does while logged in.

We will explore various methods for monitoring and reporting on student access and performance in the Moodle site.

While there are numerous methods for accessing the wealth of information that is stored within the Moodle database, in this chapter, we will focus on methods that are easy to set up and use but that do however, provide detailed information. In this chapter, we will be:

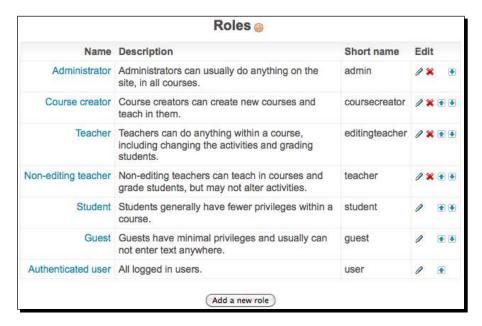
- Creating and demonstrating the use of a censored student role
- Creating and explaining how to use an assistant administrator role
- Creating and explaining the use of an administrative monitor role
- Creating and discussing the use of a mentor, advisor, or parental monitoring role

Permissions and roles

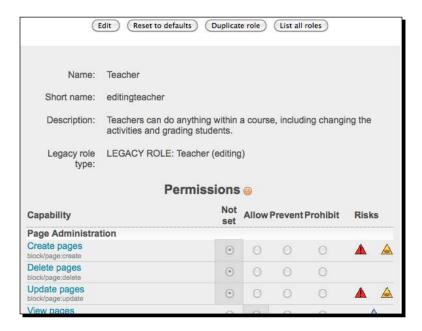
We referenced system roles earlier when we talked about enrolling users in courses as **students**, or when other users were enrolled in courses as **teachers**, and also each time you are directed to log in to your site as **admin**. These roles (student, teacher, and admin) are three of the seven default roles that exist in a default installation of Moodle. From the front page of your site, click on the **Define roles** link found in the **Site Administration** block inside the **Users** and then **Permissions** directories, as shown in the following screenshot:



The seven default roles, as shown in the following screenshot, are **Administrator**, **Course creator**, **Teacher**, **Non-editing teacher**, **Student**, **Guest**, and **Authenticated user**. Each of these roles has an extended set of permission settings, also known as capabilities, that control what each user assigned with each specific role is allowed to do within different areas of the site, also known as contexts.



Click on one of the role names to view the permission settings for the role. For example, clicking on the **Teacher** role will reveal a long list of permission settings, which define the capabilities associated with that particular role, the top of which looks like the following screenshot:



Each permission can be assigned one of the four settings, which include **Not set**, **Allow**, **Prevent**, and **Prohibit**. **Allow** and **Prevent** are self-explanatory and will result in either allowing the user to perform the action listed or preventing him or her access to it. **Not set** is a little more vague however, and simply means that the capability is prevented for that role but if the user has multiple roles and is allowed access to that capability with a different role in the same context, then he or she will be able to perform that action. For example, if a user is assigned the role of both student and teacher in a course and an action is set to **Not set** for the student role but to **Allow** for the teacher role, the user will be able to perform the action in that specific course because the capability is an Allowed capability for the teacher role. If the same user is enrolled in a different course as a student only, however, he or she will not be able to perform the action in that course because the only role the user has in that course context is the student role. **Prohibit** is a setting that is similar to **Not set**, but that allows you to restrict access to an action that cannot be overridden by other roles, except for the Admin role. Outside of possibly using this to prevent specific users from actively participating in forums and other activities, it will probably rarely be used with existing roles.

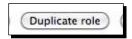
Creating a censored student role

We are going to start with a role that prohibits a student, or any user assigned the role, from posting new information of any type in a course or the entire site, depending upon how the role is assigned. This role could be used to temporarily silence a student who has posted inappropriate material, information, or the like, to the site.

