

Example: Nathan is a co-author on a shared blog about academic librarianship. He sets up a public Zotero group for blog authors and readers. Anyone can join the group, add and edit citations, and create collections. The blog's community uses it to share citations to works mentioned in posts and comment threads. The blog site includes a link to the group library's page so that anyone, not just group members, can view and save references from the library.

**Public groups with closed membership** appear in search results. Group members must be invited or approved for membership by the group's administrators. Administrators can choose whether non-members can view the group library or specific collections. This type of group is useful for work in which collaborators wish to show their research online, but control membership of the group.

The screenshot shows the Zotero web interface for a public group library. The page title is "Adventures in Library Instruction" and it is categorized as a "Group Library". The "Recently Added Items" table lists several items:

Title	Updated By	Updated On
The Library is Undead: Information Seeking During the Zombie Apocalypse	Jason Puckett	2010-11-08 21:32
Copyright of Reference & User Services Quarterly is the property of American	Isabel de Armas	2010-11-02 06:24
Accession Number: 51203288, Oakleaf, Megan 1, VanScoy, Amy 2, Affiliations: 1, A	Isabel de Armas	2010-11-02 06:24
Do you know about Adventures in Library Instruction podcasts?	Anna Van Scoyoc	2010-10-28 19:59
Harvard University Press - In Praise of Copying by Marcus Boon	Stephen Francoeur	2010-10-25 10:29
Library podcasts	Jason Puckett	2010-10-25 00:17
Zombies here, zombies there.	Jason Puckett	2010-10-25 00:11
Staying Current Sarah-Style: Podcast Recommendations	Jason Puckett	2010-10-25 00:09

On the right side of the page, there is a section for "Adventures in Library Instruction" with a description: "Shared references for producers and listeners of the Adventures in Library Instruction podcast." It also includes a URL: <http://adlibinstruction.blogspot.com>. Below this, there are details about the group: Owner: Jason Puckett, Registered: 2009-05-29, Type: public, Membership: open, and Library Access: you can view and edit.

Figure 5.6. Web page for a public group library.

Example: Kate has assigned Ian's class a small-group bibliography assignment in which each member of the group must find four sources on their topic and produce a bibliography. Ian creates a public (closed membership) Zotero group and invites his two partners to join. All three group members can add references and see each others' references, and have Zotero format the bibliography when it's done. Kate can check in on the group's progress without having to be invited as a member.

**Private groups** are only visible to members, do not appear in search results, and members must be invited to join. Administrators can control whether members can add, edit and delete library items. Private groups are useful for collaborators who do not want to share their work outside of the group.

Example: Kate is collaborating on an article with a colleague in another state, and Anita is assisting with her research. She sets up a private group to create a workspace only the three of them can use. Kate saves citations to the group and tags them "needs pdf." Anita then sets up a saved search for this tag in her own Zotero client so she can see the article citations for which Kate wants copies. Once she's done that, she adds the PDFs as attachments to the references in the shared library.

Note: private group libraries and public groups with closed membership can be set to allow (or disallow) storage of file attachments. If attachments are allowed, the group uses storage space from the account of the group's owner, not the individual members. In other words, any PDFs saved to a group library by any member use up the group owner's free 100 megs of file space. Public groups with open membership cannot store attachment files, as a preventative measure to keep the owner's storage allowance from being used up.

### Group Roles

Participants in a Zotero group occupy one of three roles: Owner, Admin or Member. A participant's role determines their level of control over the group's settings and content.

The creator of a group becomes its **owner**. The owner has full control over the settings of a group. If the group allows attachment storage, the space for attachment files comes from the owner's storage space on the Zotero server. The owner cannot leave a group without making someone else the owner first (see "Managing groups" below). The owner is the only one with the ability to change the type of group (private, public, open, closed) or delete it. (Any reference to group admins' abilities in this chapter refers to owners as well, since owners have all the same abilities as admins.)

**Admins** are group participants whom the owner has allowed to co-manage the group. They can change group settings, invite members, and control access to the library and file storage.

**Members** are the regular participants in a group. They can view the group's library, and depending on the group's settings, may be able to add, edit and delete library items and attachments.

### MANAGING GROUPS

After creating a group you will land on its settings page. From this page, the owner and admins can set the options for the group. Only owners and admins see this page. The settings page has three tabs: Group, Members, and Library.

#### GROUP INFORMATION TAB

All information on the Group tab is optional except the name. Group information for public groups appears on the Zotero site and can be searched or browsed.

**Name:** This can be changed any time. Changing the name of a public group will change its URL as well.

**Description:** Enter a short description of the group's purpose or other descriptive information.

**Disciplines:** Select an academic subject area or areas relevant to the group.

**Picture:** Upload a picture that will appear on the group's public page.

**Group URL:** Enter the address of a website relevant to the group.

**Comments:** Checking this box allows comment posts to appear on the group's page in the form of a simple discussion board. See "The Zotero social network" later in this chapter for more about this feature.

This page also allows the owner to change the group type between public and private, or open and closed membership for public groups. The owner can delete the group using the button on this page.

After making any changes to the group information, click Save Settings at the bottom of the page.

#### MEMBERS TAB

This page allows the admins to invite, remove, and change the roles of group members.

Clicking the "Send more invitations" links near the top and bottom of this page allows admins to invite members. Enter email addresses or Zotero usernames into the top box. Any text entered into the bottom box will be included in the invitation email. Click Invite Members to send the invitations. Users can only join private groups by invitation.

The Current Members roster allows admins to change members' roles. Change a member to an admin or vice versa, or remove a member, by changing the drop-down menu in the right column. Save changes by clicking Update Roles at the bottom of the page.

The group owner can transfer ownership to any member (demoting herself to an admin) by choosing the username of the new owner from the dropdown menu and clicking Transfer. The new owner receives an email asking them to accept ownership (and transfer any group file storage to their own account). Until the new owner accepts, the previous owner can cancel the ownership transfer by clicking Cancel.

#### LIBRARY TAB

The Library page allows admins to control who can view and edit the library.

**Library Reading:** Select whether the library is visible to non-members via the Zotero website. This option appears for private

groups as well, but has no effect: private libraries are never visible to non-members.

**Library Editing:** If this is set to “Only group admins,” group members can view the library but not make changes to it. For most collaborative work, make sure to set this to “Any group member.” Otherwise only admins will be able to save and edit references in the library.

**File Editing:** The “Any group member” setting allows all members to store attachment files in the library (again, this uses up the owner’s storage allowance). The other options allow file storage access only to admins or disable it entirely. Public open groups cannot use file storage.

### Joining Groups

Public groups appear in search results on the Zotero groups page. The search engine searches only the titles of groups, not the description, so if you want your groups to be easily discoverable choose their names carefully. (There is also a browsable list of all groups, but as it only offers an alphabetical list and there are nearly 12,000 public groups as I write this, it isn’t very useful.)

A “Join Group” link appears on every public group’s page ([zotero.org/groups/groupname](https://zotero.org/groups/groupname)). Join the group by clicking the link. For open-membership groups, this immediately adds you to the group; for closed-membership groups, it notifies the group’s owner of your request to join. The owner must approve your request before you can become a member. Users can only join private groups by an invitation from an admin.

On every Zotero user’s profile page ([zotero.org/username](https://zotero.org/username)) there appears a menu labeled “Invite [user] to join one of your groups.” This menu includes a list of all groups for which you are an admin. Invite the user to join a group by selecting the group name from the drop-down list and clicking Invite.

Group admins can also invite members from the “Send more invitations” link on the group’s Settings/Members page. This is the best way to send multiple invitations at once, since the admin can paste in a list of email addresses or Zotero usernames.

Group invitations, and membership requests sent to group owners, appear in the Zotero inbox ([zotero.org/message/inbox](https://zotero.org/message/inbox)). This is usually forwarded to the user’s email, but this behavior can be changed from the Email tab on the Settings page ([zotero.org/settings/notifications](https://zotero.org/settings/notifications)). Invitations also appear on the Zotero groups page ([zotero.org/groups](https://zotero.org/groups)) if you are logged into your account.

After you join a group, sync your library (click the green circular arrow button) to download the group’s library. As always, syncing a large library may take a few minutes, so be patient if the group has a large shared library.

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### Use Case: Georgia State University Library

My institution is experimenting with a shared general-purpose group library ([zotero.org/groups/georgia\\_state\\_university\\_library](https://zotero.org/groups/georgia_state_university_library)) for collaborative projects and reference sharing.

Our most recent application is a collaborative effort between subject librarians and the library’s creative manager to create bibliographies and an online exhibit of books published last year by GSU faculty authors. Some librarians and staff are joining the group to act as editors and directly contribute material; those who don’t use Zotero can send citations to a point person who enters the references. The project has offered learning opportunities for librarians and staff and made a few Zotero converts.

Future plans include creating collections of featured works by subject and piping them into LibGuides or elsewhere onto our website using the Zotero API.

The group is set to open/public; we consider the risk of “vandalism” (such as deleting important items) low, and we’ll be encouraging GSU Zotero users from outside of the library to join and find their own uses for the group. One disadvantage is that the open/public setting doesn’t allow attachments, so we will need to set up private or closed groups for other projects that require attaching files.

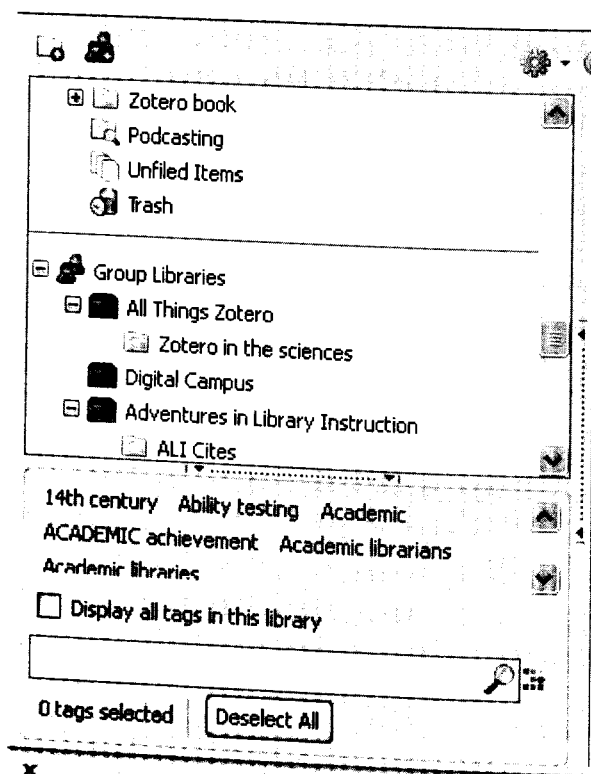
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## Using Group Libraries

You can interact with group libraries either via the Zotero software (the “client,” the program you downloaded and installed) on your computer, or on the Zotero.org website. Each of the two interfaces allows different functions: in general, save and cite from the Zotero client software, and share information and control memberships and permissions using the website.

### GROUP LIBRARIES IN THE ZOTERO CLIENT

If you are already comfortable using your personal Zotero library, using group libraries within the Zotero software will be very easy and familiar. If you are a member of a group and have syncing enabled, your group li-



**Figure 5.7.** Group libraries appear in the left column, below your personal library and collections. Each box icon represents a library, which may or may not contain collections.

braries appear in the left column below your personal library. You should see *My Library* at the top of the column containing your collections, then a horizontal dividing line, then a *Group Libraries* heading and list of your group libraries with any collections they contain. (Below the group libraries appears another dividing line and a *Commons* heading. See “Zotero Commons” below.) You can always get back to your personal library by clicking “*My Library*” at the top of the left column.

Each group provides a library, separate from your personal library and from each other, containing its own set of references and collections. Think of each library as like a separate hard drive: they all appear in the same window on your computer, but they each contain their own files. You can copy and move items freely among them in most cases.

Whatever library or collection you select in the left column becomes the destination for new saved items. To save a citation to a group library, select the library or collection by clicking on it and then saving it from the catalog, database or website just as you would to save it to your personal library.

Working with these references is almost exactly like working with those in your personal library. To copy an item from *My Library* to a group library or vice versa, just select it in the center column and drag it to the library or collection in the left column. This creates a new copy of the item—changes made to an item in one library will not affect its copy in the other. Public groups with open membership cannot save attachments, so copying a reference with attached files into such a group will not copy its attachments. It will copy any attached notes, since notes do not use up file storage space.

Remember that some groups may allow members to view and copy references but may allow only admins to save and edit the library’s contents (see “Managing groups” above). If you are unable to save or drag items into a group library (a “no” circle appears), check the group’s permissions by viewing the group’s web page.

### GROUP LIBRARIES ON THE WEB

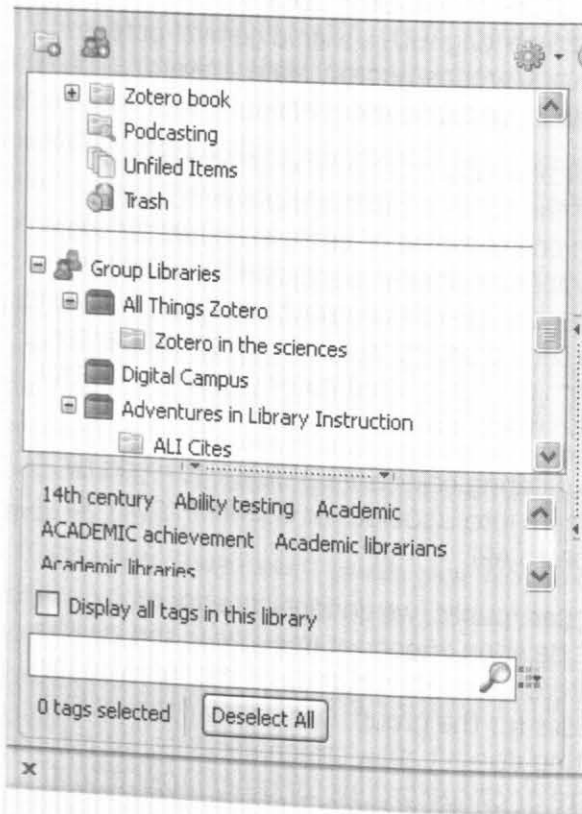
Every group has its own web page located at [zotero.org/groups/groupname](http://zotero.org/groups/groupname) (although *groupname* will be replaced by a number for private

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### GROUP LIBRARIES ON THE WEB

Every group has its own web page located at [zotero.org/groups/group-name](http://zotero.org/groups/group-name) (although *groupname* will be replaced by a number for private

libraries). Groups' web pages can serve as a public display for a collection of research material, a discussion forum, and a way to discover common research interests and share useful resources. Researchers can view group libraries on the web from any browser, and without installing the Zotero client software.

