Teaching Guide for GSIs

Teaching with Technology

Instructional technologies include not only computer-based technologies but also more conventional low-tech items such as chalkboards or whiteboards and planned worksheets. Students appreciate appropriate selection and use of instructional technology, digital or otherwise; their most pointed criticism often focuses on classroom attempts to use digital tools with which an instructor is not sufficiently familiar or skilled.

Effectiveness within an instructional context, not technological sophistication, is the key. For example, while a multimedia presentation using PowerPoint or Keynote with embedded audio and video can engage students intensely around a topic, there are times when the best vehicle to get an essential conceptual point across is a simple diagram on the chalkboard. GSIs must experiment and evaluate when visuals or other electronic resources are useful for the discipline, the content, and the way they want students to use what they learn.

This section of the Teaching Guide addresses different forms of technology as they relate to different sites of instruction: classroom tools; communication between instructors and students; and tools for homework, study, and collaboration outside of class or section. The section addresses a number of practical concerns that have arisen on campus about web-based tools hosted outside UC Berkeley. Finally, you will find a checklist of matters to consider when choosing an instructional technology, a brainstorming worksheet, and links to websites where you can learn more.

In This Section

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Teaching Guide for GSIs

bCourses as an Online Home for Your Classroom

UC Berkeley currently offers a suite of web-based tools in the learning management system (LMS) **bCourses**, which is Berkeley's name for its installation of the LMS platform Canvas. Over the course of the semester, you may find that you want to use a range of bCourses functions; for example, keeping track of grades in a central location, sharing files with your students, and sending announcements to different discussion sections. In this section of the Teaching Guide, we will provide some of the rationale for setting up a bCourses site as well as an overview of the many helpful features found in bCourses.
There is a benefit for students when all of the relevant course information can be found in a single place. Often, students feel overwhelmed if they need to check a variety of sources in order to download assignments or reference the syllabus. bCourses does an excellent job of being that home base for students as they navigate your course.

Contact your Instructor of Record (the faculty member in charge of the course) early to find out how bCourses will be used in your course. Will separate sections have their own pages on a bCourses site set up by the Instructor of Record? Or should you set up your own bCourses site? For help setting up your bCourses site, see Digital Learning Services' (DLS's) bCourses Instructors Getting Started page, as well as their Course Design Tools page for templates and guides. DLS also gives workshops for instructors on using bCourses.

Overview of bCourses Tools

Below is a summary of the most frequently used bCourses features. You may not need to use all of them for your course, but it is helpful to know what exists. For more in-depth information on any of these tools, see the Canvas Instructor Guide.

Pages

One of the basic building blocks of a bCourses site is a Page. Each Page can contain text and various types of media, such as images or embedded videos. We recommend setting the homepage of your bCourses site to a Page that contains frequently accessed information and links.

Modules

Modules provide a way to group content — not only the Pages you create, but also Assignments and Quizzes. Modules are a great way to organize information for your students; seeing a list of Page titles is much less daunting when they are presented and grouped in an orderly fashion. One helpful feature of Modules is that you can make them unlock sequentially, so that students are required to complete earlier Modules in order to access later content.

Announcements

It is recommended that any official course announcements be sent through the Announcements tool on bCourses. Since bCourses is linked to course enrollment, there will be no dropped communication, as there might be if you ask students to access another website or app for announcements. Also, all communications will be maintained on your bCourses site, so you need not worry about messages getting lost in your students' inboxes, as is the case if messages are sent via email. This is especially important when communicating expectations around deadlines or examinations. Additionally, bCourses can be used to send separate announcements to different discussion sections.

Grades

Keeping track of grades and making them available to students in a timely manner is a core responsibility of GSIs. The Grades tool in bCourses is a convenient and transparent way to keep track of students' scores on individual assignments as well as their overall course grades. You can choose to "mute" the grades on an assignment so that students cannot see the grades as you are entering them, then post the grades when all scores are entered.

SpeedGrader

SpeedGrader allows you to quickly read student submissions. Rather than having to download files that students submit, you can comment on them and grade them directly in bCourses using this tool. An additional benefit is that SpeedGrader integrates with the bCourses gradebook.

Quizzes

bCourses can be used to administer quizzes and surveys. Quizzes are customizable to have multiple choice or free response questions. You can schedule them to be

available if you want, for example, students to take them within a 24-hour window, or you can set a time limit for students once they access the quiz. It is also possible to administer ungraded, anonymous surveys using the Quizzes tool, which can be used to conduct a midterm evaluation.

Inbox

If you prefer not to communicate with students over email, bCourses offers an Inbox messaging feature. This can be useful if you prefer to batch your messages related to GSI duties in a separate location from your normal email inbox. Even if you do not use this tool, you should check your bCourses Inbox regularly throughout the semester in case some of your students use it to communicate with you.

Files

bCourses has integration for files. Putting thought into the directory structure and file names will help students greatly. For example, keeping homework, exam review materials, and reading assignments in separate folders is much preferred to all files being present in the home folder. bCourses also provides an accessibility score that shows the instructor the files' compatibility with assistive technology such as screen readers.

Teaching Guide for GSIs

Technology in the Classroom

At times, technology is essential for the classroom. Other times, it can distract from the material at hand. While it can be exciting to share a new tool that fulfills a specific need, it is important to weigh the pros and cons of introducing specific technologies in the classroom. For example, if the classroom is missing a projector, a Google Slides presentation will not be very effective. Certain online tools require all students to use an electronic device to participate, possibly raising issues of access in the classroom. Finally, some students will be overwhelmed if every course asks them to learn a new tool that only gets used for that semester.