Time for action – creating and using a censored student role

To set up a role that will prevent users to whom it is assigned from posting content to courses and possibly the front page of the site, and then assign the role, follow these steps:

- Log in to your site as admin and click on the Define roles link found by clicking on Users and then Permissions from inside the Site Administration block, as explained earlier in this chapter.
- **2.** From the **Roles** screen, click on the **Student** role.
- **3.** From the **View role details** screen, click on the **Duplicate role** button (shown in the following screenshot):



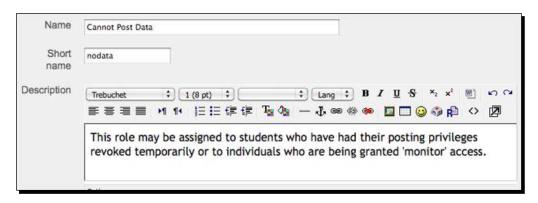
4. Click the **Yes** button on the confirmation message that will appear (shown in the following screenshot) to duplicate the role:



- **5.** After clicking **Yes** to duplicate the role, you will be returned to the **Roles** screen and will see the new role, titled **Student copy 1**, at the bottom of the list of roles. Click on the **Student copy 1** link to view the details of the role.
- **6.** From this **View role details** screen, click on the **Edit** button (shown in the following screenshot) to access the role editing screen:



7. From the **Edit role** screen, enter a **Name**, **Short name**, and **Description** for the new role. An example is provided in the following screenshot:

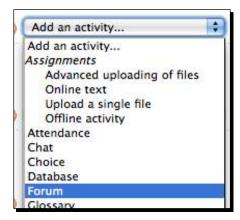


- **8.** Scroll down through the **Permissions**. Change the settings from **Allow** to **Prohibit** for every setting that involves posting information on the site. The following is a list that will need to be changed for a default instance of Moodle. If you have installed third-party blocks or modules that allow students to post data to the site, you will need to change the settings for those as well.
 - Chat—Access a chat room: Prohibit
 - Database—Write comments: Prohibit
 - Database—Write entries: Prohibit
 - □ Forum—Create attachments: Prohibit
 - Forum—Reply to posts: Prohibit
 - Forum—Start new discussions: Prohibit
 - Glossary—Create comments: Prohibit
 - Glossary—Create new entries: Prohibit
 - Wiki—Edit wiki pages: Prohibit
- 9. Note that many Allow settings have been left untouched. The majority of these are settings that allow a student to view content and activities. Some however, are settings that allow students to post content to the site. Most of these, such as the Assignment—Submit assignment setting, allow the student to post information that is only viewable by users with the role of teacher or higher. For this reason, we will keep these permissions set to Allow even for censored students.
- **10.** When all of the settings have been adjusted, scroll to the bottom of the screen and click on the **Save changes** button.

- **11.** The newly edited role, with its new name, description, and short name, will appear at the bottom of the list.
- 12. Now, navigate to a course to put the role to use. We'll use the Advanced Listening 1 course from the site we have built up to now for this example. As shown in the following screenshot, from your MyCourses block, click on the plus sign to expand the Listening folder, then on the plus again to expand the Advanced folder, and then on the AdvList1 short name link to navigate to the course.

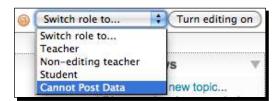


13. Before we assign the role to a student, that we want to prohibit from posting any public information to the course, we should create an activity that allows students to post to in order to be able to better demonstrate how the role functions. Click on the Turn editing on button found at the top-right of the page and then from the Add an activity drop-down menu, select Forum, as shown in the following screenshot:

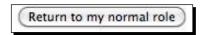


14. Give the forum a simple Name such as Test Forum and a simple Forum introduction such as Post a comment if you are able. Use the default values for all of the other settings and scroll to the bottom of the page and click on the Save and return to course button to create the forum.

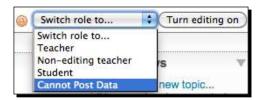
15. There are several methods of confirming that the role functions as intended. The fastest and easiest method is to simply use the **Switch role to...** drop-down menu found at the top of the window on the right side next to the **Turn editing on** button, as shown in the following screenshot:



16. Change your role to Student and view the forum that was just created by clicking on the activity link, Test Forum for our example, to confirm that a student is allowed to Add a new discussion topic. Now click on the Return to my normal role button found at the top-right of the screen as shown in the next screenshot:



17. Next, change your role to the new role we created, **Cannot Post Data** in our example, as shown in the following screenshot, and then view the **Test Forum** by clicking on the activity link.