The group page displays the most recently added items to its library, a link to the entire group library, a link to its website, its owner and members. If you view a group's page while logged into [zotero.org](http://zotero.org), your permissions for the group's library show next to "Library Access" in the right column: either "You can only view" or "You can view and edit." Members can see their private groups only when logged in.

Clicking the Groups tab on the Zotero site shows a list of all groups of which you are a member. Group libraries appear on the web at [zotero.org/groups/groupname/items](http://zotero.org/groups/groupname/items). A group library on the web includes all the features described in "Your library on the web" above. Logged-in group members can download attachments from the library's website.

Group libraries on the Zotero site have one extra feature: they include citation data to allow others to download the references. View a group library on the web, in a browser with Zotero installed. The Zotero capture icon—the yellow folder button—appears in the address bar, allowing anyone who can view the page to save citations from the library.

## The Zotero Social Network

Creating a Zotero account gives you access to a simple social network. Zotero users can set up a profile page with information about themselves, link a Zotero collection as an online CV, send messages and hold group discussions, participate in the Zotero forums—or, of course, opt not to use any of these features.

### Your Profile

Every user with an account at [zotero.org](http://zotero.org) has a public profile page at [zotero.org/username](http://zotero.org/username). This profile contains no personal information, other than a list of any public groups of which the user is a member. You can use your profile as a place to publish information about yourself, your research interests, links to your website, and more.

Set up your profile by logging into the site and clicking Settings at the top right. The Profile tab on this page provides a space to enter your name, location, institutional affiliation, an "About You" paragraph, and a URL. The Disciplines list allows you to select one or more subject areas or professions in which you are interested (control- or command-click to select multiple areas). Upload a picture by clicking the Browse button at the bottom of the page, and save when done.

Your profile is searchable by Google and on the Zotero website (click the "People" tab and use the search box at the top right). Entering your institution, for example, allows anyone to search for the name of your university and find you. The People tab displays other users that share your subject interests if you chose a discipline in your profile. Including your real name provides an easy way for someone to locate you to invite you to join a group.

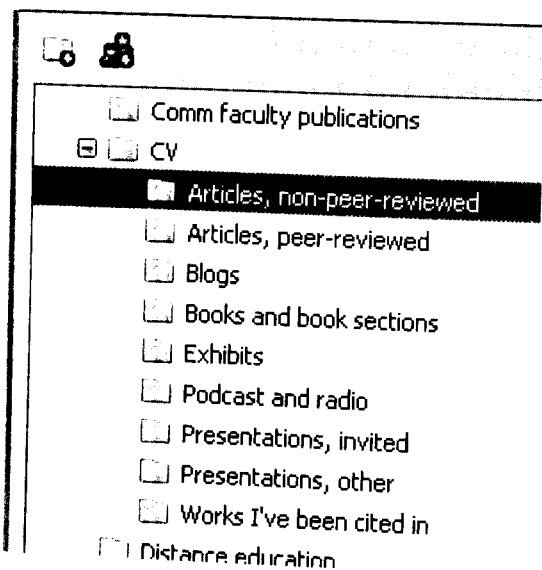
None of this information is required. If you prefer not to have search engines like Google discover your profile page, click the Privacy tab, check the "Hide from search engines" box and update your settings (or, of course, just don't enter any information into your profile).

### Your CV

Click the CV tab ([zotero.org/settings/cv](http://zotero.org/settings/cv)). On this page it's possible to set up collections in your library as an online curriculum vitae that appears as a link on your profile (at [zotero.org/username/cv](http://zotero.org/username/cv)). You build your online CV by saving citations to your own work in one or more collections in your personal library and then adding them via the interface on the Zotero site. Even if your library is private, you can choose to share only certain parts of it in your CV.

If you plan to use the Zotero CV feature, you should create one or more collections in which you save citations for your own work. You can create separate collections for books, articles, and presentations, or organize your work by subject—however you wish.

There are two types of elements available to add: *sections* that consist of a heading with text, or *collections* (a heading followed by the contents of one of your library collections). When you click the CV tab under your account settings, you should see a blank section. Click the



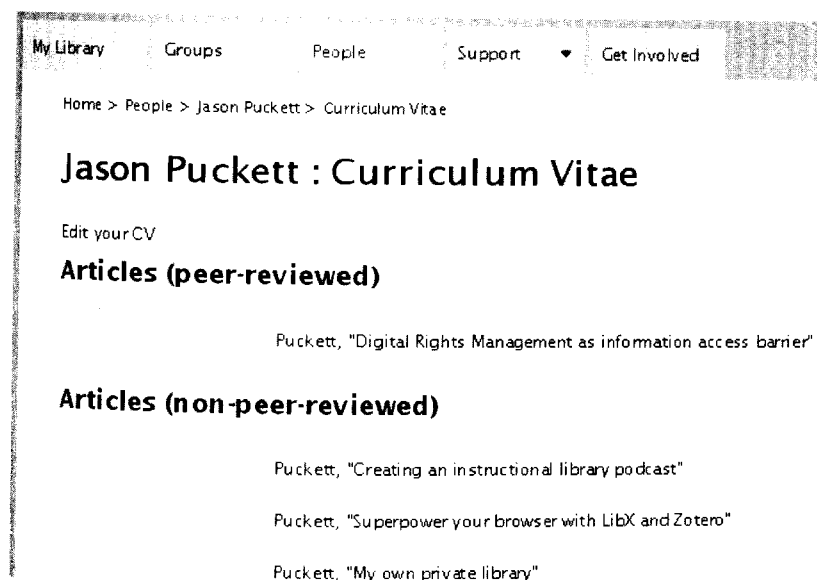
**Figure 5.8.** Collections to include in my online CV, viewed in the Zotero client.

heading, where you see light gray text reading “Enter a section name,” and type the title of this section (such as “Employment history”). In the text box below, type whatever information you want: a list of your job history, for example. You can add links by selecting text and clicking the chain link icon.

Next, add a collection: Click “Insert a New Collection from Library.” In the heading box that appears, type a title just as you did for the first section. Choose a collection from the drop-down menu below the heading. Click Save CV.

The green box that appears at the top of the page includes a link to your Zotero CV as it appears on your profile. There are no options for formatting: the CV appears in a generic style. (Future enhancements to this feature will include a choice of style.) If you need the CV in a particular bibliographic style, use Zotero to generate a bibliography and paste it into a text section.

Use the Move Up and Move Down buttons to reorder parts of the CV, and the Remove Section button to delete a section from the CV. Removing a section does not delete it from your library—it just takes it off your CV page.



**Figure 5.9:** My CV viewed on the Zotero site (zotero.org/username/cv)

## Zotero Messages

Zotero accounts include the ability to send messages to other Zotero users, and to receive email notifications from the site.

Make sure your email address is correct under the Account tab. You can have multiple email addresses on file. Notifications will always go to the address marked Primary, which you can change at any time.

Click the Email tab to choose what events will notify you with an email: private messages from other users, new posts in group discussions, group invitations, applications to groups you own, or new followers to your account. It's probably a good idea to at least enable private messages and group applications so that you don't miss anything important, but you do can opt out of email notification entirely if you prefer.

Your Zotero inbox is located at [zotero.org/message/inbox](http://zotero.org/message/inbox) and is linked from the top of the Zotero site. From here you can see any notification messages you've received. Click Compose to send a message to any Zotero user, even if you don't have their email address. Any users whom you follow (see below) appear in your contact list on the right; select them from the list to compose a message to them.

## Followers

As you browse other users' profiles, you may notice the "Follow" link on the right side of the profile page. Clicking this link adds this person to your "following" list and adds you to their "followers" list, both of which appear at the bottom of the profile page.

What does following someone do? Not a lot, honestly. It mostly provides a quick list of bookmarks to selected users on your profile page. This can be convenient because it:

- Gives you a list of links to Zotero users in whom you are somehow interested
- Provides an easy way to look at others' public libraries or invite them to groups
- Adds them to your Zotero contact list, which appears when you compose messages on the Zotero site

Browsing other users' follower lists can be a serendipitous way to discover others who share your research interests.

## Discussion Features

The Zotero site includes two discussion features: the Zotero forums, and group discussions.

The Zotero forums ([forums.zotero.org/categories](http://forums.zotero.org/categories)) are public discussion boards. Anyone can post to the forums, which are read by CHNM staff as well as very knowledgeable users. These forums are an excellent place to get informed advice on any Zotero problems, suggest features, request new bibliographic citation styles, and so on. When posting a problem to the forums, make sure you provide as much information as possible and be prepared to answer specific questions about your setup, such as your operating system, browser version and so on. The forums are a vital resource for librarians and IT staff supporting Zotero as well as regular users.

Group discussions appear as a "mini-forum" at the bottom of each group page. Only members of the group can post, and topics are limited only by the members' wishes. Admins can turn the discussion feature on or off by checking the "Enable Comments" box on the group's settings page.

## Zotero Commons

The Zotero Commons provides a free online repository for scholars to upload digital primary sources, images, or scholarly documents they have created. A partnership with the Internet Archive ([archive.org](http://archive.org)) gives Zotero users a simple way to archive and share documents and images in the public domain or to which they own the copyright.

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### Quick Reference: Set Up Zotero Commons

1. Log into Zotero and click Settings/Commons.
  2. Open [archive.org](http://archive.org) in another window, click "join us" and create an account.
  3. Open [archive.org/account/s3.php](http://archive.org/account/s3.php), copy your access key and secret key and paste into your Zotero Commons settings.
  4. Click Enable Commons.
- 

Uploading materials to the Zotero Commons offers researchers several benefits. It provides a repository in which to share and discover resources, whether scanned public domain primary sources like historical newspapers or images, or secondary sources created by the researcher like bibliographies or finding aids. The Commons provides a stable long-term URL for other researchers to cite shared documents.<sup>2</sup>

The Internet Archive automatically processes any scanned files with Optical Character Recognition (OCR) software, placing a version of the document with searchable text in the user's Zotero library. Scholars who scan their own texts often do not have access to OCR software. The Internet Archive also automatically converts the file to several other standard formats: Zotero's native format, EPUB, Kindle, and others.

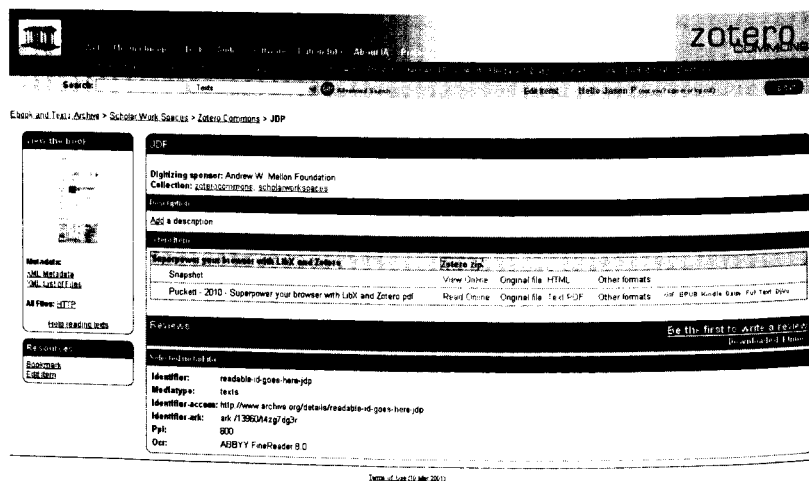
Since Commons items are stored on the Internet Archive, you'll need to create an account on the IA server. Open [archive.org](http://archive.org), click Join Us (at the top right of the page, next to the Upload button) and follow the instructions.

To connect your IA account to your Zotero account, go to Zotero Settings and click the Commons tab ([zotero.org/settings/commons](http://zotero.org/settings/commons)). You need to obtain your "S3 keys" from your IA account and paste them into the Commons settings page. These keys are like a username



and password that allow your Zotero account to communicate with your IA account.

Open the URL [archive.org/account/s3.php](http://archive.org/account/s3.php) (the Commons Settings page has a link). Copy and paste the Access Key and Secret Key from the archive.org page into your Zotero Commons settings. Click Enable Commons.



**Figure 5.10.** The Internet Archive page for an item uploaded to Zotero Commons.

A globe icon labeled “Commons” appears below your group libraries in the Zotero software the next time it syncs. Create a collection to contain your uploads by right-clicking the Commons icon and choosing New Collection. Commons collections can take some time to create, so be patient.

Like group libraries, Commons collections are entirely separate from your personal library. Items can be dragged (copied) from group or personal libraries to Commons collections or vice versa. Drag an item from your personal library to your Commons collection to upload it.

Unlike group libraries, adding items to Commons collections takes some time—from ten minutes to several hours for the Internet Archive server to process the contribution before it appears in your Zotero client. During this time, the IA automatically checks to see if

the item contains an image-only scanned PDF. If so, the PDF file will be run through its OCR software and converted to searchable text. A second copy of the PDF with “(OCR)” appended to the filename will be attached to the citation. This version of the PDF contains text that can be searched using the standard Zotero search features.

Items uploaded to the Commons also appear on the Internet Archive website—search by title or author within the Commons space on IA ([archive.org/details/zoterocommons](http://archive.org/details/zoterocommons)) to find them. Another benefit of uploading PDFs to the Commons is that the IA page for each item contains several different versions of each document: IA converts PDF documents to EPUB and other standard formats. The IA page also shows the number of times an item has been downloaded.

## Publishing your Library

One of the main reasons to sync your library online is to publish it and share it with others—whether other Zotero users, your students or classmates, or other researchers working in your subject area. There are several ways to publish a Zotero library or collection, ranging from simply linking to a shared collection to more sophisticated options for publishing Zotero content to external websites.

### Sharing Links

The simplest way to share a library online is simply to copy its URL. Every public Zotero library and collection, group and individual, has its own unique URL. Just browse to the library or collection on the Zotero website, copy the link from your browser address bar and share the link.

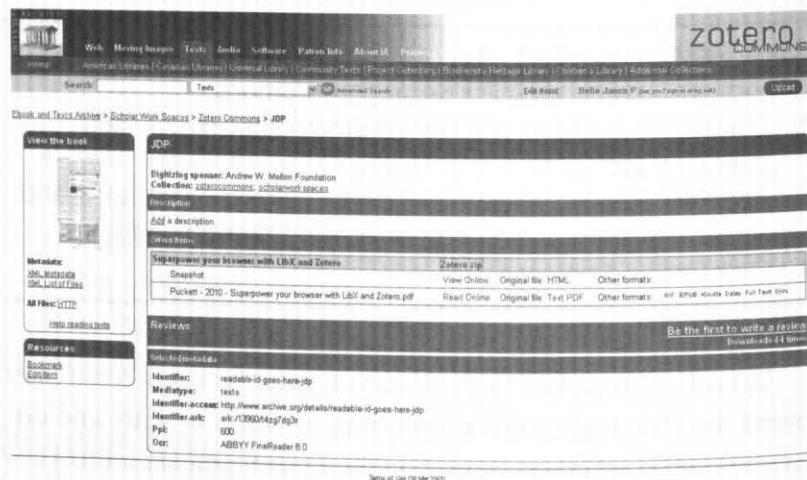
Libraries on the Zotero site include all the data that the Zotero client needs to save citations, so a researcher viewing a library on the web can save the citations to her own library. This can be handy for sharing citations for suggested reading with groups or classes.