Chalkboards and Whiteboards

Chalkboards and whiteboards are nearly ubiquitous in our classrooms for the simple reason that they have proven remarkably useful in diverse teaching environments. They remain effective for noting key words, formulas, and simple graphs on the fly. Colored chalk or whiteboard markers can give multiple dimensions to a graphic drawn incrementally or allow different “voices” to be represented visually.

If you change or repurpose a graph you’ve drawn, be sure to completely erase the parts that no longer apply and replace them with clear, new markings. Remember that many of your students will be viewing the graph from 15 to 20 feet away, and your work needs to be clear at that distance.

You may want to consider bringing your own chalk or whiteboard markers and an eraser with you, just in case your classroom does not have a supply.

One final bit of professional etiquette: Remember to erase your work after class ends so the next instructor can start with a fresh board.

Teaching Guide for GSIs

Setting Policies on Student Use of Electronics in the Classroom

Many instructors are troubled when students use their laptops, tablets, or smartphones in class in ways that distract other students. As an instructor, you have a major role in maintaining a classroom atmosphere that is conducive to learning, so one responsibility you have is to decide whether you want to set a policy on the use of personal electronic devices.

In determining your classroom policy on laptops and other personal electronic devices, here are some things you might wish to consider:

1. Does the Instructor of Record have a policy that you should use, or are you responsible for crafting your own policy?
2. Recent research has found that, contrary to popular opinion, students do not multitask effectively. Instead, they shift their attention quickly among tasks, breaking their attentional focus repeatedly. Learning requires sustained focus. (For some of the research on this, please see the GSI Teaching Conference talk by Silvia Bunge, GSIs and the Science of Learning.)
3. Research has also found that students who take notes by hand tend to understand the material better and remember it better than students who take more "complete" notes on a keyboard. The reason for this is that when writing by hand, students cannot write everything down and must therefore summarize or sift what they are hearing to write down the most salient points as they go, whereas keyboard users are more likely to passively transcribe every word or copy the content of the instructor's slides.
4. Are there classroom-related benefits to allowing students full and complete access to their personal electronic devices? Do these outweigh the level of distraction introduced, both for students using the devices for non-course-related activities and for other students nearby?
5. How would banning personal electronic devices affect student learning and/or class engagement?
6. Would your students benefit from occasional course-related use of personal electronic devices? If you want students to use devices in particular in-class activities, and all the students in your section have them, you can state that

there will be sessions during the semester for which the devices will be useful or necessary and that you will remind students when such an activity is coming up.

Another option is to ask students what kinds of uses they find beneficial in the classroom and which they find distracting or inappropriate. Bring them in on creating a policy when you establish your community agreements at the beginning of the semester, and distribute that policy to the entire class.

Whatever policy you decide on, be sure to explain it clearly to your students, both in the section syllabus and on the first day of class. For more information about personal electronic devices, please see the resources page at the end of this section of the Teaching Guide.

If you decide not to permit the use of personal electronic devices in your classroom, you should know that there must be an exception for a student who has a Letter of Accommodation from the Disabled Students' Program stating that the student must be allowed to take notes using a laptop. (If other students ask why this student is allowed to use a laptop, you are not to mention the disability accommodation because that is confidential information. Instead, you can say that the student has permission by prior arrangement and give no further explanation.)

Try It First

Before the semester starts, do a test run of any equipment you plan to use in your class. Try out the presentation or activity in the classroom or lecture hall where the class will meet, with the personal computer or other devices that will be used during the semester.

ETS Classroom Consultations and Support

Staff members with Educational Technology Services (ETS) can help you get started with classroom sound, projection, recording, or other technology. Here are ways you can learn about ETS support for classrooms, look up frequently asked questions, or request assistance:

- ETS's Instructors Getting Started page
- Classroom Technology Support

- Request a classroom technology consultation
- Classrooms Hotline: 510-642-2800

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Communication, Collaboration, and File Storage Tools

While a lot of the communication for a course happens in the classroom itself, including through a printed course syllabus and handouts, and in office hours, GSIs and students also have access to an array of 24/7 digital tools.

Managing Email Communication

Though bCourses offers other ways to correspond with students, email is perhaps the most commonly used tool for one-on-one contacts. Therefore, GSIs will be well served to think through how they will manage email correspondence in their instructional role. The volume and frequency of student messages can be daunting.

- Setting an email policy with students at the beginning of the semester makes the flow more manageable. This policy could indicate that the GSI will respond to emails within 24 hours, or that they will only check and respond to emails at set times during the day (at 9 am and 4 pm, for example).
- Reducing the hours during which you will respond to student emails can relieve pressure to respond as soon as you see a student message. It can also consolidate your work, for example when you find that over a period of hours several students ask the same question. Rather than repeating essentially the same information several times, you might want to respond once and send or post the response to the entire class.
- While a student may write emails in a very informal way, GSIs as instructors need to maintain a professional tone and professional boundaries in their correspondence.

- Some GSIs have also found it useful to set up an email account specifically for their GSI responsibilities or to interact with students exclusively using the Announcements and Inbox tools in bCourses. This allows GSIs to keep their personal email account private, and it also makes it easier to enforce their email policy.

Whatever medium you may use, be sure to clearly explain your communication policy and how students should contact you at the beginning of the semester and, if applicable, include it in your section syllabus.

File Storage

Uploading your files directly to bCourses means that students will be able to easily find them. You can also link Files to relevant Pages, Assignments, etc. An additional benefit of storing files in bCourses is that the Ally tool will automatically score them for accessibility. For example, it will check a document's compatibility with screen readers used by students who rely on assistive technology.