18. You will now see that the Cannot Post Data role is not allowed to Add a new discussion topic as the button does not appear at all in the forum area.

What just happened?

We have just created a new role copied from the student role and limited the permissions allocated to that role using the **Prohibit** permission setting. This allowed us to create a role that can be assigned to students who, for whatever reason, we want to prevent from posting any information in the form of text or uploaded files to all public areas within a course. We left the capability to post information to some modules in which the posts are only viewable by the teacher but we could opt to prohibit those as well if desired. After creating the role, we checked to see that it is functioning via the **Switch role to...** pull-down menu.

Have a go hero

We did a quick check of this role when logged into our site as admin, but to really get a feel for how it's going to work, try the following on your own. Add a forum to a selected course that students can post to. Pick two students that are enrolled in a course and log in as each student and post a short message in the forum. Then log back in as admin and assign the **Cannot Post Data** role to one of the students. Now, log in as that student and observe the permission changes. Note here that, because we used the **Prohibit** permission setting, you didn't have to remove the student's student role and only had to add the new role.

Assistant administrator role

Another role that can be very useful is an administrator role with limited permissions. This type of role can be used to assign specific capabilities to a user who will be performing administrative tasks via the site. As has been the case throughout this book, the term administrator is being used to describe an individual who works in a clerical function within an educational program. Such educational administrators might be, for example, checking attendance records or aggregating grade data for a series of classes during a given period.

Time for action – creating and using an assistant administrator role

For the example here, we will create a role that is allowed to do the following:

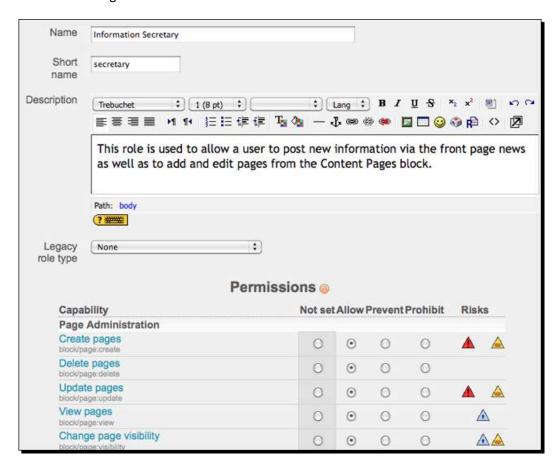
- Post and edit news items on the front page of the site
- ◆ Edit and add new pages via the **Content Pages** block

This role might be assigned to a program secretary or any other individual responsible for disseminating information relevant to a program to teachers and students within the program. To set up and assign the role, follow these steps:

- Log in to your site as admin and click on the Define roles link found by clicking on Users and then Permissions from inside the Site Administration block, as explained earlier in this chapter.
- **2.** From the **Roles** page, click on the **Add a new role** button, as shown in the following screenshot:



3. Enter a Name, Short name, and Description for the role and change all of the capability settings for Page Administration to Allow, as shown in the following screenshot:



- **4.** Scroll down the **Permissions** page to the **Forum** heading and also change the following permissions to **Allow**, as shown in the following screenshot:
 - Add news
 - Create attachments
 - Delete any posts (anytime)
 - Edit any post



5. Scroll to the bottom of the page and click on the **Add a new role** button, as shown in the following screenshot:



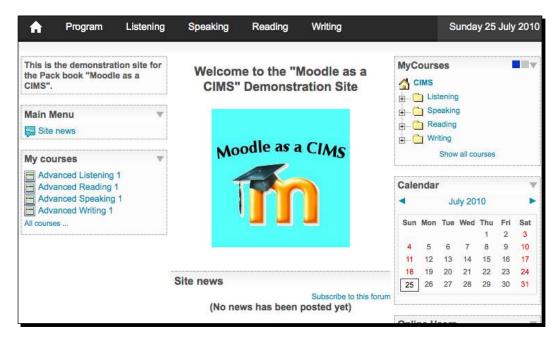
What just happened?