### Copy and Paste and HTML Bibliographies

The copy-and-paste method described in chapter 4 is a useful way to produce bibliographies to go into web pages. (Right-click library items or a collection, Create Bibliography, then select the desired style and

and password that allow your Zotero account to communicate with your IA account.

Open the URL [archive.org/account/s3.php](http://archive.org/account/s3.php) (the Commons Settings page has a link). Copy and paste the Access Key and Secret Key from the archive.org page into your Zotero Commons settings. Click Enable Commons.



**Figure 5.10.** The Internet Archive page for an item uploaded to Zotero Commons.

A globe icon labeled “Commons” appears below your group libraries in the Zotero software the next time it syncs. Create a collection to contain your uploads by right-clicking the Commons icon and choosing New Collection. Commons collections can take some time to create, so be patient.

Like group libraries, Commons collections are entirely separate from your personal library. Items can be dragged (copied) from group or personal libraries to Commons collections or vice versa. Drag an item from your personal library to your Commons collection to upload it.

Unlike group libraries, adding items to Commons collections takes some time—from ten minutes to several hours for the Internet Archive server to process the contribution before it appears in your Zotero client. During this time, the IA automatically checks to see if

the item contains an image-only scanned PDF. If so, the PDF file will be run through its OCR software and converted to searchable text. A second copy of the PDF with “(OCR)” appended to the filename will be attached to the citation. This version of the PDF contains text that can be searched using the standard Zotero search features.

Items uploaded to the Commons also appear on the Internet Archive website—search by title or author within the Commons space on IA ([archive.org/details/zoterocommons](http://archive.org/details/zoterocommons)) to find them. Another benefit of uploading PDFs to the Commons is that the IA page for each item contains several different versions of each document: IA converts PDF documents to EPUB and other standard formats. The IA page also shows the number of times an item has been downloaded.

## Publishing your Library

One of the main reasons to sync your library online is to publish it and share it with others—whether other Zotero users, your students or classmates, or other researchers working in your subject area. There are several ways to publish a Zotero library or collection, ranging from simply linking to a shared collection to more sophisticated options for publishing Zotero content to external websites.

### Sharing Links

The simplest way to share a library online is simply to copy its URL. Every public Zotero library and collection, group and individual, has its own unique URL. Just browse to the library or collection on the Zotero website, copy the link from your browser address bar and share the link.

Libraries on the Zotero site include all the data that the Zotero client needs to save citations, so a researcher viewing a library on the web can save the citations to her own library. This can be handy for sharing citations for suggested reading with groups or classes.

### Copy and Paste and HTML Bibliographies

The copy-and-paste method described in chapter 4 is a useful way to produce bibliographies to go into web pages. (Right-click library items or a collection, Create Bibliography, then select the desired style and

choose “Copy to Clipboard.” Paste into your web editor.) Bibliographies created in this way include COinS metadata — citation information visible to Zotero—that, like libraries viewed on the Zotero website, allows a Zotero user to save any of the citations from the web page.

Zotero can also produce bibliographies in HTML as described in the previous chapter. (Instead of clicking “Copy to Clipboard,” choose “Save as HTML.”) This creates a small, simple HTML file that can be pasted into any HTML editor. The HTML version lacks the COinS data that allows other Zotero users to save citations from the bibliography, however.

These two methods are good options for creating bibliographies for research guides like LibGuides or course management systems like Blackboard.

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### New Orleans Research Collaborative

The New Orleans Research Collaborative ([nolaresearch.org](http://nolaresearch.org)) is a fantastic example of online collaboration using Zotero. The project centers around a number of New Orleans-related topics.

Undergraduates, grad students, librarians and faculty from Emory University, the University of New Orleans and other institutions contribute research and create bibliographies via Zotero group libraries. Students have the opportunity to participate in collaborative work early in their scholarly careers.

The bibliographies are vetted by an editor and updates are posted to the website periodically. Future plans include Omeka integration that will automate the publication process more fully.<sup>3</sup>

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### API and RSS: Feeding from Zotero to the Web

An Application Programming Interface (API) is a means for two computer programs to communicate with each other. For example, Google Maps has an API that allows other web applications to take its map data and add other information to it. Many popular applications that you’ve used, like YouTube, Flickr, and Twitter, have open APIs that allow them to feed content to other programs.

This feature will be greatly expanded in upcoming versions of Zotero, but without getting too technical let’s look at a couple of simple examples of what it’s capable of.

### RSS

Every Zotero library and collection online generates an RSS (Really Simple Syndication) feed that can be used to push library updates to an RSS reader, blog or other RSS client. By default, items in the feed are not formatted in any bibliographic style—they just appear as a list of author name, title, and publication details as they appear in the right column of your Zotero library.<sup>4</sup>

Each online Zotero library or collection includes an orange RSS feed link labeled “Subscribe to this feed.” Feed URLs must include a user or group number (an identifier associated with a Zotero account) and if the library is private, a key to access it. You can subscribe to the feed via an application like Google Reader, or push it into a compatible web application like LibGuides. (This section includes a few examples of how feeds can be customized. More detail is available on the Zotero site at [zotero.org/support/dev/server\\_api](http://zotero.org/support/dev/server_api).)

Feed URLs take the following forms:

- user library: **<https://api.zotero.org/users/{userID}/items>**
- user collection: **<https://api.zotero.org/users/{userID}/items/collections/{collectionKey}/items>**
- group library: **<https://api.zotero.org/groups/{groupID}/items>**
- group collection: **<https://api.zotero.org/groups/{groupID}/collections/{collectionKey}/items>**<sup>5</sup>

“userID” and “groupID” are numbers: find your userID at [zotero.org/settings/keys](http://zotero.org/settings/keys). Group admins can get a group’s ID by going to the group’s Settings page: the groupID is the number after “groups/” in the URL (as in [zotero.org/groups/1234/settings](http://zotero.org/groups/1234/settings)). To obtain a collectionKey, view the collection on the web and use the number after “collection/” in the URL (as in [zotero.org/groups/groupname/items/collection/A1B2C3D4](http://zotero.org/groups/groupname/items/collection/A1B2C3D4)). Your personal userID is visible at [zotero.org/settings/keys](http://zotero.org/settings/keys).

Private libraries or collections require an API key (see below) for anyone else to access their feeds.

Note: Zotero generates secure (https) feeds. A few web applications—notably LibGuides, a program used by many libraries to create online research guides—are incompatible with secure RSS feeds. You can put a Zotero secure feed URL into a program like Yahoo! Pipes (pipes.yahoo.com) or Feedburner (feedburner.google.com) to convert it from secure to non-secure RSS.

### API Keys

RSS feeds are one use of the API. Other applications can use data generated by the API: for example, the Bibliobouts game mentioned in chapter 6 uses API data to read the contents of a group library. Private libraries and collections require a key—a code provided by the library’s owner—to share their contents. Zotero uses a protocol called OAuth to provide secure communication.

A private key is a code that allows Zotero to share the contents of even a private library, if the owner wishes. You can create keys that permit access to an entire library or just part of it. Go to your Settings page and click the Feeds/API tab (zotero.org/settings/keys). Click “Create new private key.”

On this page you can enter a description for the key (choose any name you want, like “Key to my personal library”) and select what data you want the API to be able to access: your personal library, your notes, all your groups or individual groups you own. Click “Save Key.” You can edit an existing key on this page to change its access permissions.

Your Feeds/API tab now shows a list of any keys you have created. The key itself is a long string of letters and numbers that can serve as a password to access a private RSS feed (see above). It looks something like: **x1yzml1ca5spmewl36xo4yy6**.

To add a key to an RSS feed or other API URL, just add **?key=** plus the key itself to the end of the URL, like: **https://api.zotero.org/users/475425/collections/9KH9TNSJ/items?key= x1yzml1ca5spmewl36xo4yy6**

### API Example: Generating a Bibliography in Libguides

LibGuides is a popular web application for librarians to create online

research guides. One use for the Zotero API is creating collections to automatically appear as bibliographies in a LibGuides box.

Start to create a bibliography from a collection by assembling a URL as noted in the RSS section above. For example: **https://api.zotero.org/users/475425/collections/9KH9TNSJ/items** gives an RSS feed for the contents of Zotero user number 475425’s collection number 9KH9TNSJ. (Of course, you’ll substitute your user number from zotero.org/settings/keys and the number from your collection’s URL.)

You can instruct Zotero to give you the information in a format other than RSS, though. Add a question mark (?) to the end of the URL, followed by some additional options. For example, to change that RSS feed to a formatted bibliography, add **?format=bib**:

**https://api.zotero.org/users/475425/collections/9KH9TNSJ/items?format=bib**

Typing that URL into a browser window returns a short bibliography in Chicago style. You can add additional options: add an ampersand (&) to the end of the URL between each parameter and string more options onto the end of the URL. For example, to change styles from Chicago to APA, add **&style=apa**:

**https://api.zotero.org/users/475425/collections/9KH9TNSJ/items?format=bib&style=apa**

You can format the output in any of the default Zotero styles by changing the “apa” to the filename of the desired style (like “mla” or “nature” for example). If the library is private, you will need to add an API key with **&key=[key number]** at the end.

To add this bibliography to a LibGuide, create a Remote Script box in your guide. Copy the API URL you have created, click “Add/Edit the Remote Script URL” and paste it into the box. The guide will show the contents of the collection as a bibliography formatted in APA. As you add and edit items in the collection, periodically the bibliography on your guide will refresh itself to show your updates.

This is just one *very* simple example of what’s possible with the Zotero API, and I’ve only shown a couple of the many options available. CHNM will be focusing on the API and adding many new and exciting possibilities to this feature in the near future, so expect new

features to be available. Plugins either are, or will soon be, available to use Zotero data in Wordpress, Omeka and other content management systems. I've also only covered the “read API”—the system that allows Zotero to push information into other applications. The new “write API” will allow third-party applications to create and modify Zotero items, collections, and notes. Web librarians and developers should take a look at [zotero.org/support/dev/server\\_api](http://zotero.org/support/dev/server_api) for the latest information.

## Notes

1. The bibliographies for all chapters of this book are available in a public group library at [zotero.org/groups/z\\_guide\\_by\\_puckett](http://zotero.org/groups/z_guide_by_puckett).
2. Cohen, Dan. “Zotero and the Internet Archive Join Forces.” *Dan Cohen's Digital Humanities Blog*, December 12, 2007. <http://www.dancohen.org/2007/12/12/zotero-and-the-internet-archive-join-forces/>.
3. New Orleans Research Collaborative. “About.” *New Orleans Research Collaborative*, 2010. <http://nolaresearch.org/about>.
4. I'm using the more familiar term “RSS,” but technically speaking, Zotero delivers its data in ATOM and JSON formats that can be read by RSS-capable applications.
5. Center for History and New Media, “Plugins/ZoteroImport—Omeka How To.” *Omeka*, 2010. <http://omeka.org/codex/Plugins/ZoteroImport>.

## Further Reading

- Center for History and New Media. “commons [Zotero Documentation].” *Zotero*, 2010. <http://www.zotero.org/support/commons>.
- . “dev:server\_api [Zotero Documentation].” *Zotero*, 2011. [http://www.zotero.org/support/dev/server\\_api](http://www.zotero.org/support/dev/server_api).
- Cohen, Laura. “Library 2.0: An Academic's Perspective: Zotero Commons: Who Needs Libraries?” *Library 2.0: An academic's perspective*, n.d. [http://liblogs.albany.edu/library20/2007/12/zotero\\_commons\\_who\\_needs\\_libra.html](http://liblogs.albany.edu/library20/2007/12/zotero_commons_who_needs_libra.html).
- Johnston, Lisa R. “Let's Get Social, Cite me?” *Sci-Tech News* 62, no. 4 (November 2008): 30.

# CHAPTER 6 Teaching Zotero

Teaching Zotero can take place in many contexts: in an in-person workshop, as part of a library instruction session, as part of a graded course assignment, or in online classes. Zotero may be the main focus of a class session or only one element of a research exercise. Our library regularly teaches Zotero in hour-long workshops, in hands-on “research lab” sessions, and five-minute demo sessions.

Teaching a reference manager program is like teaching any other research tool, and planning a Zotero class is fundamentally no different from planning any other information literacy class. Consider the information needs of the audience, how their past experience is likely to inform their learning, plan some specific learning objectives, and know the material well enough to be flexible and respond to the unexpected.

This chapter presents suggested best practices from my own experience teaching Zotero, as well as advice and real-world assignments and examples from other Zotero instructors (both librarians and teaching faculty).

## Classroom Preparation

Many library classes only require a working web browser, since so many research tools now exist as online tools like catalogs and article databases. Demonstrating Zotero requires a few pieces of software in working order: the browser (probably Firefox), the Zotero client software (Firefox add-on, standalone application or possibly both), and probably the Microsoft Word toolbar plugin.

Even if you plan to demonstrate installing Zotero “live” during class, pre-install and test the software on the actual computer you will use for teaching, and allow enough time to deal with unexpected problems before students arrive. A test drive on your own office computer may be a good practice run, but try it out on the classroom computer. Having Zotero pre-installed also allows you to give a demonstration at the very beginning of class.

Public use computers and classroom computers often have security settings that prevent users from installing new software. These security measures often still allow the user sufficient permissions to install the Firefox plugin version of Zotero and possibly the Word toolbar as well. Allowing students to install Zotero themselves during class as a hands-on exercise is useful if time permits, since it gives them experience with the procedure before they go home to try it on their own. It does take a few extra minutes of class time, however, and may be impractical depending on your classroom computers' security settings.

On many campuses, library and classroom computers are protected by Deep Freeze or similar software that “undoes” any changes made to the system when it reboots. Of course this wipes out any Zotero installation, saved data and updated versions between classes, so remember to coordinate appropriately with your IT department. If your classroom does not use software like this, test your Zotero setup to make sure another instructor has not made any changes since your last workshop. I usually give our instructor computers a “Zotero checkup” a week or so before my first class of the semester to make sure all is in working order; this gives me time to request that our IT department install any needed updates.

Make a separate Zotero account just for teaching, and keep that account's library small, with only a few references. This keeps your teaching examples out of your personal library and vice versa, and keeps sync time short during class demonstrations. If you join any public groups with that account, make sure not to save any irrelevant items to the group libraries during class activities.

