



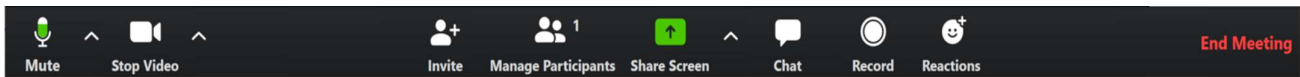
ZOOM: Increased Student Engagement & Interaction Guide



Use these advanced Zoom features to provide students greater engagement and interaction beyond basic direct instruction, regular video conferencing. Experiment with these proven Zoom tools to enhance your course's level of active learning, motivation, offer greater *experiential learning*, and create a positive educational experience both the student and the instructor (Ayoub, 2019; Dishman, 2018; Sutterlin, 2018; Yoon, 2020).



PRO TIP: To more easily access all of Zoom's advanced features and to best manage the synchronous video conference learning session, it is recommended to **start your meeting/session with your video window, the "Manage Participants" window, and the "Chat" window all open.**



PRO TIP: Although Zoom meetings can be hosted/started from both laptop/desktop computers and cellphones, it is recommended to use a laptop/desktop (PC or Mac) for easier access to controls and facilitation of the meeting. Most of the following instruction will be geared with the idea of hosting/starting the meeting from a laptop/desktop computer.



PRO TIP: A second screen is also suggested to make presentation of content that much easier to manage. In the image above the instructor is using their laptop as the main Zoom session screen (it is what students see). The instructor has an additional screen connected via HDMI with all the content that they will use during their presentation, waiting to be displayed to students when using the Screen Share tool.

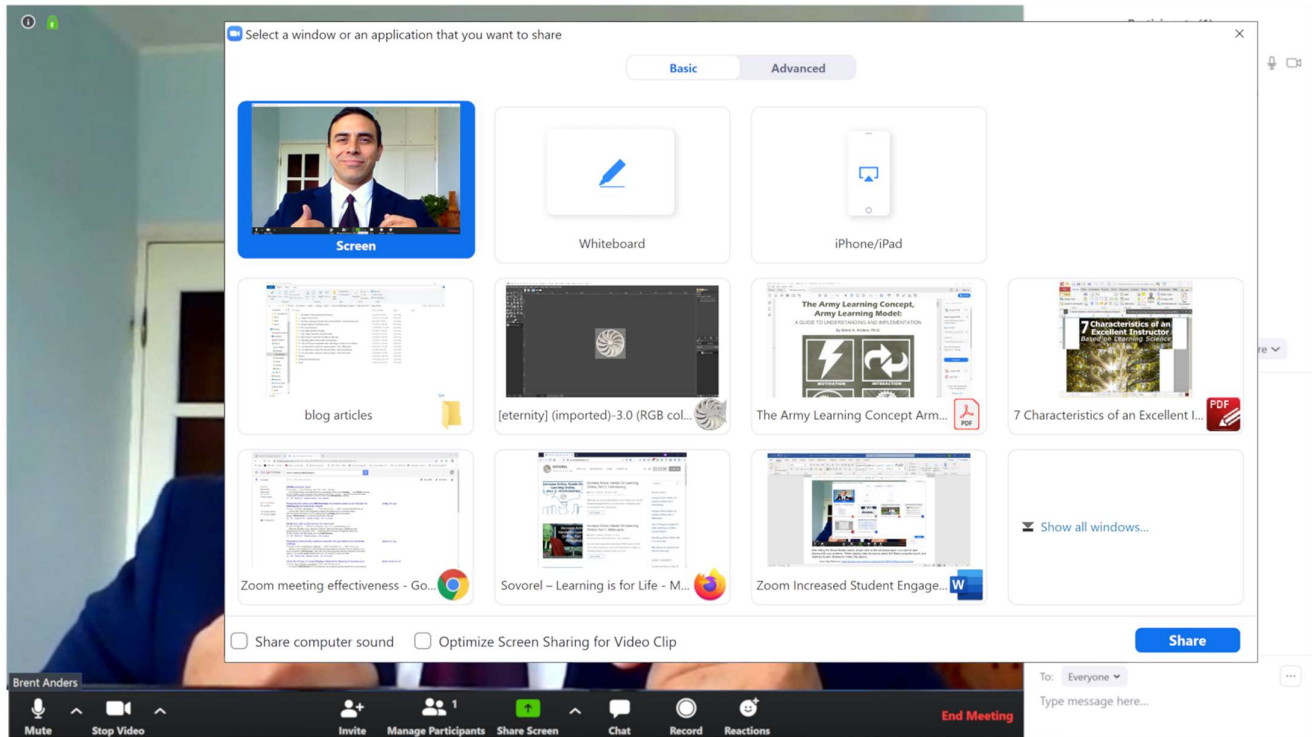


SECURITY: Always select **"Require meeting password"** and **"Enable waiting room"** for maximize security of Zoom when scheduling a class session. This will prevent unwanted guest from joining/entering your Zoom session.