Document Collaboration

UC Berkeley has adopted Google Apps for Education, which are accessible through the University's bConnected site — click on bDrive to gain access using your CalNet ID. bDrive is a cloud storage service that also acts as the access point for Google Docs, a collection of web-based applications that allows users to generate documents (Google Docs), spreadsheets (Google Sheets), presentations (Google Slides), forms (Google Forms), and drawings (Google Jamboard). bDrive is perhaps the easiest way for students to collaborate on a shared document, spreadsheet, or presentation. Google Apps allow multiple users to edit and comment simultaneously, making them useful for both synchronous and asynchronous collaboration.

The University also partners with Box, which can be used to store and share files. For example, if a project requires multiple components or the ability to add tags to files, Box might be the best option. For an in-depth comparison of bDrive and Box, see this article.

Discussion Forums

Discussion forums are great for getting students to read and build off each other's ideas. The Discussions tool on bCourses has a number of features that are helpful for instructors. Certain topics (such as introductions) can be pinned for easy access. Posts can be locked for further comments, and they can also be opened in SpeedGrader if the discussion is meant to be graded.

For more casual discussion, or projects that require extended collaboration, in consultation with the Instructor of Record, consider setting up a Slack workspace for your course. Some students also enjoy having a space for discussion that is free from course staff. Consider asking a student to volunteer to set up a Discord server or similar group chatting app for your course.

Virtual Office Hours

It's nearly impossible to schedule face-to-face office hours on campus that don't conflict with any of your students' schedules, and making individual appointments can be cumbersome. Student questions emailed to an instructor can also take considerable time to answer — far longer than a conventional office-hour conversation, in fact. A virtual office hour can provide a solution that is helpful for a lot of students and instructors. (Please note that you should check with your department to make sure it's okay to hold some of your office hours remotely.)

Zoom video conferencing is integrated in bCourses; instructors can schedule regular office hours meetings within Zoom or use their "personal meeting room" for ad hoc appointments with students. bCourses also offers a Chat tool that can be used for office hours. Because a chat is open to the whole class simultaneously, you would not be able to interact confidentially with a student in this medium. However, you could address students' course content or logistical questions that can be shared with other class members. Some GSIs have found it useful to utilize virtual office hours before an exam or assignment due date, when students often ask very similar types of questions. Since all activity in the chat room is recorded, even those students who were not able to log on during office hours are able to read over the transcript and see which questions were and were not addressed.

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Video Communication

As an alternative to scheduling a time to meet, consider recording short video messages.

Kaltura is the video management platform that is integrated in bCourses. It allows for direct video uploading and editing through bCourses, as well as analytics to show how students are engaging with videos. For more information, see Digital Learning Services' Kaltura How-To and Best Practices Guide.

Loom is a tool that can be used to record a screencast, which includes sharing your desktop, audio, and your webcam at the same time. Additionally, Loom conveniently provides a link to a YouTube-like viewer where students can react and comment at specific timestamps or send their own video in response.

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Grades and Record-Keeping

Keeping all your students' assignments and academic information organized is crucial to teaching.

bCourses Grades Tool

Gradescope

Receiving Assignments

Plagiarism Detection Tools

bCourses Grades Tool

The Grades tool in bCourses deserves special mention because it can save you an enormous amount of time, especially in large courses in which grades are based on point accumulation and percentages. These systems also keep your grading data backed up and secure. Check with your Instructor of Record to see whether this tool will be used in your course and to work out the details.

Gradescope

Gradescope is a platform designed to help with the collection and grading of assignments. It offers a variety of features geared towards larger classrooms. For example, it can group assignments with similar answers so they can be given the same grade. Comments on assignments are saved so that the grader can save time when addressing a common mistake. Additionally, they have support staff available to help.

Receiving Assignments

The bCourses Assignments tool allows students to submit their work electronically. Additionally, bCourses Assignments has SpeedGrader, which makes it possible for the GSI to write comments to the student within the student's assignment without downloading and re-uploading the file.

Another alternative is Google Docs. Students can compose their work on their **bDrive** and then share the final product with you, or you can make comments on a draft. This is a safe and secure way to exchange digital copies of assignments that also eliminates the need for downloading and uploading documents.

Many instructors insist on paper printouts submitted in person, either in class or in their office mailboxes. One reason is that they find printouts quicker and easier to work with, particularly for marking and making comments. A second reason has to do with preventing one form of academic misconduct: some students have been known to submit corrupt or unreadable electronic files in order to buy extra time to work on an assignment. While the instructor gives the student the benefit of the doubt, the student gains an unfair advantage over those who have worked to finish their assignment on time. This tactic also throws off the instructor's grading schedule.

Plagiarism Detection Tools

The best way to avoid plagiarism is to educate students about the process of writing papers, having them submit intermediate parts of their paper before turning in a final product. These and other strategies are described in the Academic Misconduct and Working with Student Writing sections of this Teaching Guide.

UC Berkeley has a campus license to use Turnitin to check the originality of students' papers and to generate feedback to students about their integration of written sources into their papers. The tool is available in bCourses in the Assignments section. GSIs should look to the faculty member in charge of their course for guidance on using Turnitin and responding to the results it produces.

GSIs planning to use Turnitin should check out Digital Learning Services' (DLS's) Turnitin Instructors Getting Started page to learn in detail how it works, its best uses, and its limitations. More detailed information and a workshop schedule can be found on the DLS website.

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GSI Examples

Teaching Guide Articles

The articles in this section introduce ways Berkeley GSIs have guided student learning using features of the UC Berkeley learning management systems (currently bCourses):

- Online Discussion Forums
- Online Chat
- Online Collaborative Editing

Teaching Effectiveness Award Essays

The following essays describe GSI implementations of excellent teaching and learning strategies using digital media:

Live Digital Translation for Dead Languages

by Eduardo A. Escobar, Near Eastern Studies

Every week, my students and I utilized a large HD display in order to examine fragmentary cuneiform sources from photographs and line drawings while producing a live translation of the text. In these sessions, each participant read a set of lines and provided a translation based on their research. Simultaneously, the students and the instructor used footnotes to annotate the reader's translation with semantic disagreements, textual variants, and a range of philological commentaries.