I usually encourage learners to bring their own laptops to workshops if they wish. You may not have any other option if you lack a classroom space with dedicated computers, or are teaching in an unusual setting like a conference session. “Bring your own laptop” has the advantage of allowing the student to work on a computer without security restrictions and with which they are already comfortable, and also allows them to install Zotero on their own computer with experienced help available. This may cause trouble for the instructor, in the form of troubleshooting problems on unfamiliar computers and operating systems, outdated or

incompatible software, while the rest of the class waits. For example, my Zotero workshop announcements have always specified that Firefox is required on any laptops they bring to class, but students still turn up without it installed.

## Consider the Audience

Begin planning a Zotero class by giving some thought to the expected audience. The research experience and information needs of a first-year undergraduate class are entirely different from those of a group of PhD students, and each group will pick up the concepts and skills differently.

Consider what features will be the most important to each group—what they most need to know (and already know) how to do for their current research assignments. If the class has a professor or group leader (not the case in a drop-in workshop), ask him for a little information about this semester's assignment and how far along they are likely to be. Don't forget to also consider what you know about the class's likely comfort level with technology in general: facility with word processor and browser features (notably installing add-ins), and simple computer literacy skills like switching between windows and copy/paste will come into play.

Plan a few learning outcomes bearing all this information in mind. It may be impossible to teach everything they need and answer every question in a single session (librarians who have been asked to “give a general library overview” in a 50-minute class already know this painful truth). Give them enough information and experience to accomplish the basics of what they need, explain that experience will raise more questions and improve their comfort with the software, and make sure they know where to get help after class.

I'll present several common audiences for Zotero classes, starting with an unknown drop-in audience and then progressing in assumed increasing experience and sophistication with research tools: undergrads, grad students, faculty and librarians. The suggested material for lower-level groups can probably be covered in a shorter time, requiring less explanation, so it's usually practical to cover more features with more advanced researchers.<sup>1</sup> If your audience includes other groups,

hopefully these examples will give you ideas of how to approach planning for them.

Be prepared to answer more advanced questions, but don't confuse new users with too much information. Keep a mental eye on what they need from the software based on what you know of your audience and their questions during class. You don't have to (and can't possibly) have answers to all the questions prepared in advance; just know more than your students and you'll be fine. A sense of FAQs and common problems will come with experience, just like teaching any other kind of class.

Also be prepared to say "I don't know" and follow up after rather than stall the class trying to fix a problem. If you can, it's often helpful to block off a few extra minutes on your calendar to help with individual problems and questions immediately after class.

## The Basic Zotero Workshop

This outline is a good basic structure for teaching Zotero to almost any audience. Specific audiences will likely have particular questions and concerns, but for the most part adapting this model just requires making adjustments of how much time and which features to cover and omit based on your own knowledge of your learners' needs. Be flexible! (See Appendix A for sample handouts.)

### Basic Workshop Outline

- Quick demo
- Installation
- Saving citations
- Creating bibliographies
- Synchronization

Begin the session with a brief explanation of what Zotero is and what it can do. Don't bother with a discussion of open source software unless you know that would interest your audience, but do at least mention that Zotero is free for anyone to download.

Start with a brief demonstration as described in "the 'Wow' moment" sidebar below. Don't try to explain *how* to do anything at this point—that's what the rest of the hour is for—but use this moment to show how useful Zotero can be. Open the library catalog or a database, ask someone in the audience for their current research topic and do a quick search (don't worry about getting the best quality results, just find some citations to save). Save some results, pointing out the notification

popup as you do so. Open the Zotero library to show the saved items and use the Create Bibliography menu item to paste a quick bibliography into Word.

From here, move into step-by-step hands-on practice mode. Cover installation, saving and editing items, creating bibliographies via copy/paste and with the Word plugin, and possibly synchronization and group libraries. Take a moment during each process to check in for questions and problems: explicitly ask something like "Did that work for everyone? Did anyone have trouble?". Most of these activities build on the previous ones, and nothing is more frustrating for you or the rest of the class than finishing a practice activity of saving citations to find that someone got lost while installing Zotero but was too embarrassed to say so. Physically walking around the classroom to check in on students during activities is very helpful.

Decide ahead of time whether to pre-install Zotero on your classroom computers. If you decide to pre-install Zotero to save time, at least demonstrate the process briefly yourself; many people have never installed software or even a browser plugin by themselves. Provide a handout or guide with the URLs and instructions. If you have students

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### The "Wow" Moment

I start every Zotero class with a quick demonstration of saving citations and using the copy-paste method to create a bibliography. I don't explain *how* to do it yet, I just show *what* it can do.

When I click Paste in Word and the finished bibliography appears—only a few seconds after saving citations from the catalog—the audience always murmurs excitedly, and I usually hear some impressed interjections and some comments like "I wish I had known about this when I was a freshman!" (And, on at least one occasion, enthusiastic profanity.)

I think of this as the "Wow" moment in every class. It never fails to demonstrate to researchers, much more effectively than I could explain to them verbally, just how much time and work Zotero can save. It's the best way to get their attention at the beginning of class.

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install Zotero themselves, check to make sure everyone has succeeded before you proceed.

Installing the word processor toolbar is often more confusing since it involves clicking through to the installation page and choosing the correct version. Mac users also have to deal with the extra step of installing the correct PythonExt version along with the plugin, so allow a few extra minutes to circulate and help. This is usually the longest “pause and check in” during the session. Again, physically walk through the classroom if possible, glance at everyone’s screens and help with individual problems. Once the software is installed, open Zotero and briefly explain the three columns: left side for browsing collections and tags, middle for a list of citations and the right to display and edit details.

Saving citations is one of the most important features, but fortunately quite easy to teach and learn. Have students open the library catalog and ask them to try a search of their choice, then click on the first result. Point out the book icon in the address bar: explain that Zotero scans web pages as they loads and indicates citations by adding a save button appropriate to whatever items it detects. Point out the pop-up notification as you save a catalog citation.

This point in class is where librarians are invariably tempted to slip into library jargon without realizing it. Unless your audience is made up of librarians, avoid terms like “record” (as in catalog or database record), “metadata,” and “fields.” Use more common terms like “page” or “citation” (as in “this book’s page/citation in the catalog”), and “tags” or even just “information” (as in “Zotero saves the information about this article,” or “Zotero tags the item with author and title and publication details”).

Open Zotero to point out the new saved citation, mentioning that Zotero continues to run in the background whether the browser pane is open or closed. (Check in: Did everyone successfully save a citation?) Now that you have a citation in the library, demonstrate the ease of editing the item by just clicking the text to edit.

Repeat the save exercise in an article database, pointing out the different capture icon for different reference types (books, articles, book chapters), and make sure to demonstrate saving multiple citations from

a list of search results. Don’t assume that everyone in the class knows how to get to the library’s databases: be prepared to talk through the steps to get there slowly and assist lagging students. If the group is from the same academic department, choose a database from their discipline to demonstrate: the exercise will seem much more relevant to them if they are using familiar sources in conjunction with Zotero.

Almost invariably, questions arise at this point about attaching PDFs to citations. Show the preference setting to automatically attach PDFs when possible, but make sure students know that this only works for a small number of databases. Demonstrate the drag-and-drop method of attaching PDFs.

Save a citation from a web site. Take a look at the attached snapshot, explaining that this is just another kind of attachment. Make sure to point out what information Zotero does *not* save when capturing web citations: author and date are usually key.

Once students have some items in their library, demonstrate how to organize them into collections. Point out that items can be in more than one collection simultaneously. This is also a good time to demonstrate tagging and browsing by tag.

When teaching how to create bibliographies, consider the audience—some groups may be content with the copy/paste bibliography method, some may be more interested in the Word toolbar, or you may want to demonstrate both. Make sure that the group gets some hands-on experience with at least one of the two methods. Often, demonstrating the copy/paste method generates questions about whether Zotero can create in-text citations or footnotes as well. (For some reason, having Zotero create footnotes never fails to impress.)

If you have students create a Zotero account and set up synchronization in class, spend a few minutes demonstrating how to get to the Sync tab in the Zotero preferences, circulating around the classroom and helping them enter their account information.

As noted above under Classroom Preparation, create a Zotero account just for teaching, and keep that library empty or nearly so. This keeps the sync process relatively quick and keeps your teaching examples from cluttering your personal library. Syncing for the first



time may hang the browser up briefly. Don't panic when that happens; start the sync process on your screen and use this time to circulate and check in as they set up their own accounts.

Depending on the audience, this may be a good time to cover group libraries. There's not much to demonstrate visually here: explain the concept, show how to set up a group on the website, and point out where group libraries appear below the personal library in the Zotero client. Drag and copy some references back and forth between group and personal libraries—but only if you have a suitable practice group set up. Don't clutter anyone's "real" public group library with your teaching examples, of course.

Close by briefly mentioning any other features you didn't have time for during the session—anything that your audience might think of as "advanced" but that would be interesting or useful to them. Make sure to give them a handout for later reference, a URL to your online guides, and your contact information for later support questions.

You can easily adapt this basic model for different audiences and teaching situations.

## Drop-in Audiences

Many libraries offer drop-in Zotero workshops open to anyone from undergrads to faculty to members of the public. The trouble with planning workshops like this is that it's impossible to know ahead of time who your audience will be. Their familiarity with bibliographies, library research resources, and computers in general can make a big difference in how the class goes. An experienced researcher who has used EndNote or RefWorks for several years will pick up the fundamentals of Zotero much more quickly than a first-year student who has only a vague idea of the purpose of bibliographies. Instructors of drop-in workshops should be prepared to handle a spectrum of learners in the same class (and just to make it interesting, expect someone to bring a new laptop with an operating system they're still learning to use).

The goal for drop-in workshops should be to cover enough features and techniques in one hour that users can walk away and use Zotero usefully, even if they don't see every feature. Since it's hard to predict

ahead of time who will attend, build some flexibility into the plan. Assume that at least some attendees will be novice researchers (perhaps even first-time library users if the session takes place at the beginning of fall semester), but be prepared to address more advanced features if learners ask questions about them.

Requiring or encouraging pre-registration may help give you an idea of who will be attending. In any case asking questions at the beginning of class is useful: your learners' status as faculty or students, what disciplines they are studying, favorite databases, and previous experience with Zotero or other reference managers. Our classroom contains all Windows computers, so I try to remember to ask if anyone in the session is a Mac user so that I can point out differences and mention the extra steps in installing the Word plugin.

## The Five-minute Demo

Sometimes circumstances dictate teaching less than a full class session: either a Zotero "guest spot" in someone else's class or a short demonstration as a side note to a class on another topic. I often add five minutes' worth of impromptu Zotero information to the end of "regular" information literacy sessions. A few minutes can be plenty of time to engage learners' interest. If you only have a brief window of time in which to demonstrate Zotero, keep a few things in mind:

My five-minute demos usually consist of installing Zotero, going to the library catalog site, saving some citations, pasting a quick bibliography into word, answering questions and sharing the URL to my online guide. Don't forget to mention any upcoming workshops or online tutorial videos available.

Don't spend more than a sentence or two explaining what Zotero is and what it does before you start. Perhaps ask whether students have used reference manager software before just to get an idea of how much explanation might be helpful.

Don't try to teach any step-by-step processes. Engage their attention quickly. The best way to do that is to go straight for the "Wow" moment (see sidebar above): just save some citations and create a copy/paste bibliography. (Ideally, have your word processor already open

in another window before you start. Nothing kills the pace of a quick demo quite like waiting for Word to load.) Showing this visual, practical demonstration always captures learners' interest. Expect questions to follow quickly.<sup>3</sup>

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### Sample Assignment: Second-year English

Oregon State University Librarian and English instructor Anne-Marie Dietering assigns a bibliography project using Zotero as part of a literary research course. She requires students to cite, annotate and tag three sources in their personal libraries and add them to a class group library for grading.

The assignment and Dietering's reflections on developing it are available on her blog.<sup>2</sup> She hopes that "showing them Zotero pushes their brains beyond the 'research skills is what you have to do to do well on this specific paper' focus that most one-shot sessions have. I try and frame it as a life skill for students ... that part of college is building this personal knowledge base."

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Abandon any plans to include hands-on activities. Although this is the best way to get comfortable with Zotero, there just won't be time to more than whet their interest and answer questions. If everyone has laptops already online, the group is comfortable with their computers, and has Firefox already installed, you might just have time to walk students through the installation process so that they can take Zotero home with them.

If you do have more than a few minutes, consider what elements you might want to add from the drop-in workshop class model. The essentials to consider demonstrating include saving and editing items, creating bibliographies using copy/paste, and creating collections. At least mention the ability to synchronize and share libraries online.

### Regular Library Instruction Sessions

If Zotero isn't the primary focus of a class, it can be incorporated as an additional learning outcome. This can be particularly effective with library instruction sessions for upper-division undergraduate classes.

Often these students have "had the library class before," and showing them a new tool can help get past their initial resistance to sitting through another library session.

Of course, make sure you know the class's assignment and the search tools they need to use. Make sure the databases you plan to teach work well with Zotero—or if they don't, be prepared to answer questions about potential problems. If students have their own computers, or you are a guest in their regular classroom instead of your usual teaching space, check on the available technology.

Use the five-minute demo model at the beginning of class. As you teach different search tools, demonstrate how to save citations and point out any idiosyncrasies or problems you might have discovered using Zotero with those particular databases. If students are not using their own laptops in class, make sure they have time to synchronize their library or export it to a flash drive before class ends.

### Undergraduate Students

When teaching first- and second-year undergraduates, focus on the basic functions to get them comfortable with Zotero as a research tool. A typical undergraduate class may have a short research assignment with a bibliography. They probably need to cite some books, some articles, and possibly some web sources as well. Few of the students have delved very deep into library research yet, and some of them may not have done a bibliography for a college paper before.

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#### Zotero Learner: Ian, Undergraduate

Ian's first-year class has a short research paper due based on book, article and web sources. Suggested learning outcomes for his class's Zotero session include:

- Installing Zotero
- Saving citations (catalog, database, web)
- Creating bibliographies by copy/paste

This is their first exposure to bibliography software. In planning this session, Nathan will probably omit the Word toolbar and syncing unless asked about them, and won't mention group libraries unless he knows that they have a group assignment this semester.

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Their immediate needs for Zotero are saving citations and creating bibliographies. They are taking required classes in several disciplines, so the ability to create bibliographies in many different styles is useful.

Lower-division undergrad students are early in their academic careers. They may not see advantages in building a long-term personal library, since at this point they are unlikely to have discovered ongoing research interests, but they will quickly grasp the idea of Zotero as a labor-saving tool for creating bibliographies. Undergraduates have many conflicting demands on their time and energy and appreciate anything easy and efficient that can help ease their workload.

Upper-division undergraduates have chosen a major and have more research experience under their belts. Students at this level will be able to draw on their past work in thinking about potential uses, and will likely have more specific questions about which resources work with Zotero.<sup>4</sup> Expect questions about how Zotero works with particular databases from audiences starting with experienced undergrads all the way through faculty learners. These populations all have their favorite go-to information sources and will want to try them out with Zotero. Consider teaching additional features like using the Word toolbar and synchronizing libraries.