We have just created a new role and enabled the capabilities within the role that will allow users who are assigned the role to post information to the news forum on the front page of the site as well as to add and edit content pages created with the content pages block we installed in *Chapter 5*, *Enabling your Moodle Site to Function as an Information Portal*.

Time for action – testing the role

We should now test the role to confirm that it functions as desired. Once we have confirmed that the role allows users, who it has been assigned to, to post new news information and add and edit pages via the **Content Pages** block, we will be ready to assign it to users in our system. To test the role, follow these steps:

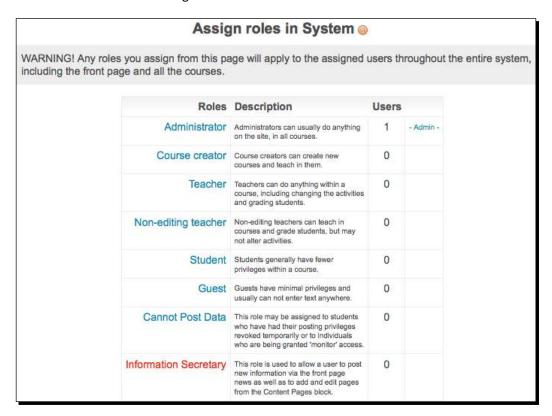
 Choose a user that is to function as the Information Secretary. For our example, we will use teacher1. 2. First, log out as admin and log back in as teacher1 to verify that the user is not allowed to post news items or to modify or add content pages. You can log in as teacher1 by using teacher1 as the username and 1234 as the password, if you have followed all of the examples for creating our sample site to this point. The following screenshot shows the front page, as Teacher One would see it.



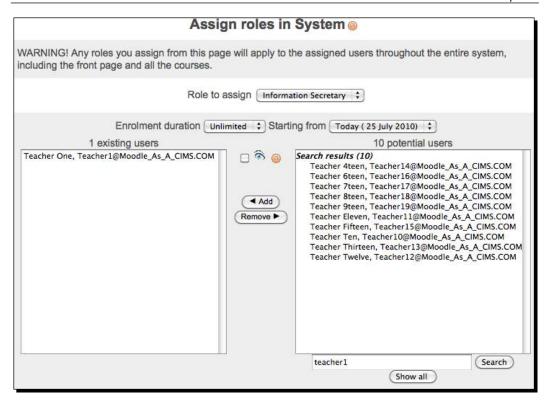
- **3.** Notice that this user has no access to the site news or to any of the pages created by the **Content Pages** block.
- **4.** Now we will add the role and assign it to Teacher One. Log out of the site and back in as admin.
- **5.** Click on **Assign system roles** from the **Site Administration** block, as shown in the following screenshot:



6. From the **Assign roles in System** screen, click on the **Information Secretary** role, as shown in the following screenshot:

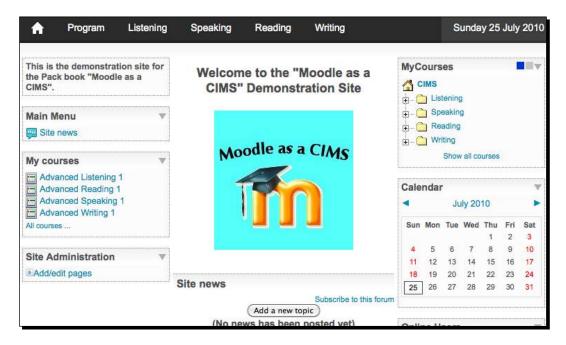


7. From the next Assign roles in System screen that will look like the following screenshot, enter teacher1 in the search field, search for the user and enroll the user by clicking once on the appropriate name from the search results in the box on the right side of the window and then clicking on the Add button to add the user to the box on the left of the screen. The following screenshot shows that Teacher One has been selected to be assigned the role of Information Secretary.



8. Finally, click on the **Assign roles in System** button found at the bottom of the page. You will now see that one user has been assigned the **Information Secretary** role.

9. To verify the role permissions, log out of the site and then back in as teacher1. You will now see that this user is allowed to add news items by clicking on the Add a new topic button and is also able to manage pages via the Add/edit pages link found in the Site Administration block that now appears, as shown in the following screenshot:



What just happened?