Tweeting Sociological Theory as Situated Learning

by Shelly Steward, Sociology

Recipient of the Teagle Foundation Award for Excellence in Enhancing Student Learning, 2015

In order to make theory a way of understanding the world, students need to be reminded of it outside the classroom. While teaching a section of a course in

sociological theory, I created a Twitter account to address this need, a strategy that combines the idea of situated learning with students' penchant for social media.

To Risk an Argument: Tweeting Towards Independent Theses in English R1B

by Kathryn Fleishman, English

Challenged with independent critical thinking and absorbed in a network of ideas that reached out of our classroom and into their everyday lives, my students developed the willingness to risk an argument along with a strong grasp of the research process. … [S]tudents polished the opinions they had proffered as tweets and comments into solid theses for their individual research projects, transforming uncertain, visceral reactions into logical, distinctive arguments.

Prompting Critical Thinking through Metacognition and Electronic Scheduling

by Rong "Rocky" Ye, Chemistry

Recipient of the Teagle Foundation Award for Excellence in Enhancing Student Learning, 2015

I asked students to make a schedule for their lab activities ahead of time, and suggested a way for them to track their progress during the lab using cellphone apps. Students became more proficient in lab over time and were able to focus more on discussion and reflection on the labs, which translated into better observations and better conceived lab reports.

Expanding the Classroom: Using bSpace to Encourage Student-Driven Discussion*

by Ashley Leyba, History

* bSpace was the campus learning management system (LMS) prior to bCourses.

Over time it became clear to me that, more often than not, the discussions were a showcase of what I, and not my students, found intellectually exciting. I wanted something more for my students.

Learn at Your Own Pace

Teaching Guide for GSIs

by Angela Chau, Bioengineering

I decided to redesign the lab sections to allow each student to learn at his or her own pace. Instead of using the few days before lab to plan out the chalkboard lecture, I used that time to implement a web page for that week's section...Because students were being "taught" by the web pages during labs, I was then free to spend time working one-on-one with individual students without leaving the rest of the class waiting.

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Online Discussion Forums

Online forums can be used for many purposes, such as helping students to review material prior to an assignment or exam, engaging students in discussion of course material before coming to class, and reflecting on material that they have read or worked with outside of class.

If they are well-structured, online discussions can be an effective way to bolster student learning outside of class; however, GSIs often find that students' entries do not reflect strong engagement. What went wrong? What steps can you take to make an online discussion forum a more effective learning tool for your students?

The following suggestions and example of a well-structured discussion forum activity may help you design a better learning experience for your students.

GSI Example: Online Discussion Forum Assignment

Why and how did you use an online discussion form?

I used a discussion forum to offer students a structured opportunity to interact with each other online around exam time. For the purpose of reviewing for the exam students posted questions they had about course material, and other students answered them in the online forum. I also agreed to weigh in on student comments after each question had received at least one response from another student. I had a few reasons for my decision to use the forum in this way. First, I knew that I would not have enough time to answer all of my students' questions around exam time as I was preparing for my own qualifying exams during the same semester. I was also fairly certain that my students could be effective in teaching each other and answering one another's questions; I wanted them to depend more on each other and less on me in the time leading up to the exam. By using an online discussion, I hoped to encourage collaboration and to give students a structured opportunity to work together to find the answers to questions that they were having difficulty with.

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This activity would also have another desired benefit — it would help students to practice writing and explaining concepts prior to doing so on the exam.

How did you prepare students to participate in an online discussion?

I emailed students a set of instructions to let them know how they could access the discussion and what kind of interactions I expected them to have there. After I emailed the instructions we briefly talked about the forum in class. The instructions I gave to my students were as follows:

1. Post a question you have about material from the course.
2. Articulate your thinking about the question: What do you know already? What is confusing you? If you had to answer this question right now, how would you answer?
3. Wait for at least one student to weigh in on your question.
4. I will respond after one student has commented on your question.

How did using an online discussion benefit your students?

During the first semester that I conducted an online discussion, I was particularly interested in determining whether students felt that it was helpful. After the final exam I asked for brief feedback from students using an online survey tool. I was glad to see students reporting that it helped them to read through a variety of viewpoints on the different questions. For example, one student remarked: “It was helpful to read many interpretations of definitions. The collective intelligence from the forum made many terms much more understandable.” Additionally, several students commented that it was helpful to explain concepts to others. One student remarked, “It was also awesome because you really do learn the material through teaching it to someone else.”

How did using an online discussion benefit you as a GSI?

Offering students a structured opportunity to communicate with each other ended up saving me substantial time during the days preceding the final exam. Since I had urged students to post questions to the forum before emailing me, I received very few emails and requests for meetings in the days before the exam. Additionally, it took me a minimal amount of time to weigh in on students’ questions in the online discussion. Since I had agreed to contribute only after at least one student had

responded, I found myself having to write very little, as most of the previous responders had worked out the correct answers. In subsequent semesters I asked that two students weigh in before I would respond, which reduced the workload for me even further. In the second semester that I used the forum, I also let students know that they should expect to wait at least 24 hours for me to respond. While I often responded in less time than 24 hours, letting students know that they should expect to wait meant that by the time I responded to questions several students had often already weighed in.

What advice would you give to other GSIs who are planning to conduct online discussions?