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### Sample Assignment: Third-year Political Science

Georgia State University Political Science professor Mike Evans has his students contribute to a shared Zotero library as they do research. Students learn Zotero from the subject librarian during a one-shot library instruction session and follow up with Evans during the semester for technical help.

“Zotero’s great advantage was in allowing me to see their work and give them feedback before they turned in the assignment. ... I was able to observe most students building their bibliographies in ‘real time.’” Evans says.

Students did not print out and turn in a formatted bibliography—they submitted the assignment by copying references to individual collections within the class library.

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One advantage of teaching Zotero in particular to undergraduates is that its barriers to entry are low. You can demonstrate the basic functions they need, saving and citing, in just a few minutes. While more advanced features are available if needed, this is often overkill for undergraduates: one reference manager study by academic librarians found that the commercial software they tested had “an extensive learning curve, and perform unnecessary functions for undergraduate assignments.”<sup>5</sup> Zotero’s relatively easy learning curve serves as an easier introduction to bibliography software.

Don’t give in to the stereotype of assuming that all young students are technologically proficient. Any group—of any age—to whom you present is likely to include a spectrum of confidence and knowledge with technology. Undergraduates may have grown up with ubiquitous technology in their lives, but some may not know which web browser they use or have experience installing software. Don’t gloss over fundamental concepts too quickly.

Do stress the need to proofread the final product. Explain that no software will be able to create a one hundred percent accurate bibliography; during demonstrations, point out elements that need correction (Zotero almost always saves at least one citation with capitalization or punctuation that must be tweaked). My students always hear “Don’t trust a computer to make your bibliography” at least once. Another useful phrase is “garbage in, garbage out”: saving citations without checking them over results in incorrect bibliographies. Responsibility for correctly making the bibliography still rests with the students, and as instructors we share the responsibility for making that point clear.<sup>6</sup>

### Sample Activities for Undergraduate Classes

Instructors of undergraduate courses may wish to incorporate Zotero activities into graded assignments. Some examples from actual librarians and faculty members appear in sidebars in this chapter, but some ideas to consider include:

- Sharing students’ individual sources with peers or with the instructor as they do research. This could be done either with a class group library with collections created

by students, or by having students share access to their personal libraries. (The professor can even check dates added and modified for each source if she wishes to discourage last-minute research.)

- Conducting small group collaborative research. This is an obvious application for the group library feature: each group creates a Zotero group library in order to pool resources. One student may be designated “research director” and put in charge of coordinating the Zotero library, or duties could be shared.
- Building shared libraries as part of a class-wide project. The instructor creates a group library and directs the class’s research as students add sources and collections over the course of a semester. The finished product can be put online as a resource for future researchers. For a very ambitious long-term collaborative project along these lines, see “New Orleans Research Collaborative” on page 136.
- Any of these examples could incorporate an element of peer research evaluation. Any library shared online can be made available for the rest of the class to add comments, additional sources and suggestions if the instructor wishes to strengthen the collaborative aspect of the research project.

These ideas might work particularly well with distance education classes, in which opportunities for online student and group interaction are particularly valuable.

### Grad Students

Graduate students are likely to appreciate Zotero’s potential as a repository for their ongoing research as well as an organizational tool for multiple research projects. (See Appendix B for Zotero Online Features handout.) Many grad students have the long-term goal of a thesis looming over them and will certainly have a sustained research interest or two. Add to that the prospect of additional coursework with research papers, and Zotero is an easy sell. In many ways, a graduate student group is my favorite audience for Zotero. They have enough

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### BiblioBouts

BiblioBouts ([bibliobouts.org](http://bibliobouts.org)) is a game developed by the University of Michigan. Students install Zotero, create BiblioBouts accounts, and allow the BiblioBouts application to read items from their personal libraries.

Players (typically undergrad students) select sources on their assigned topic by saving them in Zotero, evaluate their peers’ selected sources for quality and relevance, and construct a bibliography based on the class’s pooled sources.

Winning the game requires meeting criteria set by the instructor, agreeing with classmates’ ratings of sources’ quality, and contributing sources that make the cut as choices for final bibliographies.<sup>7</sup>

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research experience to immediately grasp its value, enough knowledge to ask useful questions, and usually enough comfort with technology to figure out the basics quickly and move on to practical applications.

Gather any information you can about the research needs of the students before you meet, and plan to discuss their projects with them during class; possible applications for Zotero may suggest themselves during the conversation. For students in disciplines like history and literature, be aware of the primary sources they might be using, and how Zotero interacts with their databases of choice. Students using unique or archival sources may need to enter them by hand.

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### Zotero Learner: Anita, Grad Student

Anita’s class is working on a long paper involving some primary source research. Nathan plans to teach them:

- Installation
- Saving and editing citations
- Creating collections
- Entering citations by hand
- Attaching PDFs
- Creating bibliographies by copy/paste and Word toolbar
- Synchronizing

He plans to demonstrate other advanced features as they come up in questions and discussion.

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### Sample Assignment: First-Year Library Science Graduate Students

Kathryn Greenhill, Associate Lecturer in Information and Library Studies at Curtin University of Technology, assigns a Zotero exercise to her Information Management Technologies course, a required first-year class aimed at building library science students' technology competencies.

Students create an annotated bibliography with a prescribed variety of references (websites, articles, books) using metadata saved from a given list of search tools (including Google, Google Scholar, Wikipedia, LISTA, and other scholarly databases).

They are required to manually clean up references' metadata, add DOIs and other missing information, attach PDF articles, format the bibliography in APA style in Word and annotate each entry. They document their use of Zotero by creating screenshots that accompany the final assignment.

This assignment includes not only a research component, but gives students practical experience using Zotero with a variety of reference types and online research tools.

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Suggested learning outcomes for a grad student class include the basic saving and citing functions, but also creating collections, manipulating attachments, syncing and possibly group libraries. They will definitely have favorite databases and other online research tools and will likely ask specific questions about their interaction with Zotero. Their questions often take the form "Can Zotero do X?", so be prepared to discuss functions not on the original lesson plan.

Grad students appreciate Zotero's ability to save PDFs to their library and to synchronize attachments online for when they use other computers—or at least as a secure backup. (They often save sources during Zotero workshops that they wish to take with them.) Walk them through creating accounts and setting up synchronization. Plan to include a demonstration of attaching files, and note which databases in their field can auto-attach PDFs. Group libraries may be useful if their class is doing collaborative work.

Hands-on "lab"-style sessions often work well with students at this level since they have a real interest in their immediate information need: if time permits, spend the first part of class showing the basics and then allow them some free time to experiment. Address questions by demonstrating features on your projected screen so the whole group can see, as questions and discussion suggest. If this group is a course with a professor present for the session, ask for input and include her in the discussion. (The professor is often at least as interested in Zotero as the students are.)

### Faculty and Librarians

I usually approach teaching these two groups similarly. Both academic librarians and teaching faculty typically have their own ongoing research interests, so (unlike undergraduates) the usefulness of a personally curated library of citations usually appeals. Both groups assist up and coming researchers to some degree, so may be interested in how to use Zotero in the classroom. They may have their own IT staff who can set up Zotero for them, or may be doing research on their home laptops. They are probably engaging in collaborative work to some degree, either with colleagues or students, so groups and syncing are useful.

A workshop for this group can follow roughly the same plan as that for grad students. Faculty of course have their own focused interest in a particular discipline, so if you have a group from the same department, plan to demonstrate Zotero using databases from their subject. Librar-

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### Zotero Learner: Kate, Teaching Faculty

Kate's department has invited Nathan to present a Zotero workshop as part of their brownbag learning series. Nathan expects to include some of the following in addition to the basic save and cite features:

- Saving citations from any discipline-specific databases this group might use
  - Synchronization and group libraries
  - Downloading major styles for journals in their field
  - Scanning PDFs for metadata via Google Scholar
  - Discussion of classroom uses
-

ians might be likely to represent a range of disciplines, since a group of subject librarians probably support researchers from many subjects. Ask if there are any particular databases or catalogs your group would like to see demonstrated when saving citations; seeing Zotero interact with their familiar research tools helps showcase its practicality in a relevant way.

Like grad students, librarians and faculty have favorite databases and research tools, and will probably veer off on their own during class to try out Zotero with Project Muse or JSTOR or PubMed, or their own library catalog or online archive, to see how well it can save citations. Be prepared for this and let it spark questions and discussion.

This group is more likely to already have some form of personal information repository already, even if that only consists of a folder full of unlabeled PDF articles. Faculty learning Zotero nearly always ask one of two questions: First, whether they can convert an existing bibliography (from a Word document, say) into Zotero citations, and second (if there are EndNote or RefWorks users in the group) whether they can convert it from one program to the other. The short answers respectively are “No, but it’s usually easy to re-capture the citations from databases” and “Yes, except for the attachments.”

Faculty researchers may also be citing a wider variety of sources than your average student group, so be prepared for questions about how to cite book chapters, interviews, manuscripts, legal cases or other non-book, non-article sources. As always, the more you know about your learners’ information needs ahead of time, the better.

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### Zotero Learners: Nathan’s Colleagues, Librarians

Nathan is planning Zotero training for his librarian and staff colleagues. In addition to installation and the save/cite basics, he includes:

- Common installation problems
  - Synchronization and group libraries
  - Frequently asked questions that may come up at the reference desk
  - Best practices for teaching Zotero in workshops and IL class sessions
- 

With a group of librarians, you can feel free to use a bit of jargon if it saves explanation time—at least to the extent of using the words “metadata” and “catalog record.” Librarians are more likely to be involved in providing help and supporting Zotero at their institutions, so in addition to how to use it themselves, they’re probably interested in common support questions. Some of these will come up in class naturally, but as you demonstrate each feature, discuss any common problems that students may have.

Expect the same wide range of comfort with technology as you would from any other class. Don’t stereotype and assume that the more senior faculty members are the less tech-savvy ones in the group, but do keep an eye on the comfort level of the group and remain flexible enough to adjust the pace of the workshop as needed. If some learners are struggling with saving and editing citations, you may need to skip more advanced features planned for later in the class.

### Teaching Zotero Online

As distance education becomes more common, and as students expect more and more information available remotely, it makes sense to discuss how to approach teaching Zotero online. Many libraries offer online workshops via conferencing software. Even if your library isn’t doing this yet, consider investing a little time in making some brief tutorial videos as an easy way for your users to see Zotero in action.

### Synchronous Classes

Synchronous online classes include anything taught live in real time, using conferencing software like Elluminate or Wimba. These programs generally allow voice chat, text chat, and screen sharing—that is, the instructor can display her own screen to the students as she teaches. This method can be a great way to teach software like Zotero, but comes with its own set of challenges.

More experienced teachers have written entire books about best practices for online teaching in general. This section just hits the highlights of some things to consider based on my experience with online Zotero classes in particular.

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### Attendee email

This is an email I sent to attendees of an online Zotero workshop containing all the information they needed to set up and participate. This workshop was pre-Standalone Zotero, so I stressed the need for Firefox.

Hi, everyone. You're receiving this because you've signed up for the online Zotero workshop on [date] from 10–11 a.m.

This is (as I hope you already know!) an online workshop hosted on GSU's vClass system. You'll need speakers or headphones and a broadband connection. You will be able to access the online classroom starting at 9:30 at the following link: [URL]

I'll try to start promptly at 10, so you may want to connect a couple of minutes early.

You may attend and learn without installing any additional software; just plug in your headphones and click that link above. However, you may—optionally—want to install Zotero beforehand so you can try it hands-on as we go. If so, make sure you have installed:

Firefox (<http://www.mozilla.com/en-US/firefox/personal.html>)—At this time Zotero requires Firefox to work. It won't work with Internet Explorer or any other web browser.

Zotero (<http://www.zotero.org/>)

And the Zotero/Word plugin ([http://www.zotero.org/support/word\\_processor\\_plugin\\_installation](http://www.zotero.org/support/word_processor_plugin_installation))

I've got instructions and more information on my Zotero web guide at <http://research.library.gsu.edu/zotero>.

I've had an overwhelming response for this session, and I'm excited that you're all interested in learning about Zotero! It's a great program and I think you'll find it really useful. Let me know if you have any questions and I'm looking forward to talking to you all next week.

Best, Jason

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Online workshops are often more convenient for students: they can attend from home or office with no need to actually come to campus. Geographically distant students can attend, obviously, but so can your peers from other institutions. (Every online Zotero session I offer attracts at least one librarian from out of state; I am always pleased to agree to their requests to sit in.) Like a “bring your own laptop” class, they have the advantage of using a familiar computer, and after the workshop they have Zotero set up and ready to use. They need not worry about exporting or syncing any useful citations they saved during class, since they saved the items to their own computer. Synchronous online workshops also allow students to see the teaching screen up close and full size. In most cases they can use alt-Tab (or command-Tab) to switch between your presentation and their own Zotero screen to compare as the instructor demonstrates.

I usually require advance signup for online Zotero workshops. It allows me to send participants basic instructions to install Zotero on their computer beforehand. In some conference software, restarting the browser may drop students out of the session, so installing the Firefox plugin version of Zotero during class may not be practical. Instructing students to install it before class saves time and obviates restarting the browser during class. This requires that you advertise the workshop with enough lead time for you to help with installation by email if needed. (Another option is to plan the workshop as a non-interactive demonstration in which students just observe the instructor using Zotero, but of course this is less interesting for students and lacks a hands-on learning component to help reinforce the instruction.)

Advance registration also allows me to send all participants a link to log into the session, which I usually do a few days in advance. If students need to install any software other than Zotero in order to use your conferencing system, make sure to alert students to this requirement. Don't forget to mention that they need headphones to listen or a headset with microphone to participate by voice.

Teaching online carries its own pitfalls, of course. While many students (and teachers) find it convenient, it doesn't appeal to learners uncomfortable with technology. Students must install Zotero on their

own, and possibly also Firefox and conference software. None of these may seem very challenging, but can seem intimidating to a technophobe or computer novice. In some areas you may need to consider whether all of your potential students have broadband internet.

Perhaps the greatest challenge to the online instructor is the fact that you can't see students' screens. Pausing to troubleshoot Zotero problems in a face-to-face class is (relatively) easy: walk over to the student's computer, see if you can spot the difficulty, and if so fix it and move on with class. In an online class, the instructor has to rely on students' verbal description of the problem to even begin to fix it. This can really bog down the class, especially if your time is limited. Solve those problems you can handle comfortably, and be prepared to follow up by email or in person for those you can't help with during class.