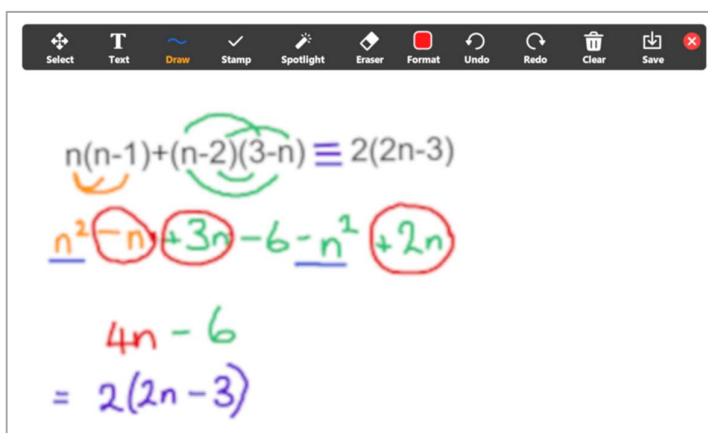
SHARE SCREEN:

Use this tool to display any window on your computer (a slideshow, play a video, demonstrate a process, activate a secondary camera, and/or display a website), making the instructional content come alive, become better understood, and engaging through action and visualization.



After hitting the Share Screen button, simply click on the window/program you want to start sharing with your students. *When playing video be sure to select the Share computer sound, and Optimize Screen Sharing for Video Clip options.

Zoom Help Resource: <https://support.zoom.us/hc/en-us/articles/201362153-Sharing-your-screen>



A **Whiteboard** feature is also available within the Share Screen tool and creates an instant digital whiteboard. This allows instructors to type or write up text, equations, drawings, or anything needed to help students understand.



Annotate is a tool that allows annotation when the Share Screen tool is active. This means you can write/draw on the shared screen.

Additionally, you can also have students write/draw on the screen. This allows you to have a student interact by solving a problem by directly writing on a digital worksheet, the whiteboard, a PowerPoint, or even on a webpage. This allows for direct engagement with the student by having them physically and synchronously interact with the instruction. Sub tools within Annotate include

the ability to type out text, different drawing tools, different stamp tools, different spotlight (laser pointer-like) tools, and the ability to save your class annotations.



Be aware, as soon as the Share Screen tool is started, students are able to use the annotation tool. To alleviate this, after starting the Share Screen tool, go into the “More” section (at the top toolbar on a computer and at the bottom on a cell phone) and select “Disable participants annotations.” If you decide to allow all students the ability to annotate, be sure to select “Show Names of Annotators” and inform the class that you can see who annotates so that no one decides to hijack the meeting and doodle all over the place. You can delete just participants’ annotations at any time. Another idea is to state “Student X, write the answer on the screen. Only Student X should be writing now.”



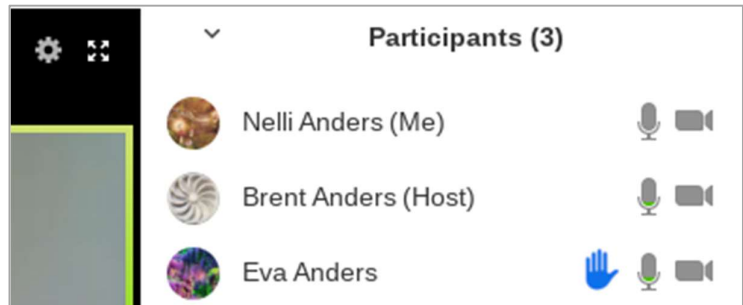
PRO TIP: You, as the instructor, also have the power to allow another specific person co-hosting ability. This is great for a guest instructor or co-teacher, as well as a workaround for giving annotation ability to only one specific student at a time.

Realize that your students will be accessing your Zoom session from any number of devices such as laptops, cellphones, and/or tablets. Work to make all of your content as easy to see as possible in that some students’ displays will be small. Try to avoid holding up written text, photographs, or similar content to your laptop/desktop webcam; instead, write it out in MS Word or PowerPoint or if it is an object/photograph take a digital picture with good lighting and then display it via the Screen Share tool (this ensures maximum clarity and understanding).