We just successfully created a new role that was designed to allow a user to post and edit news posts on the front page of the site and to also edit and create new pages via the **Content Pages** block. This role was then assigned to one of the teacher accounts in our test site in order to demonstrate its functionality. This would be an ideal role to assign to someone who is responsible for relaying information to anyone who views the site.

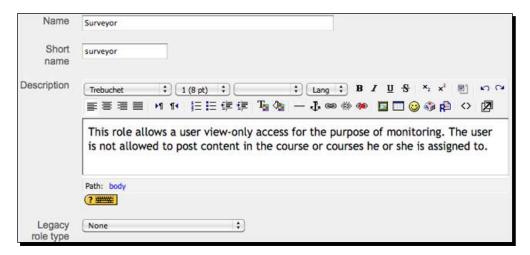
Administrative monitor role

In many educational programs, there is a need to be able to monitor, from time to time, the activities taking place in classrooms throughout the program. This task may be accomplished via classroom observation or through the administration of survey questionnaires. In a program that has a strong online component, this task can also be accomplished through the creation and use of a monitor or surveyor role.

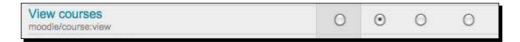
Time for action – creating and using an administrative monitor role

This is a very easy role to create and provides the user with extensive monitoring capabilities. We will outline two different methods of assigning this role. One will grant view-only access to all courses on the site and the other will grant the same access to all courses within one category. To set up and assign the role, follow these steps:

- Log in to your site as admin and click on the Define roles link found by clicking on Users and then Permissions from inside the Site Administration block, as explained earlier in this chapter.
- **2.** Click on the **Add a new role** button to start the creation process and enter a **Name**, **Short name**, and **Description**, as shown in the following screenshot:



3. Scroll down the **Permissions** list to the **Course** heading and change the **View courses** setting (shown in the following screenshot) to **Allow**.



4. Scroll down to the bottom of the page and click on the **Add a new role** button to finish the role creation process.

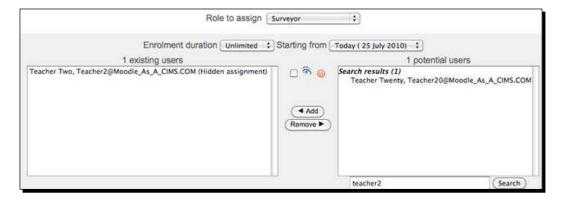
What just happened?

We have just created a new role and given it the capability to view courses by changing the **Permission** setting to **Allow**. This will enable users with this role to view courses in our Moodle system.

Time for action – assigning and testing the role

Now, to assign the Surveyor role to a user, we will follow the same process as outlined earlier. Follow these steps:

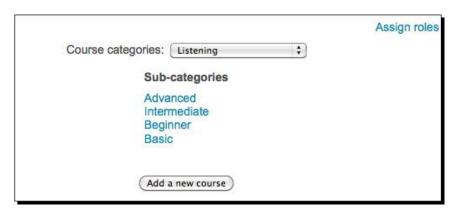
- From the front page of your site, click on the Users link found in the Site
 Administration block, then on Permissions, and finally on Assign system roles.
- Click on the Surveyor role to open the Assign roles in system window. For this example, we will assign the Surveyor role to teacher2 so enter teacher2 in the search window and click on the Search button. From the Search results window, click once on Teacher Two and then select the hidden assignment tickbox found next to the eye icon. This will prevent the user from appearing in the Participants list that is viewable from within each course.
- **3.** Click on the **Assign roles in System** button to finish the role assignment process. The following screenshot is of the hidden assignment explained here:



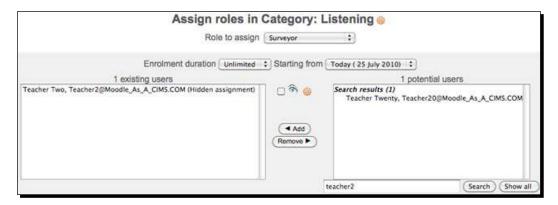
4. You will see now, from the **Assign roles in System** screen, that you have assigned one user, **Teacher Two**, to the **Surveyor** role, as shown in the following partial screenshot:

Information Secretary	This role is used to allow a user to post new information via the front page news as well as to add and edit pages from the Content Pages block.	1	Teacher One
Surveyor	This role allows a user view-only access for the purpose of monitoring. The user is not allowed to post content in the course or courses he or she is assigned to.	1	Teacher Two

- 5. Log out of your site and then back in as Teacher Two. Use teacher2 as the username and 1234 as the password if you have followed the site setup to this point. You will see that Teacher Two is now able to access all courses on the site. Note that Teacher Two retains teacher permissions for courses that were already assigned to Teacher Two. For all other courses, this teacher, functioning as Surveyor, can only view content.
- **6.** Next, let's explore one other option for assigning the **Surveyor** role. Log in to your site as admin (log out as Teacher Two first if necessary) and navigate to the **Assign system roles** page, as explained at the beginning of this *Time for action* section.
- **7.** Click on the **Surveyor** role link and remove the role assignment for Teacher Two by clicking once on the assignment and then clicking on the **Remove** button.
- 8. Now navigate back to the front page of your site and click on the Listening category link from the MyCourses block. You will be presented with the Course categories screen for the Listening category, which displays the Sub-categories, as shown in the following screenshot:



9. Click on the Assign roles link found in the upper-right area of the window. As a result, you will see the Assign roles in Category: Listening window. Scroll down and click on the Surveyor role to open the next Assign roles in Category: Listening window, as shown in the following screenshot. Enter teacher2 in the search window and click the Search button to find Teacher Two. Click once on Teacher Two and once again click the hidden assignment tickbox and then the Add button to assign the role, as a hidden assignment, to this teacher.



10. Finally, to check this assignment, log out of the site as admin and then back in as Teacher Two. Notice now that Teacher Two is able to view content for all courses in the Listening category only.

What just happened?

In this section, we created an administrative monitoring role, that we titled **Surveyor**. This role enables a user, who is assigned the role, to view all content in a course but not to post or interact in the course in any way. We then experimented with two different methods of assigning the role. First we assigned the role system-wide, thereby allowing the user to view all courses and then deleted the assignment and assigned the role to a specific category, which limited the surveyor's access to courses within that category.

Have a go hero

As you have most likely already realized, there are a variety of different methods for assigning roles. Try experimenting with several different role assignment methods, such as assignment to a single course and to one or more categories to get a feel for how you might use role assignments for some of the special roles you create.

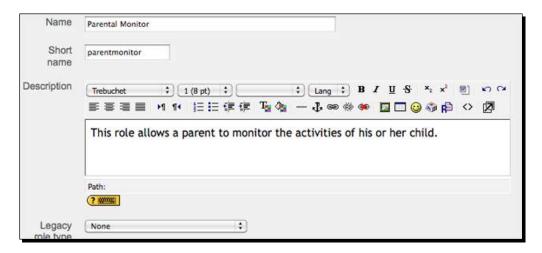
The Mentor, Advisor, and Parental Monitor role

The final customized role that we will cover in this chapter is that of the Mentor, Advisor, or Parental Monitor. The permissions for the role will be identical, but you may choose to change the name depending on how the role is used. If, for example, you wish to set up a role that enables parents to monitor their child's activities within the site, the Parental Monitor role title is appropriate. You may wish to set up the same role for a mentoring or advisee system and thus use a different title.

Time for action – creating and using the Parental Monitor role

For this example, we are going to use the Parental Monitor role title. To set up and use this role, which will allow parents to monitor their child's activity, follow these steps:

- Log in to your site as admin and click on the Define roles link found by clicking on Users and then Permissions from inside the Site Administration block, as explained earlier in this chapter.
- Click on the Add a new role button to open the Add a new role window and enter a Name, Short name, and Description, as shown in the following screenshot:



3. Set the following **Permissions** to **Allow**:

System: Edit own user profile

Users: Edit user profile

Users: See all user blogs

Users: See all user posts

Users: See user activity reports

4. After changing the permission settings, scroll to the bottom of the page and click on the **Add a new role** button.

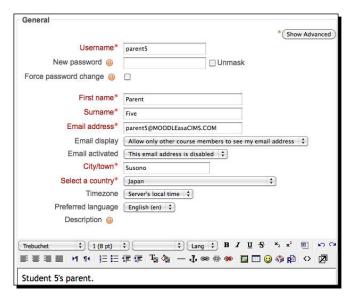
What just happened?