Consider whether you want students to ask questions via the conference software's text chat or offer the option of voice participation. Voice conferencing can make the class feel more immediate and in-person, but not all students have headsets with microphones. (A laptop's built-in mic and speakers are not usually a good substitute.) A model that works well for me is encouraging students to type discussion and questions into the text chat throughout class while I talk. It doesn't disrupt my lecture and demonstration, allows them to engage with each other as well as with me, and I pause periodically to scroll back through the chat window and make sure I haven't missed any questions. Not all instructors are comfortable with this system, so find what works best for you.

At any rate, do plan to check in regularly with students and prompt questions and comments. You have no eye contact or body language to alert you to confused or bored students, so encourage discussion and questions more actively than usual. Until you adapt to online teaching, the silent invisible audience can be slightly disconcerting.

Finally, online workshops require a more thorough pre-class technology check. Most conferencing software is fairly easy to use, but make sure you're comfortable with the screen sharing feature, the text chat, and the audio chat. Don't wait until the day of class: practice a day or more beforehand, using the actual computer and headset you will be using to teach. Don't panic when unexpected situations arise: most of

your students probably have the same level of experience with online classes that you do and are likely to be forgiving when glitches happen.

### **Video Tutorials**

Whether or not you have the ability to teach synchronous online classes, consider adding some video tutorials to your online support materials. Video demonstrations give students the opportunity to see a procedure from start to finish, with explanation, on their own screen, and the ability to pause and re-view confusing steps can be very helpful. Students can access videos for point-of-need spot instruction when workshops and technical support are unavailable.

Many programs are available for creating instructional videos: I prefer Camtasia ([techsmith.com/camtasia](http://techsmith.com/camtasia)) and its free counterpart Jing ([techsmith.com/jing](http://techsmith.com/jing)), but any screencasting software can work. Ideally, choose a program that allows voice narration, text labeling or subtitles, and the ability to produce a format that you can upload to YouTube. Placing your tutorials on YouTube makes them easy to embed on other sites (including your own) and makes them easy for Zotero users to find.

Make tutorials short—no more than three or four minutes long. Several short videos are preferable to one long one. Users don't usually want a start-to-finish instruction session when they look for video help; they want an explanation of the process that has them stuck at the moment. Video content isn't searchable like text, so providing a short video that gets straight to the point is the most helpful solution. Prioritize your video production in terms of the most crucial areas where your users need help, not necessarily in the same order you might teach in a class.

Supplement your self-produced tutorials with those created and shared by other Zotero experts. CHNM has produced some good examples at [zotero.org/support/screencast\\_tutorials](http://zotero.org/support/screencast_tutorials); these thoroughly cover all the basic save and cite features. The production values are excellent, and of course (coming straight from the source) the information is authoritative. Unfortunately at this writing CHNM has not produced any videos covering more recent features such as syncing and group libraries; hopefully that will change by the time you read



this. The official CHNM videos also can't be embedded into other sites, YouTube-style; linking to them will take users off your site and onto Zotero.org, which you may or may not want.

Librarians Eric Sizemore and Jenny Veile produced an excellent example of a live Zotero demo.<sup>8</sup> Instructors using what I call the “five-minute demo” in class should watch this (Eric manages it in less than two). This video not only presents a quick overview of Zotero's basic features, but also shows Sizemore's potential students who he is and how he and the library can help. The simple editing between the live class and screencast feels natural and makes the video look professional, but is relatively easy to do. Sizemore and Veile take advantage of the video medium to add subtitles with links to essential resources as Sizemore teaches; viewers can pause the video at any point to get the URLs for more information.

Another good example, in a different style, is the video “Undergrads Should Love Zotero” by grad student and English composition

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### The New Orleans Research Collaborative

The New Orleans Research Collaborative (nolaresearch.org) is the most extensive teaching and research project I'm aware of that involves Zotero. This collaborative research project brings together work by undergrads, graduate students and faculty researchers to compile bibliographies on many facets of New Orleans' history and culture: labor, music, race, and the impact of Hurricane Katrina.

Research is conducted by undergraduate classes at Emory University and the University of New Orleans, with other institutions expected to participate in the near future. Students compile references in shared Zotero libraries under the guidance of faculty members. Their work is vetted by the project's editors, converted to formatted bibliographies and put on the website for other scholars' use. Because the bibliographies are COinS-enabled, any Zotero user can capture citations from the site.

At present bibliographies are created from Zotero via copy and paste, but future plans include automating the process more by converting the site to Omeka and using the Zotero-Omeka bridge for publishing.

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instructor Rebecca (no last name or institution given, unfortunately). In this video Rebecca uses screencasts to illustrate the value of Zotero for undergraduate researchers. She accomplishes this not just with a demonstration but with entertaining discussions of the value of the personal library (“If you're selling your books back, you're going to need *something* to remind you of what you've learned”), the importance of proper citation (“Reusing text is cheating / Reusing sources is efficient”) and the efficiency of Zotero as a tool (“Typing up reference lists is so 2006”). She concludes the introductory video with a suggestion to check out her other tutorial videos for more detailed instructions.<sup>9</sup>

Video tutorials are also a great way to illustrate specialized or novel uses for Zotero that may not be covered in the usual workshops or instructional materials. LIS lecturer and frequent presenter Kathryn Greenhill discovered that Zotero works well with Flickr to create presentation slides containing credits for the Creative Commons-licensed images she often uses. She created a short screencast of the process—certainly in less time than it would take to type up the steps and include screenshots. Because she posted the video to YouTube she was easily able to embed it into a blog post, and conference presenters searching for “Flickr and PowerPoint” tips may even be likely to discover Zotero as a result.<sup>10</sup>

### Notes

1. CHNM's Zotero documentation includes some good examples: Center for History and New Media, “use\_cases [Zotero Documentation].”
2. Deitering, “ENG 200: Library Skills for Literary Study | Get Help with a Class.”; Deitering, “Zotero group bibliography assignment.”; Deitering, “Zotero assignment update.”; Deitering, “Zotero assignment revisions.”
3. For a great example of this kind of demo, see Sizemore and Veile, *Make a Bibliography the Easy Way! Zotero Tutorial*.
4. Yorke-Barber, Ghiculescu, and Possin, “RefWorks in Three Steps.”
5. Kessler and Van Ullen, “Citation Generators,” 315.
6. *Ibid.*, 316.
7. University of Michigan Institute of Museum and Library Studies, “Instructor FAQ.”
8. Sizemore and Veile, *Make a Bibliography the Easy Way! Zotero Tutorial*.
9. RebeccaO321, *Undergrads Should Love Zotero*.
10. Greenhill, “Zotero and saving Flickr images. Wowza!”

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## Appendix A. Sample Zotero Workshop Handout (page 1)



Georgia State University Library  
Jason Puckett / jpuckett@gsu.edu / IM: LibrarianJason  
<http://research.library.gsu.edu/zotero>

## What's Zotero?

Zotero [zoh-TAIR-oh] is a free, easy-to-use Firefox extension to help you collect, manage, and cite your research sources. It lives right where you do your work — in the web browser itself.

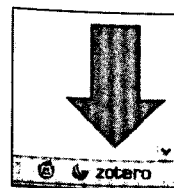
## Installing Zotero

### Download the Firefox plug-in

It's easy and free: Open Firefox, go to [zotero.org](http://www.zotero.org), and click the big red "Download" button. Click the "Allow" button in the top right, then "Install Now" and restart Firefox when prompted.

### Add Zotero to Word

Go to [http://www.zotero.org/support/microsoft\\_word\\_integration](http://www.zotero.org/support/microsoft_word_integration) and follow the instructions to install the Mac or Windows plugin. This will add a Zotero toolbar to MS Word. (See "Writing with Zotero and Word" below.)



## The Zotero Pane

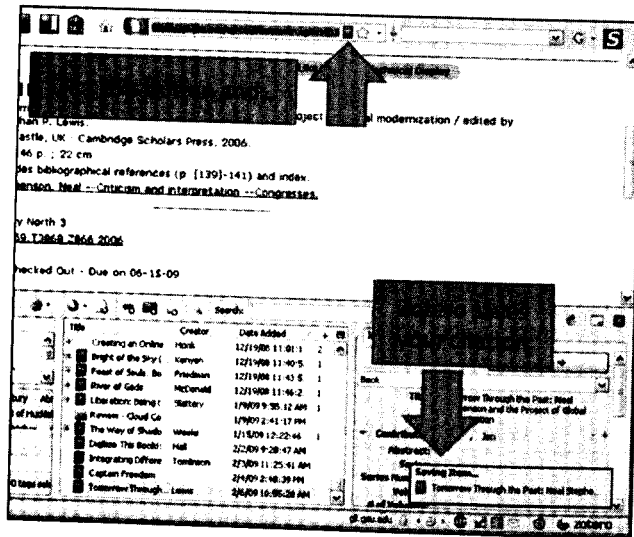
In the bottom right corner of your Firefox window you'll see a Zotero button. Click it to view or hide your "library" of saved citations. Zotero continues to run whether or not you are viewing your library.

## Appendix A. Sample Zotero Workshop Handout (page 2)

## Saving Citations

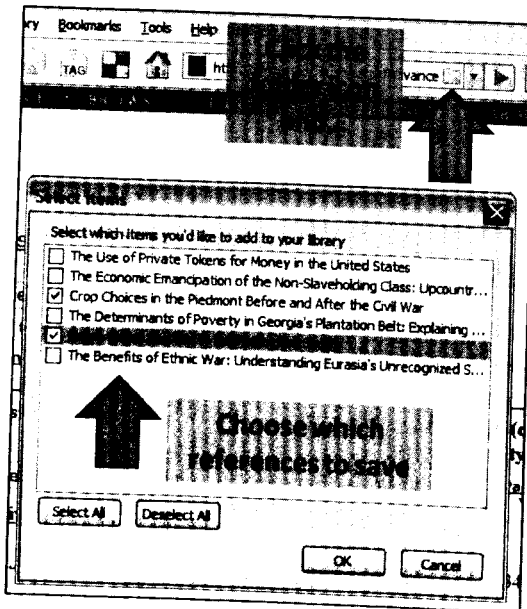
Zotero “watches” the pages you view to see if any of them contain citations to books, articles or other sources.

If Zotero detects that you're looking at a book or article on a catalog, database, or a site like Amazon.com, LibraryThing or the *New York Times*, you'll see a book or page icon appear in the address bar of your browser. Just click the icon and Zotero will automatically save the citation.



## Saving multiple citations at once

If you're on a page of search results with many items, you'll see a folder icon instead.



Click this to get a list of all the items on the page, and check off the ones you want to save.

## Appendix A. Sample Zotero Workshop Handout (page 3)

## Citing other web pages

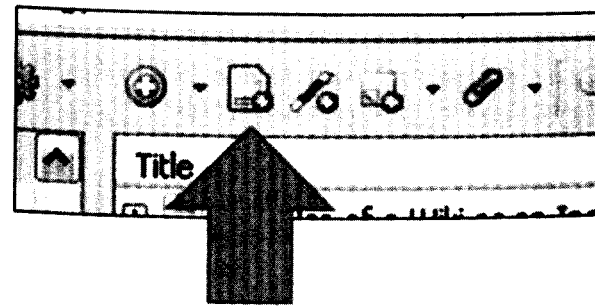
Zotero can't automatically capture citation info from regular web pages, but you can still add them to your Zotero library.

To save a citation to a web page:

- Open your library by clicking the Zotero button
- Click the “Create new item” button to save the citation.

Zotero automatically attaches a “snapshot” of the page to the citation.

A snapshot is a copy of the page saved to your computer. It includes the page's text and images, so if the page is removed later, or if you're offline, you'll still be able to view your copy.

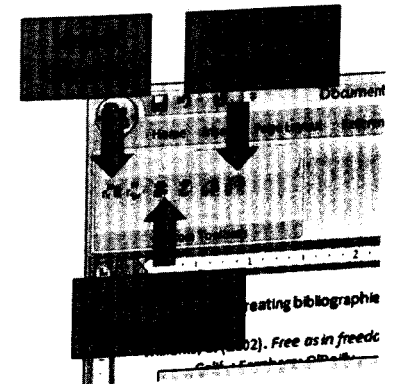


## Writing with Zotero and Word

Place your cursor in your Word file exactly where you want the citation to appear. Click the **Add-Ins** menu tab in Word 2007 to get to the Zotero toolbar. The first button on the toolbar is the Insert Citation button.

To add a citation, click the first button (“Insert Citation”) on the toolbar. Select the reference you want to cite and click OK. Zotero will add the citation at your cursor.

At the end of your paper, click the third button (“Insert Bibliography”). Your bibliography will appear, and new citations will be added automatically. Change bibliographic styles with the last button on the toolbar (“Set Doc Prefs”).

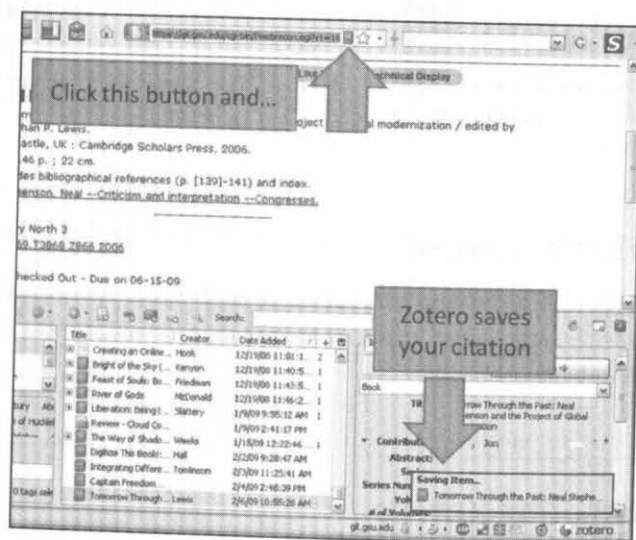


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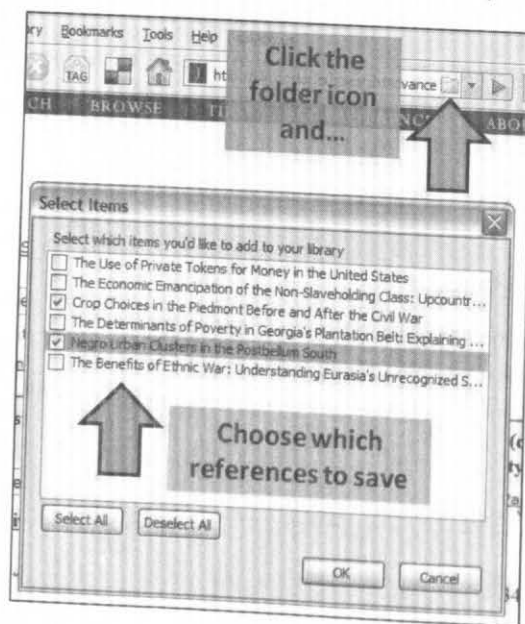
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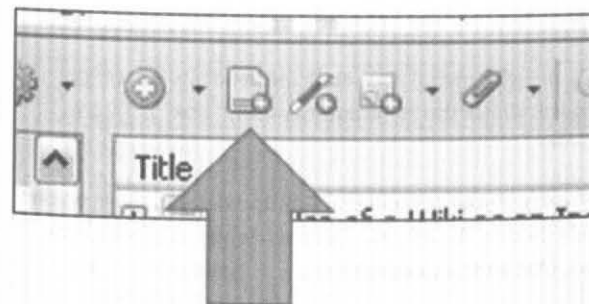
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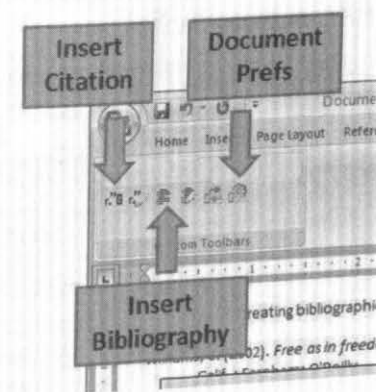