During the first semester that I used an online forum, I also offered extra-credit points for participation in the discussion forum. This was very helpful in motivating students to try out the forum. Surprisingly, after they posted once they tended to post repeatedly even though they were not earning additional extra-credit points for subsequent posts. In the second semester that I used an online discussion tool, I included information about the review forums in my course syllabus so that students were aware from the beginning that the forums would be available as a tool for review. I suggest being clear about your expectations for student participation in an online discussion at the beginning of the semester, if at all possible.

Do not assume that your students will find a discussion tool as straightforward as you do. Provide detailed instructions for how to use the forum in class. Be specific about expectations for the form and content of posts.

Why Do Some Online Discussions Fall Flat?

It's extremely useful to diagnose what may be going wrong with a discussion forum. Some common reasons why students may not participate include:

- **There may be little motivation for participation.** Absent some kind of intrinsic or extrinsic motivation for participating in an online discussion forum, students are unlikely to make postings or respond to others' posts.

You may find that students only participate as much as is necessary to meet course requirements, but beyond that the discussion falls flat.

- **Students may not know what the objectives are for using the forum.** Even students familiar with online forums may have little understanding of why an instructor chooses a discussion forum as a class activity. They may not be attuned to what they are supposed to get out of it.
- **Expectations may be unclear.** Students may not understand what, exactly, you are expecting them to do on the forum if they do not receive explicit and detailed instructions.
- **There is no reciprocation by other students.** Oftentimes the discussion forum may be used only by a handful of students who post individual messages rather than communicating with one another.
- **Some of the students may not yet know how to properly use the platform.** They may need a bit of technical assistance or a demonstration to learn how to navigate the system and to post in an organized manner.

Tips for Creating an Active Discussion Forum that Benefits Student Learning

- **Think through your student learning goals.** Before choosing to use a discussion forum in your class, it is important to think through why a forum is the most appropriate tool to help you reach your student learning goals.
- **Build in motivation for students to participate.** Simply setting up a forum is not enough to get the conversation moving. Consider making participation part of the section or course grade, or devising an alternate method of motivating students to participate. For example, offering a forum as a way of preparing students for an assignment or exam may provide motivation to participate even when the forum doesn't count as part of the students' grade.
- **Make a plan for grading**. Be clear with students from the beginning about how and whether you will calculate forum use into students' grades. Making forum participation part of the grade or offering it as an extra-credit option can provide needed motivation for students to participate. But grading a forum can also be confusing and time consuming; make sure that you devise

a grading strategy ahead of time that is both clear to the students and realistic for you. Thank carefully about whether you will grade on quality or quantity of student posts or both. Devise a strategy for locating each student's posts within the forum that will not take too long.

- **Choose a specific task and give explicit instructions.** If you tell your students to "discuss" class material on the forum, the discussion is likely to fall flat. In order to make the most of the forum, **give students a specific task** you would like them to complete in the forum, along with explicit instructions about your expectations for completing that task.
- **Share the learning goals with your students.** Communicate to students what you hope they will take away from the forum participation and why the forum is the best tool to help them accomplish the goals you have set out for them. Students are likely to be more invested in the activity if you communicate with them about why they are doing it in the first place.
- **Set up an online discussion that incorporates reciprocation.** For a discussion forum to be successful, it must generate communication between students. Oftentimes, though, discussions fall flat because students do not converse with each other or reciprocate in commenting on one another's posts. Make reciprocation a part of the assignment. For example, require students not only to post, but also to reply to other students' posts to get the conversation moving. Students will benefit from conversing with each other and teaching each other course material.
- **Teach students how to use the technology.** It can be tempting to think that students are technologically savvy enough that you need not explain how to use a simple discussion forum, but you should not assume that all students will be familiar with the platform you are using. Consider doing a demo in class or provide detailed instructions on how to navigate forums and threads and how to post. Without clear instructions the forum may become disorganized. Consider suggesting that students use a uniform posting style and give suggestions for how they should title their posts and responses.

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- **Bring the forum into the classroom.** The more connected the forum is to the work you are doing in the classroom, the more likely students are to participate in and read the comments on the forum. Read the forum yourself before class and consider bringing some of the responses into class. For example, you might say, “I noticed in the forum that many of you were interested in X,” or “Y seemed like an interesting topic of conversation on the forum, but some of you seemed confused about Z — let’s talk more about Z.”

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Online Chat

by Ashley Leyba, History

A Chat Room tool allows you to have real-time conversations with course participants who are logged in at the same time.

Why and how did you use online Chat?

I've used Chat in two different ways. The first was as a site for "virtual office hours." These sessions, which I usually held in the week or two before exams or written assignments were due, allowed students whose schedules conflicted with my normal face-to-face office hours to touch base with me and have their questions answered.

I have also used online Chat as a place for course "pre-discussion." Each week, I asked my students to post in our course chat room prior to the start of class. These posts were to include two or three questions for discussion based on that week's readings, as well as a brief discussion of any concepts they found especially difficult or confusing. In addition, they were required to read (and, when motivated, respond to) each other's submissions, so that they were well prepared for that day's discussion. In previous courses, I felt that I was driving the in-class discussion too much, so these weekly submissions were devised as a way to keep me attuned to the intellectual interests of my students.

How did you prepare to use the Chat Room tool in your class?

In general, using Chat required little in the way of advance preparation. All that you need to do is add the Chat navigation link to your course site (see the instructor guide for bCourses).

After a brief discussion on the first day of class, I found that my students did not need technical assistance with this tool (though if they do, you can send them to the student guide for bCourses). So my instructions to them focused more on content. For example, I provided a description of the weekly chat assignment in our course syllabus, as well as a sample chat posting that showed them what I was expecting in terms of length and depth.

How did using Chat benefit your students?