We have just created a role that will be assigned to a parent allowing the parent to view some of the activities his or her child is participating in on the Moodle site. In the next section, we'll demonstrate the role to show what it is capable of and where it is limited in terms of allowing a parent to monitor his or her child.

Time for action – creating a new account and assigning the role to it

Now that we have created the role, we are going to assign it to a parent user through the parent's child's profile page. First, however, let's quickly create a new user account for the parent so we have a user account that is not already assigned as a teacher or student in other courses. Follow these steps:

1. From the front page of your course, click on the **Users** link found in the **Site Administration** block. Then click on the **Accounts** link and finally the **Add a new user** link. Fill in information for the fields labeled with red text and an asterisk, scroll to the bottom of the page and click on the **Update profile** button to create the new user. We are going to assign the Parental Role to student 5 and thus opted to name the parent Parent 5. An example of our parent account is shown in the following screenshot.



2. Once the new parent account has been created, navigate to the front page of your site and click on the Users link found inside the Site Administration block. Next, click on Accounts and then on Browse a list of users. Enter Student1005 in the search filter field and click on Add filter to find the student. Click on the Student1005 Basic005 name link to access the student's profile. From the student's profile page, shown in the following screenshot, click on the Roles tab:



3. The window that appears will be the **Assign roles in User: Student1005 Basic005** window with a list of all the roles that exist in the system, as shown in the following screenshot. Click on the **Parental Monitor** role link to access the **Assign roles in user** screen.

Roles	Description Administrators can usually do anything on the site, in all courses.	Users	
Administrator		0	
Course creator	Course creators can create new courses and teach in them.	0	
Teacher	Teachers can do anything within a course, including changing the activities and grading students.	0	
Non-editing teacher	Non-editing teachers can teach in courses and grade students, but may not alter activities.	0	
Student	Students generally have fewer privileges within a course.	1	Parent Five
Guest	Guests have minimal privileges and usually can not enter text anywhere.	0	
Cannot Post Data	This role may be assigned to students who have had their posting privileges revoked temporarily or to individuals who are being granted 'monitor' access.	0	
Information Secretary	This role is used to allow a user to post new information via the front page news as well as to add and edit pages from the Content Pages block.	0	
Surveyor	This role allows a user view-only access for the purpose of monitoring. The user is not allowed to post content in the course or courses he or she is assigned to.	0	
Parental Monitor	This role allows a parent to monitor the activities of his or her child.	0	

- **4.** Enter **parent5** in the search field and click on the **Search** button to locate the parent's account. Select the parent's account by single clicking and then click on the **Add** button to add the account to the list on the left side of the screen.
- **5.** Finally, click on the **Assign roles in user** button at the bottom of the screen to assign the role. The following screenshot is of the **Assign roles** screen prior to clicking on the **Assign roles in User** button.



What just happened?

We just created a new user account in our system for a parent and then created a special role to be assigned to that parent. We then assigned the role to the parent from within the context of their child. Assigning the role in this fashion allows the parent to view activity from the perspective, or context, of their child. Additionally, by assigning the parental role, we created limits to what the parent is able to view and do when logged into the site.

Time for action – installing the Mentees block

In order for a logged-in parent to be able to easily access his or her child's information, you will need to install an instance of the Mentees block on the front page of your site. Follow these simple steps to set up the block on your site:

1. From the front page of your site, logged in as admin, click on the **Turn editing on** button located in the top-right of your browser window.

2. From the **Blocks** pull-down menu, select the **Mentees** block, as shown in the following screenshot:



3. Click on the pencil icon, shown in the following screenshot, on the newly installed Mentees block to change the title:



4. Change the name to something like My Child, as shown in the following screenshot, and click on the **Save changes** button to save the new title:



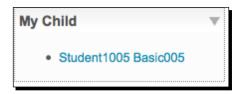
What just happened?