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## Appendix B. Sample Zotero Online Features Handout (page 1)



Georgia State University Library  
 Jason Puckett / jpuckett@gsu.edu / IM: LibrarianJason  
<http://research.library.gsu.edu/zotero>

### Zotero: Online Features

#### Sync your library

[zotero.org/support/sync](http://zotero.org/support/sync)

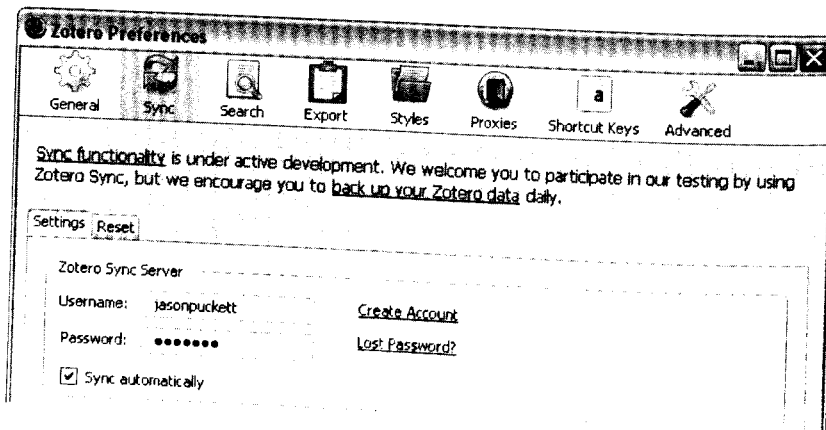
If you're regularly using more than one computer in your research, Zotero's sync feature can keep your library up to date on all of them. Zotero can store a copy of your library on the Zotero.org server and check it for updates whenever you open your library on a different computer. All your computers must be running the same version Zotero and be configured to sync to the server.

First, set up a (free, of course) Zotero.org user account at [zotero.org/user/register](http://zotero.org/user/register).

Open Zotero preferences (via the gear menu) and select the Sync tab. Enter your Zotero user name and password. Check the "sync automatically" box. Zotero will upload your library to the server.

Repeat this configuration on each of your computers. Any updates you make on one of your computers will be reflected on the others. This even works to synchronize your library among Windows, Mac and Linux computers.

For more details and help troubleshooting sync problems, check [zotero.org/support/sync](http://zotero.org/support/sync).



## Appendix B. Sample Zotero Online Features Handout (page 2)

### Zotero Groups

[zotero.org/groups](http://zotero.org/groups)

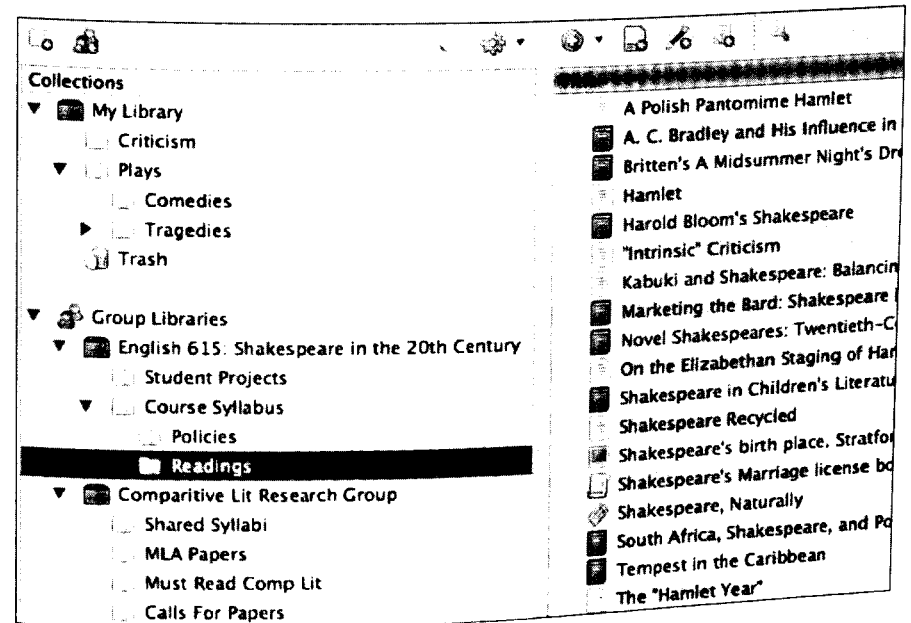
Zotero's Groups feature allows you to share references with other Zotero users online. It's a great way to work on collaborative research projects.

First, set up Zotero sync as described above.

Next, log in at [Zotero.org](http://Zotero.org). There's a "Log In" link in the top right corner of the page.

You can search for existing public groups or create a new group at [zotero.org/groups](http://zotero.org/groups). Groups may be public (searchable, and anyone can join) or private (users can only join if invited).

You'll now have two sections in your Zotero collections pane: My Library and Group Libraries. You can drag items back and forth between them at will.



## Appendix B. Sample Zotero Online Features Handout (page 1)



Georgia State University Library  
 Jason Puckett / jpuckett@gsu.edu / IM: LibrarianJason  
<http://research.library.gsu.edu/zotero>

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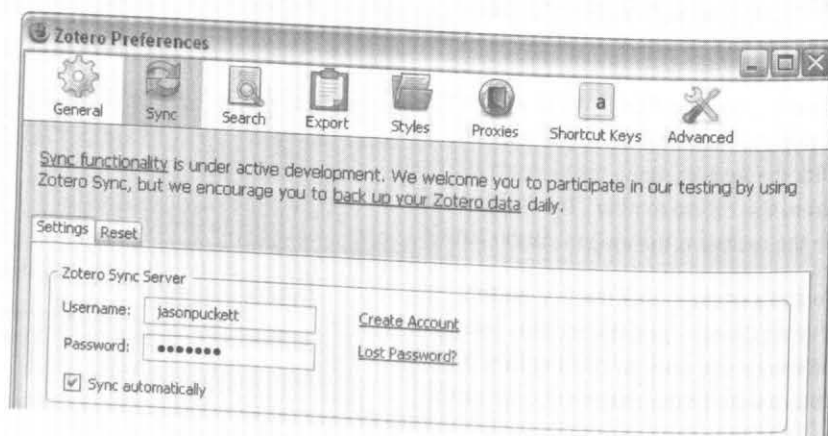
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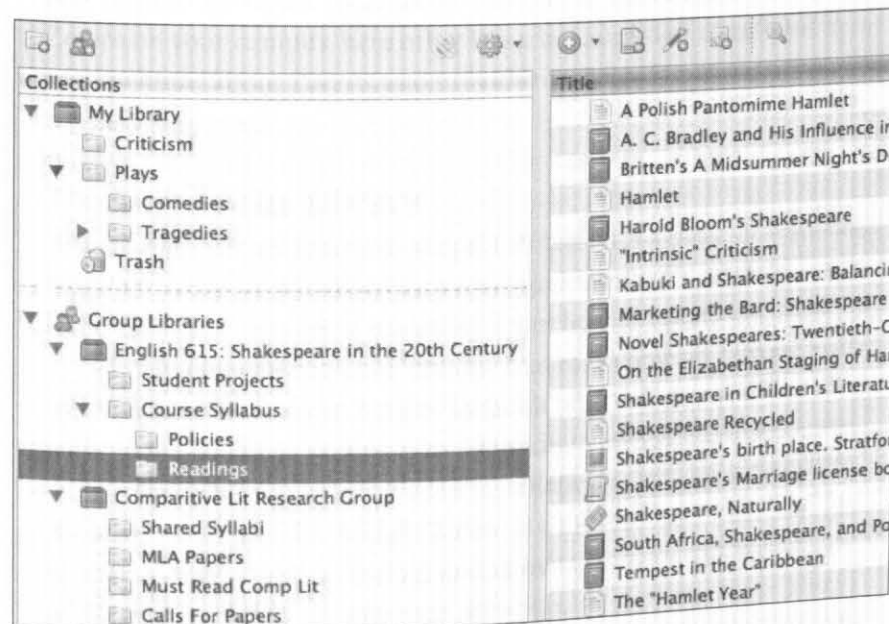
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## CHAPTER 7 Supporting Zotero

Aside from scheduled classroom learning opportunities, Zotero users often need shorter, less formal help. This may consist of a brief one-on-one consultation to help with installation, questions at the reference desk about how to use the software, technical troubleshooting, or help figuring out how to make the best use of Zotero with a particular research project.

Some of this support role may fall to the campus IT staff, but in most cases it rests within the library's portfolio. Most institutions that support Zotero have one or more librarians or reference staff who serve as the point person for Zotero teaching and help. This chapter will suggest ways to develop this Zotero "champion," move toward adopting Zotero on your campus, help other librarians and staff learn what they need to know about Zotero, and provide resources for your users to get the help they need.

### The Role of the Library

Why is it up to the library to support Zotero? It's a piece of software, like Photoshop or Word or Chrome. Shouldn't the IT department be responsible for answering questions about how to use it?

This is a loaded question, but one that may come up as your institution begins to support Zotero. In fact it's a good idea to collaborate with your IT staff as you plan to adopt *any* new software, since they will probably be deeply involved in installation, upgrades and troubleshooting. Realistically, though, Zotero is a tool for researchers, no less so than a database or a catalog, and at most libraries this sort of tool is the responsibility of reference librarians to support. Your library probably has some analogous technology tools already, like GIS software or data analysis tools in which subject librarians have expertise. IT staff likely become involved in deploying Zotero to public and staff workstations, and later I'll discuss a few thoughts about best practices for collaborating with them.

This support role is a reasonable progression from the kinds of research tools librarians already support. Zotero works so closely with online search resources that showing a student how to search a database, locate and read a citation can lead quite naturally into teaching him how to save and cite that source in his own paper. In fact students often come to the reference desk for citation help already, so expecting help with citation software as well as style manuals makes sense.

Providing Zotero support offers libraries an opportunity to diversify their services and educate their users in new information tools. Librarians have found that supporting reference management software has resulted in increasing users' familiarity with other research tools,<sup>1</sup> increasing awareness of other instructional services offered by the libraries,<sup>2</sup> and in general improving visibility of library services on campus.<sup>3</sup>

## Investing Resources

In chapter 1, I mentioned two of the uses of the word “free” that apply to open-source software like Zotero: free as in beer (available at no cost) and free as in speech (at liberty to use as you wish). A third phrase sometimes comes up in the context of supporting open-source tools: “free as in kittens.” Like a kitten (usually), Zotero costs no money to acquire. Also like a kitten (always), supporting Zotero does carry long-term costs, usually in terms of staff time and effort. (Thankfully, it requires no vaccinations.)

As with any planned new service, give some thought to the resources necessary to implement Zotero support. Offering Zotero to library users is just like offering any new database in the sense that someone must be prepared to answer questions and tackle problems. Some support aspects to consider include:

Get a commitment from stakeholders in the library. This list probably includes management (such as the head of reference, instruction and/or public services), the information technology department (who will at least need to install and update the software), and service desk staff (so they can answer or refer questions appropriately). Be prepared to answer basic questions about why your library should try offering

support for Zotero, either as an alternative to your existing reference manager software or as an entirely new kind of tool. Some of the points in chapter 1 may be useful to make your case (and “free” is always a big selling point).

Delineate responsibilities for supporting Zotero. Does the library have, or need, a designated Zotero “champion” or is everyone expected to have some expertise? Is Zotero expertise now part of someone’s job description, and if so, do other responsibilities need to shift? If an academic department or class requests Zotero instruction, who is responsible for providing it, the Zotero trainer or the subject librarian? To what extent are reference or IT staff expected to provide Zotero help to users? (There’s more about these questions in the sections *Advocating for Zotero* and *Training Support Staff* below.)

How much, and what kinds of, Zotero training can you offer your users and staff? In-person workshops, Zotero content in regular instruction sessions, one-on-one consultations, online tutorials, synchronous online classes? How will you advertise workshops? What priority do Zotero workshops receive during the busy instruction season in the first half of the semester, especially if your teaching spaces are limited?

Do you need to create a Zotero guide on your library’s website? Who is responsible for updating it and how often should it be reviewed for currency? Whose contact information is listed for help?

Don’t be intimidated by this list. These are probably all questions that will need consideration over time, but it’s easy to start small and simply as you feel out what resources your library needs to add to your Zotero support plan. None of these items need necessarily be difficult, and not all need to be addressed before offering Zotero support. Some can be worked out over the long term.

I started out by simply asking my manager for approval to offer a Zotero workshop as an experiment to see if there was interest. Since we already offered a regularly changing roster of workshops, creating a new one was a non-issue. I installed it myself in one classroom, with the go-ahead from the IT department, and created a basic Zotero guide on the library’s site at about the same time. Over time, this grew into regularly offered (and now regularly demanded)



workshops and a gradually much more extensive guide, with additions and updates as I got a feel for the most common questions.<sup>4</sup>

Our IT department head later agreed to add Zotero to the public and classroom computers as part of a regular software update between semesters.

### The Zotero “Champion”

Many institutions have a Zotero “champion”—a point person for Zotero information whose responsibilities include keeping up with features, offering training (to librarians and staff and probably to library users as well), creating documentation and generally staying on top of outreach and promotion of Zotero-related services. This often includes end-user support and consultations, workshops and maintaining online guides. (“Champion” is of course used here in the sense of “supporter” or “evangelist”—not the winner of a Zotero competition....)

Many academic libraries use a subject-liaison model in which specialists with subject knowledge receive reference referrals from researchers who need their expertise. The idea of a Zotero champion fits naturally into this structure: complicated history questions go to the history librarian, business referrals to the business specialist, and Zotero questions to the Zotero specialist. It’s unlikely to be someone’s entire job to provide Zotero support: more likely a librarian or reference staff member becomes interested in using and teaching Zotero and offers to schedule workshops and field questions from users. This person should simply be a capable instructor, have reasonable technology competencies, and have the time and enthusiasm to take on an additional work responsibility.<sup>5</sup> (Taking on this role can be a potential opportunity for a library staffer who wishes to stretch her wings and get some teaching or public service experience, but who lacks subject expertise necessary to move into a liaison position.)