The Chat tool, via the "virtual office hours," allowed more students to interact with me than if I had limited myself to in-person office hours. Since the chat room was a running dialogue (i.e. previous discussions were not deleted, so students could scroll through the entire chat history), students who were not able to log on during my office hours could later read through the questions that were posed and, hopefully, find answers to the questions they had. I also found, in some classes, that students used Chat as a place to exchange ideas and information, or to set up study groups before exams.

It was when the chat room was used as a site for "pre-discussion," though, that the tool was most beneficial to students, because it allowed them to be prepared for an active and engaged class discussion. In writing their own discussion questions, and reading those of their classmates, each student had a good sense of the issues and questions that would make up our in-class discussion. As a result, each student had time to reflect on these issues before the start of class and, once they arrived, were prepared to make informed contributions to our discussion.

How did using Chat benefit you as a GSI?

One of the biggest benefits of using Chat for "virtual office hours" was the decrease in the number of panicked emails that I received in the days (and hours) before an exam or assignment was due. Instead of emailing me, students could read through the chat room log and find answers to commonly asked questions (for example, Where is the exam taking place? or How do I submit my paper?).

The pre-discussion submissions also proved to be very beneficial to my teaching. By structuring class discussions around the questions students posed in the chat room, I prevented our classes from becoming a showcase of my personal academic interests (the initial goal in using this tool). And although this was not the original intent, I found that asking my students to participate in the chat room pre-discussions provided me with a lot of valuable information. For example, before I even got to class, I knew which students had not read the assigned works as closely as I would have liked and, more importantly, I knew before class what

ideas were causing my students trouble. This allowed me time to think through their questions and come up with well thought-out explanations and/or devise in-class activities that might help them work through difficult readings.

What advice would you give to other GSIs who are planning to use Chat?

Any time you require your students to work with outside technology (even if it is something they have probably used in previous classes), it is good to explain to them how you plan to use it for your course, and make sure they are comfortable with the tool. I would also encourage you to check in with your students from time to time, and ask them if the tool is working well and proving useful. I did this when I first used the chat room for pre-discussion and, after several conversations with my students, it became clear that I needed to make some adjustments to the assignment deadline. I'm glad I took the time to do this because, in the end, making that alteration made the assignment much more effective.

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Online Collaborative Editing

by Ashley Leyba, History

The university has adopted the Google Apps for Education, giving each student and instructor access to Google Docs via UC Berkeley's bDrive. Google Apps is a web-based collection of applications that allows users to generate documents, spreadsheets, presentations, forms, and drawings. The bDrive Google Apps are all FERPA compliant, so you can use them in the classroom without violating policies regarding student privacy. This section will focus on using the document application in bDrive/Google Docs to collaboratively edit student writing, though it should be noted that bDrive/Google Docs can be used inside and outside of the classroom in a number of other ways.

For more information on Google Docs, see Using Google Drive on the Google website.

Educational Technology Services (ETS) also offers periodic workshops that explain how to use campus technologies. To find out which workshops are currently offered, go to the ETS Workshops and Events website.

Why and how did you use Google Docs?

I gave my students the option of sharing rough drafts of their final paper with me via Google Docs, which provided us the opportunity to collaboratively edit their writing online. Prior to using this tool, I avoided editing anything other than a hard copy of student papers, because I found the hassles of downloading their work (and hoping that my computer recognized whatever word processing software they used), making comments, and then uploading and emailing the work back to the student to be time-consuming and ineffective. By editing and working in the cloud, though, I was able to avoid these issues. Once a student shared a document with me, I was easily able to edit it (primarily by using the comment function) and, unlike previous methods of computer editing, the student was immediately able to see my suggestions and comments. Because this was a quick and easy way to work, the students and I were able to work through multiple revisions, something I had not been able to effectively do before using Google Docs. Additionally, I was able to set

up times for both of us to log onto the doc, so that we could chat (using the embedded chat function) about their paper while simultaneously editing it.

How did you prepare to use Google Docs in your class?

Before deciding to experiment with Google Docs in my class, I was sure to familiarize myself with the technology (for example, I read through Google's Sharing Basics page) and its varied uses. Since this was an optional exercise (students were able to turn in hard copies of their drafts for a more "traditional" editing experience), I did not do much to prepare my students in advance of the assignment. When I next teach, however, this will be the required means of submitting drafts. I anticipate that I will do a quick in-class demonstration of how to use the technology, focusing especially on the commenting tools, and will also encourage them to attend one of the ETS workshops on bDrive/Google Docs.

How did using Google Docs benefit your students?

Using a cloud-based word processing program enabled my students to treat the editing process as a collaborative, ongoing exchange — students were able to easily pose questions and ask me for clarifications. And, at a completely practical level, my sometimes sloppy handwriting was not a factor in their being able to read my comments! When I talked with the students at the end of the semester about the use of Google Docs, I received overwhelmingly positive feedback. My sense is that they appreciated the dialogue we created around the editing process, plus they ended up writing much stronger papers (and, thus, receiving better grades) than they would have otherwise.

How did using Google Docs benefit you as a GSI?

Google Docs streamlined the editing process, making it both more efficient and more effective. I didn't have to download anything to my own computer (no risk of viruses), and I really liked that there was no time lag in the process, since we could immediately view any changes, suggestions, or comments made. I found that the back-and-forth between myself and the students through the different stages of editing was very productive, and it allowed me to build a better rapport with them. Also, as a GSI in a writing-intensive discipline, I am always on the lookout for ways to improve student writing. Traditionally, this has meant working on thesis statements, explaining the importance of paper structure and organization, and

teaching students how to evaluate source material. Editing collaboratively, though, allowed me to highlight other aspects of good writing. Through the continuous exchange of ideas while editing, my students came to appreciate that writing is a creative, dynamic process that requires time for reflection, multiple revisions, and outside input. This was an unexpected lesson, but one that I was very happy to have my students learn.