RAISE HAND:

As a participant, students can digitally select to raise their hands, indicating to the instructor that they have a question. This will be displayed to the instructor as a small hand next to that student within the participant window. This then allows for facilitated interaction. For this reason, instructors should have their main video screen and “Manage Participants” panel up so that they can see as soon as a student has a question.



RECORD MEETING:

Instructors can record Zoom sessions and/or allow students to record the sessions as well (allowing students to record the sessions should be properly considered). Recording Zoom sessions and making them available for students to engage with as much as they need would be a valuable resource and *scaffolding* technique for *asynchronous learning*. Additional tools such as a Learning Management System or private YouTube channel to host the video would then need to be utilized to make the videos available after the class session. For greater effectiveness, consider *chunking* finished sessions/meetings into shorter more manageable videos (editing can be done through YouTube or with any other available editing software).



Another great idea is to use Zoom as a stand-alone video capturing tool for you to use in creating asynchronous videos (remember to properly chunk your videos).

You could create supplementary content, homework instructions, class reminders, or scaffolding content, whatever needed to enhance your course. Simply start your Zoom session and record the meeting. You don't need to have students present in order to use all the display and recording features.



CHAT:

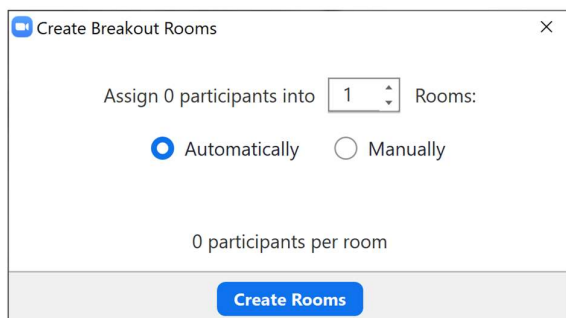
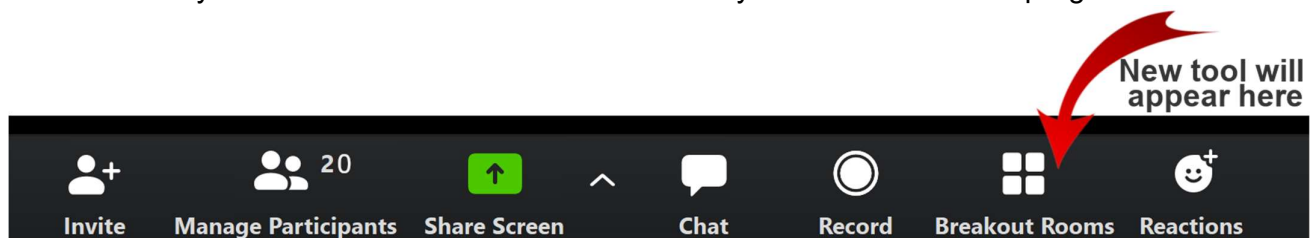
Zoom also has a built-in Chat feature that can be used for multiple purposes. The Chat allows both the instructor and the students to send messages to one another either as private messages or as messages to the entire group (the instructor can change this so that Chat is only for group messages). This can be a powerful engagement tool in providing information to students, allowing for two-way feedback, posing questions, allowing students to help students, as well as providing links to current or supplementary information.

Note that you can save the Zoom meeting's chat session (as the host select the three dots more button and click on save chat). This can be useful in sharing classroom discussion after the event and to help students know that idle/distracting chat will be recorded (this can help to prevent this behavior and be used as evidence if needed).



BREAKOUT ROOMS:

This is another powerful way to engage students. With this tool, you can put students into smaller groups so that they can have their own discussion or work on a project together, and then bring everyone (the entire class) back together to have a whole class conversation or for student presentations. **In order to even have this feature within your Zoom menu, you must first** log into your online Zoom account at www.zoom.us. After login, go to "PERSONAL Settings" section, go to "In Meeting (Advanced)" section, and select "Breakout room." You as the host will now have a new tool on your Zoom interface menu the next time you launch the Zoom program:



Upon clicking this tool during a meeting, a pop-up window will appear, giving you options on how you want to "breakout" your students into groups (how many participants per room and if you want them randomly placed in the room or you want to decide who goes where).

In addition to being able to join any of the breakout room, you, as the host will still be able to send a text message to all the rooms (a good way to tell them how much time they have left) and can then close their breakout rooms at any time, thereby bringing all the students back to the main Zoom session meeting.



REACTIONS:

Zooms offers the ability of expression through the use of two “Reactions” emojis/emoticons:



thumbs up and clapping reaction.