One benefit of having a Zotero champion in the library is that all Zotero users, within the library and in the institution as a whole, know who to approach with questions. Graduate students and faculty members in particular often learn of the Zotero specialist by word of mouth, and just as chemistry researchers can contact the chemistry librarian

for research help, Zotero users will be pleased to have someone to contact for the help they need. Librarians and reference staff are usually happy to be able to refer questions rather than simply answer “I don’t know” when faced with Zotero questions at the reference desk, and often incidentally learn some skills by observing the Zotero champion at work helping library users.

This model carries some downsides as well. Everyone who works in a library has experienced the case in which the needed subject specialist is out sick or on vacation, and this is no less frustrating for users or staff who need a referral to the Zotero specialist. If one person is the designated expert, it may give staff the sense that no one else needs to learn the software, which can lead to frustrating situations when the expert is unavailable. Also, if Zotero catches on in a big way at a large institution, providing support can begin to have an impact on other job duties. During the first half of the semester when demand for instruction is at its peak, a subject librarian who is also the library’s Zotero champion may find his time at a premium. (On the other hand, many requests for Zotero help take place later in the semester, during the writing phase rather than the early research phase.)

The Zotero champion can take steps to help counteract these potential problems. First, offer brief refresher training sessions for public services staff. A good time for this may be during breaks when students and faculty are off campus and library staff often have some unscheduled time. Ideally, librarians and management regard reference manager software as an information resource along the lines of other tools like databases, and can help encourage everyone who works public service desks to acquire enough competency with it to handle basic questions. Schedule Zotero workshops for the public around the anticipated class instruction peaks in the semester, either during the first week or two before library instruction gets busy, or after midterms when it tends to taper off. Provide good online documentation on the library website so that both staff and users have help to refer to in the absence of the Zotero expert.

The new Zotero champion should remember that she’s not alone—Zotero has an active support community to share problems, help and suggestions. Use the forums on the Zotero website ([forums.zotero.org](http://forums.zotero.org))

and the Zotero Evangelists listserv ([groups.google.com/group/zotero-evangelists](https://groups.google.com/group/zotero-evangelists)) for advice.

### **Collaborating with Administration and IT**

Make sure you have support from someone in your library's management; whether this is your immediate department head or someone higher up will depend on your situation, of course. It's probably a good idea in any case to clear it with the appropriate reference or instruction manager before offering a new service like Zotero support, and they can support you in discussions with administrators if there's need. The Educause document "7 Things You Should Know About Zotero" is a good non-technical overview if you need a clear introduction to Zotero.<sup>6</sup>

The "free" factor can be a valuable argument, especially if you are considering it as an option that could replace a costly commercial product down the line.

Your IT department will be also important collaborators as you adopt Zotero at your institution. They will most likely be the ones installing it, rolling it out to your public computers (and possibly staff computers as well), and managing updates. You'll almost certainly need them to buy into your plans for Zotero to some degree. Since offering a new piece of software on the library computers requires a commitment on their part, you may need to make the case for Zotero.

Be willing to start small; even if you want to install Zotero on all of your public computers, your technology staff may want to evaluate it on a smaller scale. Consider installing it in one of your instruction rooms to use as a Zotero lab for training. Failing that, request sufficient administrator rights to install it on classroom computers yourself before teaching and offer to manage its technical support yourself. This is usually a very low-maintenance responsibility. The Firefox plugin can often be installed on computers even without admin rights, so you may already have the access you need. (Do get appropriate approvals before proceeding, though, even if you can get the technology working on your own.)

If you can get Zotero set up on a small scale, give the experiment time to work for a while—perhaps a semester or so—before pushing for expansion. Teach some workshops for faculty and students, give some

basic training to librarians and staff, and make sure that you're having no technical difficulties. Some librarians have reported to me that once Zotero got a toehold on campus, their faculty began to specifically request it, which led naturally to setting it up on public computers.

Don't worry. You probably won't need all this advice, but it may help if you need to persuade anyone in your organization as you plan to adopt Zotero.

### **Campus Outreach**

Library users can now get much of their research material online without visiting the library, and so don't always appreciate the library's role in the process. Zotero can provide an excellent opportunity for outreach and to promote library services. Audiences to consider when planning Zotero outreach include.<sup>7</sup>

**The library:** some of the most appreciative audiences for Zotero outreach consist of library colleagues. Reference and instruction librarians and staff benefit from training and information about Zotero's features to assist users, and subject librarians often help promote the software to their departments. Library colleagues can also suggest other avenues for promotion and outreach.

**Faculty:** subject liaison librarians in particular have plenty of opportunities for faculty outreach. Zotero outreach and presentations can take place at campus-wide technology events, brown-bag learning sessions, and other professional development opportunities. As the people who most influence your students' academic careers, faculty members can in turn recommend and promote Zotero to students.

**Students:** Student organizations can be effective in creating peer evangelists. Aside from formally scheduled workshops and class sessions, Zotero can be of interest to other student departments and programs on campus. Writing centers, peer tutoring programs and academic honor societies are good audiences for Zotero information. If your campus has an open-source or free culture advocacy group (like a Linux users' group, Students for Free Culture, or similar organizations), Zotero can be an interesting and useful way for them to apply their extracurricular interests to a practical research tool.

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An all-purpose research power tool.

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**share**  
<sup>4</sup> Upcoming features include online storage and citation sharing.

The Georgia State University Library is offering a Zotero workshop for College of Business graduate students and faculty.

Instructors: Casey Long & Jason Puckett  
When: Thursday, June 11, 2009  
1:00 p.m.  
Where: Room 821, Robinson College of Business

Mark 2.0 beta  
**zotero**  
Your own personal research robot

**Figure 7.1.** Figure: Flyer for a Zotero workshop by GSU Library Creative Manager Christian Steinmetz. Christian chose a footnote/citation motif for several of our Zotero promotions to suggest at a glance that this is a citation tool.

## Promotional Materials

Make sure your users have the opportunity to hear about your Zotero services and events by giving them publicity on your website and in public spaces.

If your library has a blog, you already probably use that space for announcing new events, resources and services; include info about your Zotero workshops and any significant new features. This can be a good way to position the library as a resource for new cutting-edge research technologies. In terms of real spaces, create paper flyers to post in the library, but get permission to post in appropriate departmental spaces where students and faculty will encounter them. The reference desk may be a good place to offer paper handouts as well.

SAVE TIME CREATING BIBLIOGRAPHIES  
SIGN UP FOR A LIBRARY WORKSHOP

**zotero**

<sup>1</sup> jpuckett@gsu.edu,  
Zotero Workshop.  
Library North, Classroom 1,  
10:00 a.m., 13 September 2010

**Figure 7.2.** Website ad for a Zotero workshop by GSU Library Creative Manager Christian Steinmetz. This banner ad rotates on the home page of the library site for about two weeks before the class takes place.

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**Figure 7.3.** Website ad promoting Zotero as a library service. This image rotates on the library's home page year-round in addition to ads promoting other services.

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Graphics can attract attention to a post or flyer. If you have a talented graphic designer on staff, see if you can impose on their time to design website ads or paper flyers. If not, the Center for History and New Media has given permission to use any text and images from the Zotero website for support and promotional materials.<sup>8</sup>

Don't assume that your readers know what Zotero is or does. Make sure your posts and flyers include a prominent line or two about what Zotero is and does in addition to the times, dates and locations of your workshops.

### Online Guides

Your library should provide some form of online guide for Zotero users. This guide serves several functions. Of course, first and foremost it provides instructions and information so users can get help when the Zotero experts are unavailable. It can also provide a "landing point" where your users can discover Zotero's existence, and discover that the library offers Zotero training and support services. Finally, like any research guide in the library, it can serve as a jumping-off point for more information and related resources.

Librarians often have a tendency to provide too much explanatory text on research guides. Bear in mind that for web readers, less is often more. Short bullet point lists of instructions catch the eye better than a long paragraph of text. Readers may be coming to your guide for an explanation of a particular process; make sure they can spot the information they need rather than having to hunt for it.

Include screenshots. Often illustrating a process is easier than explaining it in text. Annotate images and visually highlight the feature, button, or area of the screen with the key information. (PowerPoint is a useful program for annotating screenshots. Paste in a screenshot, add arrows, circles and/or text, and save the resulting annotated slide as an image.)

Embedded videos on a guide can add commentary and "live" demonstrations of procedures. Keep them short so that users don't have to wade through a long video just to see the key step they need. Remember that search engines can't index the content of a video, so accompany them with text captions.

If your users are familiar with other reference managers like Mendeley or EndNote, and especially if Zotero is new to your institution, consider including a comparison chart to give them an idea of what each program can and can't do. If you recommend different programs for their different strengths, include notes to that effect. Readers will probably appreciate your honest recommendations.

Include information about relevant workshops and events. If you tag Zotero-related posts consistently on your library blog, you may be able to feed just those posts into your Zotero guide. (Research guide products like LibGuides provide an easy mechanism for this; otherwise, ask your web librarian.) CHNM's Zotero blog provides product news and updates.

Make sure that it is someone's responsibility—usually that of the Zotero champion—to periodically review the page and keep the information current. Guides to software tend to drop out of currency and become outdated more quickly than subject or course guides, and CHNM adds new improvements and features on a regular basis.

This sounds like a lot of work, and it can be, but the Zotero community has already created a lot of this material and makes it available to share and copy. Again, CHNM has given permission to use any images from the official Zotero site in your own documentation, and their screencast tutorials are excellent. Marie Sciangula of Purchase College SUNY has created two excellent examples: her LibGuide ([purchase.libguides.com/zotero](http://purchase.libguides.com/zotero)) and a training course built in Moodle ([tinyurl.com/purchase-zotero](http://tinyurl.com/purchase-zotero); click the guest login button).<sup>9</sup> My own Zotero guide ([research.library.gsu.edu/zotero](http://research.library.gsu.edu/zotero)) is published under a Creative Commons license granting permission for anyone to copy and adapt it as long as credit for the original is kept intact. For many other examples, see [zotero.org/support/third\\_party\\_documentation](http://zotero.org/support/third_party_documentation).

### Training Support Staff

If public services librarians and staff are expected to provide Zotero support, of course the library must put some effort into training them. Make sure the library provides its staff with support in the form of training sessions, online guides for later reference, and ideally teach-

ing materials that individual instructors can adapt and improve upon for their own use.

Training sessions should cover not only how to use Zotero, but discussion of common problems, questions and answers that support staff will need to know. The most common questions about Zotero simply have to do with setting it up and using the basic save and cite features, and most librarians can pick these up quickly with a demonstration and a little hands-on experience.

Front-line support staff should be able to handle common questions such as:

- Installation, including the word processor toolbars (chapter 2)
- Importing and exporting between Zotero and any other reference manager supported by the library (chapter 3)
- Attaching PDFs to citations (chapter 3)
- Using copy/paste or the Word toolbar to create bibliographies (chapter 4)
- Exporting references from a library computer to a flash drive, or vice versa, via the right-click Export function (chapter 3)
- Any idiosyncratic problems using Zotero with popular library resources (does Zotero have trouble saving from your library catalog, for example? Does it work with your metasearch tools?)
- Setting up the basic sync function (chapter 5)
- Converting Word bibliographies into a Zotero collection (there's no simple or automatic way to do this, but the question comes up frequently)
- And more at [zotero.org/support/frequently\\_asked\\_questions](http://zotero.org/support/frequently_asked_questions) and [zotero.org/support/getting\\_help](http://zotero.org/support/getting_help)

Of course, it is still useful to have a designated expert who can handle referrals for problems and advanced questions.

Instructors who teach Zotero regularly will find it useful to share their training materials like workshop outlines, handouts, and slides with the rest of the library staff, or perhaps even on your public Zotero guide. This can encourage other busy library instructors to branch out

into including Zotero in their own course-related instruction, or even offering Zotero training themselves.

New Zotero trainers can provide backup by co-teaching in classes taught by more experienced instructors. This provides benefit to the experienced trainer in the form of a teaching assistant who can circulate to provide on the spot help during hands-on activities. The new instructor benefits by learning during the class, hearing common recurring questions from students and faculty, and asking their own questions during the session. They can even trade roles as the new instructor takes over a primary role in later classes, with the more experienced Zotero trainer providing scaffolding for the first few sessions until the new instructor is comfortable teaching solo.

## Notes

1. Harrison, Summerton, and Peters, "Endnote Training for Academic Staff and Students," 37.
2. *Ibid.*, 38.
3. Siegler and Simboli, "EndNote at Lehigh."
4. Puckett, "Zotero [GSU Library guide]."
5. Harrison, Summerton, and Peters, "Endnote Training for Academic Staff and Students," 33.
6. Educause, "7 Things You Should Know About Zotero."
7. Duong, "Rolling Out Zotero Across Campus as a Part of a Science Librarian's Outreach Efforts," 321-322.
8. Center for History and New Media, "adopt [Zotero Documentation]."
9. Sciangula, "Zotero Citation Management Tool.": Sciangula, "Zotero: Scholarly Research Tool."

## Further Reading

At this writing, a few articles about adopting and supporting Zotero in academic libraries are starting to appear in LIS and education journals, and I expect to see many more in the next few years. Don't overlook the work about supporting other reference managers that has been published for the last several years, however: the good advice in articles about supporting RefWorks and EndNote is easily generalizable to Zotero as well.

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- "getting stuff into your library [Zotero Documentation]." *Zotero*. 2010.

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- . “Zotero: Scholarly Research Tool”, n.d. <http://moodle.purchase.edu/moodle/course/view.php?id=945>.
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Jason Puckett is Communication Librarian at Georgia State University in Atlanta, Georgia. He was named a *Library Journal* Mover and Shaker for 2010, in part for his work with Zotero. He’s the co-host and co-producer of the Adventures in Library Instruction podcast ([adlibinstruction.blogspot.com](http://adlibinstruction.blogspot.com)) about information literacy teaching in libraries.

Puckett has a BA in English from Georgia State University and an MLIS from Florida State University, and has worked in libraries since 1993. He is a B-movie fan and an enthusiastic but unskilled video gamer. He lives online at [jasonpuckett.net](http://jasonpuckett.net).

More links and information about this book are available at [jasonpuckett.net/zotero](http://jasonpuckett.net/zotero). The bibliography is available as a public group library at [zotero.org/groups/z\\_guide\\_by\\_puckett](http://zotero.org/groups/z_guide_by_puckett). GSU’s Zotero guide, shared under a Creative Commons license, is available at [research.library.gsu.edu/zotero](http://research.library.gsu.edu/zotero).