What advice would you give to other GSIs who are planning to use Google Docs?

Make sure you are comfortable with the technology before asking your students to use it! I would recommend going through a mock-editing process with either a friend or fellow GSI, just so you know what the process is like (this will allow you, for example, to see what a draft looks like when multiple people are working on it and to fine-tune your notification settings). Also, if you are working with a larger class, I would encourage you to think about setting limits on either how many revisions you will work on, or the length of time you're willing to devote to the editing process. I was working with a handful of students, so I had the luxury of being able to go through several drafts with each of them; this might not have been feasible with a larger group.

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Using Third-Party Technology

An ever-changing array of platforms and services offer inexpensive or free applications that have proven useful for sharing in educational contexts — applications for mindmaps, timelines, visual presentations, photo galleries, blogs and microblogs, bibliography management, shared webpage annotations, and more. The University itself has been working on ways to make use of such offerings without compromising the campus community's need to protect student data and intellectual property. The situation with respect to the use of cloud services is fluid, entailing changes to policy and resource models as well as to the technologies themselves.

If you are thinking of using a non-campus service requiring users to create an account for instructional purposes, you should be aware of several important questions to consider, including the following.

Protection of Student Data

FERPA (the Family Education Rights and Privacy Act) mandates that students' academic information be protected. What kinds of information or content would you be asking students to submit to the non-campus service? Might any of that be protected under FERPA? How secure would that information be on a non-campus server? For more information about FERPA, please see the University Registrar's Disclosure of Information from Student Records: A Quick Reference for Faculty and GSIs. bCourses, Google Docs via bDrive, and other secure University systems do meet FERPA guidelines.

A related question is whether any of your students would feel their privacy rights would be affected by creating or using an account at the service for course work. If the answer is yes, then these students will need a way to access course material and participate in learning activities without creating or using an account.

Ownership of Data

Who technically owns the content you and your students upload to the site? Would students' intellectual property rights, or yours, be protected?

Code of Conduct

Members of the UC Berkeley community agree to campus codes of conduct that apply to their use of University electronic resources, and the University is able to investigate any alleged violations of this code. What kinds of investigation or redress would be available with the non-campus service if a student reported that someone had violated the code in a way that negatively affects that student?

Change in the Provider's Business

Should the business fail, or be transferred to another owner, or substantially change its way of operating, what would happen to the data and to your students' control or your control of the content?

Legal Responsibility

There is deep concern that federal legislation over the last several years makes it easier for federal investigators to request data from outside providers without the University being informed. Could students' privacy or academic freedom be impinged upon if content that they put on the non-campus server were requested in this way? Could yours?

Conclusion

The simplest option in view of these questions is, as much as possible, to use campus resources such as bCourses, bConnected, bDrive, and/or your teaching department's resources for instructional purposes. If you want a functionality that is not offered on any of the tools available from these services, you can request a consultation with the campus Digital Learning Services. Check the licensing agreement and privacy policy of any platforms you may decide to ask students to use.

Teaching Guide for GSIs

Social Media and GSI-Student Boundaries

Many students and instructors are active on social media. Using them in your role as a GSI presents new questions. Below is a brief FAQ. Additionally, there are some concerns about using non-University servers for student course work (see Using Third-Party Technology).

Is there a University policy about engaging with students on social media?
No — but there have been discussions and concerns. While the University does not have an explicit policy regarding the use of social media in teaching, the GSI Teaching & Resource Center urges GSIs to conduct class business using bCourses rather than social media, to minimize the chance of crossing appropriate professional boundaries and to ensure equal access to instructional communication.

If they adopt a social media platform for class use, GSIs are urged to ensure that all students have equal access to the content on the platform, whether they choose to open an account or not. In some cases, this can be accomplished by incorporating a feed from the social media site to the bCourses site, and creating a way to make visible the comments of students who do not have an account.

What's wrong with "friending" students on a site or accepting an invitation from students to be "friended"?
When an instructor decides to "friend" all students in the course in order to communicate with them or to accept individual invitations to be "friended," the instructor may now have access to private information that students have on their webpages. Private information may in turn bias the GSI's view of the student and unconsciously affect the evaluation or treatment of students. Even when permissions are set in such a way as to prevent the disclosure of personal information, "friending" students may affect a GSI's rapport with other students in the class.

In addition, you cannot guarantee that all students use a given social media service or want to, and some students who already have an account may feel uncomfortable with their instructor "friending" them.

For legitimate reasons, students may opt out of engaging with you on social media. If you then decide to communicate with the other students through the site or simply to accept invitations to be "friends" with whoever invites you, you may be setting up a situation of unequal access to course material.

Is it okay to "friend" students once the semester is over?

Some instructors tell students that they will accept invitations to be "friended" after the semester is over. If there is the slightest chance that you may be asked to evaluate the work of the student in the future (e.g., in a letter of recommendation or another class in which you will be the GSI), we recommend that you not "friend" students even after the semester is over.

If you do "friend" students on a site after you have submitted final grades, it is still important to pay attention to the kinds of information about you that are available to your former students. You should take care in adjusting your profile privacy settings to block students from seeing any photos or information that you would not share in a professional relationship. It is sometimes worth asking a friend if you can look at your profile from their account to see what information is visible. Some GSIs may choose to maintain both a professional and a personal account in order to control the information that is visible to their former students.

How can I prevent the awkward situation of having to turn down a student's invitation to be his or her "friend"?

You can make your social media policy explicit at the beginning of the semester. On your section syllabus you might include something like the following**:** "In order to maintain professional relationships with students, I do not accept invitations to be a Facebook friend from any student in my class. Communication about course-related matters will be done via bCourses or email." You should also include your email policies.

What happens if a student who is your "friend" on social media ends up in your class?