We have just inserted an instance of the **Mentees** block on the front page of our site. When a parent logs into the site, this block will provide them with easy access to their child's profile, where they can monitor some of his or her activity.

Time for action – checking the role functionality

Now that we have created a parental role, assigned it from within a user that is to serve as the child, and inserted an instance of the **Mentees** block on the front page, let's check to see what the parental role allows the parent to do and see. Follow these steps to check the role:

- 1. Log out of the site and log back in as the parent. Log in using the parental account we made earlier with username parent5 and the password you set, 1234 in our case
- **2.** From the front page of the site, you will see the **My Child** block that contains a link to the child's profile page we assigned the **Parental Monitor** role to, as shown in the following screenshot:



Click on the Student1005 link to access the student's profile page. The parent can now toggle through the tabs at the top of the profile to edit the student's profile, view forum posts and blog, and view activity reports. The following screenshot shows the first view the parent is presented with after clicking on their child's name in the My Child block.



4. Notice here that if you click on the **Activity reports** tab, you can view two different types of report, two different types of logs, and the student's grade, as shown in the following screenshot:



What just happened?

We created a Parental Role and assigned it to the parent in the student's profile in order that the parent may then log in to the site and monitor some of his or her child's activity. This required that we also create an account on the site for the parent and that we install the Mentees block on the front page of the site. This role enables a parent or mentor to track some basic information about their child or mentee. It is of note here however, that there are significant limitations to what a parent can view even after being assigned the parental role. Parents will be able to view and edit profile information, and will be able to view some of the report information and log information, however, concrete information such as the content of forum posts in courses will not be viewable to the parent who is not actually enrolled in the course. The role does nevertheless, allow for some basic monitoring of students on the site and can provide a parent or mentor valuable information about a student's interaction with the site.

Pop quiz

- 1. How do you, as a site admin, access the Roles screen in order to add or modify a role?
 - a. From the Site Administration block, click on Security and then on Site Policies.
 - b. From the **Site Administration** block, click on **Users, Permissions**, and then **Define roles**.
 - c. Navigate to the course you wish to work with and click on the **Settings** link found in the **Administration** block.
 - d. Navigate to the course you wish to work with and click on the **Assign Roles** link found in the **Administration** block.

- 2. Which permission setting would you use to keep a user from being able to access a specific action that cannot be overridden by assigning other roles, except for the Admin role?
 - a. Not set
 - b. Allow
 - c. Prevent
 - d. Prohibit
- 3. What is the name of the block that must be installed on the front page of your site in order to allow a parent to easily access their child's profile information?
 - a. My Courses block
 - b. Course Categories block
 - c. Site Administration block
 - d. Mentees block

Have a go hero

We have explored, in brief, the roles and permissions feature built into Moodle. Now try and see if you can come up with new roles that you can use in your educational program. Work with some roles that have very limited permissions that you might use to enroll mentors or parents in a course giving them even more access to the content that students are interacting with and creating. Keep in mind however, that when you create a role that allows a parent, mentor, or advisee to view content in a course or courses that you need to think very clearly about privacy issues to make sure that you are not exposing information to individuals who should not or are not approved to have access to it.

Summary

In this chapter, we introduced and set up four different roles that allow for various types of access and permissions to your Moodle site and the courses within. The first role was one that could be used to effectively silence a user or student who has demonstrated inappropriate behavior in the forums or other areas of the site. The second role was one that can be assigned to a secretary or possibly a marketing staff member such that they can update information on the site housed in either the pages created by the Content Pages block or via the news forum on the front page of the site. The third role was one that could be used to allow supervisors or directors to have access to all, or a group of, courses on the site. This role could provide for an online observation system that resembles a more traditional classroom observation system. The final role introduced was that of the parental monitor or mentor. This role allows a parent or mentor to log in to the site and access information about their child or mentee. The information available is somewhat limited but provides an overview of what the child or mentee is engaged in on the Moodle site. In the following chapter, we will explore more advanced methods of data access and retrieval from the Moodle site.