If a real-life friend enrolls in your section, you should ask for the student to be transferred to another section so that there will not be a conflict of interest.

Similarly, if you have a personal relationship with someone through Facebook, you should recuse yourself from having authority over their work. Being "friends" with some students and not others may give the appearance of, or may lead to, favoritism.

What precautions will you take to ensure that you engage in professional behavior on social media?

If you do become "friends" with former or current students on social media, you should not use the site to talk about course-related duties, complain about your sections or students, talk about the professor/instructor of record, or make comments about your department more generally. Don't post pictures of yourself or information about yourself that you do not want others to see. Keep in mind that if postings on a social media profile become public, they may have an impact on your professional life in the future.

More information on this topic, and on electronic communication boundaries for GSIs in general, is available in the GSI Center's handout on Digital Communication and GSI/Student Boundaries (pdf).

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Deciding What to Use

As a first-time GSI you may not need to make decisions about the use of instructional technology (IT). However, as you develop your own course and materials later on, you will need to evaluate and choose from different modes of content delivery and learning activities. How to decide?

Experience is one place to start. What kinds of instructional technology have you seen in use in your field? What made them effective — the instructor's skills, or the fit between IT and the material, or the consistency between using the IT and the learning goals? On the other hand, what drawbacks did you observe? What difficulties arose?

Was the particular kind of IT you're thinking about using more effective for facilitating a unidirectional presentation, or did it help students participate in their own learning? How would it fit in with the learning goals for your course, the ways student learning will be evaluated, and the ways students will need to use the knowledge they're gaining as graduates and professionals? In what ways would the technology help you do your job more effectively and efficiently?

Recommendations and Issues to Consider

Since software and systems can require a large front-end investment of time, both to learn how to use a tool and to prepare specific instructional materials, it's wise to gather some information and consider your objectives before you begin.

- Start from the course objectives and ask if and how technology can be used to promote those objectives. In particular, does a technology you are considering lend itself to the kinds of cognitive processing students need to practice, such as remembering facts, applying principles or paradigms to new situations, analysis, evaluation, or creativity? Does it help students do the kinds of activities they need to do to complete projects, such as note-taking, writing, problem-solving, or collaboration?
- Does it allow you to take advantage of multiple modes of presentation and interaction–for example visual, auditory, read-write, and kinesthetic? Having multiple ways to experience material generally deepens student learning.

- Consider both digital and non-digital options. You need not assume either that a particular teaching method must be better simply because it employs more technology, or that a technology will be too hard or unwieldy to use in your course.
- Take into account your own capacities. If you are not comfortable using the technology or do not feel that you can become comfortable, then you may not be able to use it to its best pedagogical advantage.
- Familiarize yourself with any technology that you propose to use. Ask yourself whether your students will already be familiar enough with the technology to operate it themselves (if necessary), and, if not, whether it is reasonable to expect them to learn how to use it for the purposes of your course.
- Survey students about their familiarity with and access to the tools you are considering using. Make sure that all students have fair and adequate access to the technology required for the course.
- Determine how you are going to get feedback on the pedagogical and logistical success of your use of technology.
- Become familiar with the technology resources on campus. Publicize the hours and locations of campus computer labs or other facilities, in the event that some students do not have either the right kinds of computers or appropriate software for personal use.
- Balance face-to-face interaction with students against the use of technology-based instruction.
- Be sure that students have resources to help them understand the technology. These might include online tutorials, manuals, or a discussion board for posting questions and answers.
- Identify students who may have higher levels of technological expertise and enlist them to help other students, if possible.

For the Visually Oriented GSI

A process similar to that provided above is available in a step-by-step worksheet:

Technology Brainstorming Worksheet (pdf)

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Technology Brainstorming Worksheet

Before deciding to use a particular type of technology in your course, it's a good idea to reflect on some of the issues surrounding its use. Use the following worksheet to brainstorm the reasons for using instructional technology in your class, and some of the barriers that might be present.

1. Which instructional technologies (IT) are you aware of, or which have you used in your courses (either as an instructor or a student)?

2. What were the benefits and drawbacks of these technologies?

Type of technology	Benefit	Drawback

3. If you are teaching or plan to teach, in what way or ways do you hope to help students in your section master the course material (i.e., quizzes, discussion, group work, etc.)?

4. Which ITs do you think could help you to achieve this?

5. In which ways do you think IT would not help you achieve your classroom goals?

6. In what ways do you think IT can be used as a tool for students to manage their own learning, as opposed to a way just to present information?

7. What do you think you need to learn in order to use IT efficiently in your courses?

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Resources and Support

If you are using bCourses, Google Docs, or other technology in your section or lab, you might benefit from some of the training workshops and other support the Academic Innovation Studio offers.

You are also welcome to request a consultation with a GSI Teaching & Resource Center consultant on your use of instructional technology to achieve specific learning goals.

For more instructional technology resources available on the UC Berkeley campus, please see the Campus Resources for Teaching and Learning page.

Task	Where you can find help
Learn about technology available in your classroom	Educational Technology Services (ETS) Classroom Database
Learn about campus course and section websites (i.e., the campus learning management system)	bCourses (also known as Canvas)
Learn about bCourses tools and features	Canvas Instructor Guide Digital Learning Services (DLS) Service Catalog
Create sharable documents and presentations online	bConnected
Set up and manage an electronic mailing list	bConnected Lists
Borrow a digital document camera to display documents or small	Instructional Equipment Checkout

objects	
Create a slide presentation	PowerPoint Help KeyNote User Guide Google Slides How To
Learn about data software	D-Lab
Search for high-quality digital images for instructional use	UCB Library Classics Resources: Image Databases College of Environmental Design: Visual Resources Center Berkeley Digital Humanities Projects