Although currently limited to just these two emoji reactions, it offers a special emotional connecting mechanism for students (and instructors) to use when engaging with one another. The “Reaction” can be selected at any time and is displayed on the top left portion video screen of the person who submitted the reaction (see image for reference) for 5 seconds and then disappears automatically.



POLLING:

The Polling feature is a great tool to get students to interact with the lesson and instruction in general. Creation and use of polling is very easy with Zoom, but **this feature is only available with a paid Zoom account.**



A creative workaround for this free version limitation of Zoom would be to use a third party online polling tool such as Poll Everywhere (www.zoho.com/survey), Zoho Survey (www.polleverywhere.com), or Mentimeter (www.mentimeter.com). Each of these websites offers a free version with different polling limits and features (check to see which one would work best for you). To use this workaround, make your survey ahead of time and then, when wanted, place a link to the survey in the Zoom chat tool. This would allow all the students to click on the link and take the survey. Then you as the instructor could use your Zoom Share Screen feature, open a web browser, and show the students the results of the survey.



PRO TIP: Using the “Reactions” tool described earlier could also function as a quick and easy (though not anonymous) way to poll the students for simple YES/NO questions (example: thumbs up “Reaction” could equal YES).



PRO TIP: Zoom is a powerful teaching and learning tool. Experiment with it often to become more familiar with all the different engagement tools. Try Zoom on different devices to see how they are all slightly different (*note that some Zoom features are not currently available on a Chrome operating system: Chromebooks*). Join a Zoom session as a student to really get a feel for the students’ point of view. Work with colleagues and students to come up with additional creative ways to use this effective tool to maximize instruction and create impactful positive educational experiences.



For Additional Training: Zoom offers instructional videos on all components of its system: <https://support.zoom.us/hc/en-us/articles/206618765-Zoom-Video-Tutorials>

Zoom Frequently Asked Questions (FAQs)

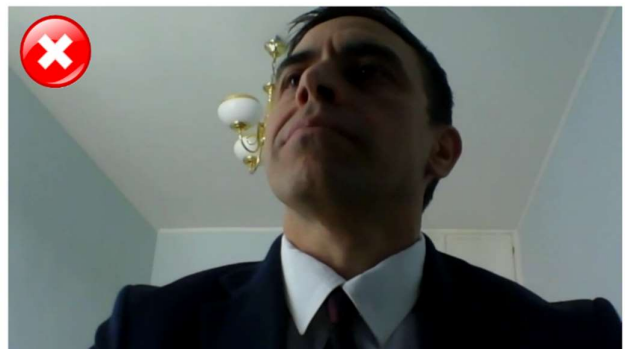


AUDIO - Everyone is talking, and I can't understand what people are saying: This can easily happen in a face-to-face classroom as well. Manage the instruction by informing students that only one person should be talking at a time, you could use the raise hand feature mentioned or you could have students physically raise their hands which you would see on their video. Additionally, as the instructor, you can mute all or particular students at any time.

AUDIO – Some of my students have really poor audio when they talk, there is lots of background noise: Inform the student that in order for this type of remote learning to work effectively they need to either wear headphones with a built-in microphone or be in a room that is quiet with less background noise. They may need to put a pet away, turn off a TV, phone, fan, or close a window/door.

AUDIO – My students say that they can hardly hear me even when they turn up the sound on their end: On your laptop/desktop Zoom application click on your profile image icon (should be towards the top right), then click on Settings/Audio and then increase the volume, selecting “Automatically adjust volume,” also works well. You can also try moving closer to the microphone. This is another reason why an external microphone, like a headset, is recommended (they tend to improve sound quality and level).

VIDEO – Some of my students' video display is very poor, I can barely see them or they are too close/far away: refer to information presented in the *ZOOM for Instruction Best Practices 1-Page Guide* document. Tell them to use proper lighting, camera angle, and framing. Require this from students so all can properly learn from one another. See example below:



Good lighting, angle, framing, background, & eye contact **BAD** lighting, angle, framing, background, & eye contact

VIDEO: Can I just prerecord my lectures and have the students access them when they want? Yes, Zoom can be used that way, but the best type of instruction is a combination of synchronous and asynchronous learning. Key concepts of your instruction can and should be made into standalone videos that students can watch multiple times (it would also be great to close caption them). Additionally, course instruction should include active engagement and

interaction which can be easily facilitated through a live Zoom session. Asking students questions, engaging in discussion, working in groups/teams, and student presentations are all important and needed active learning components for a successful, impactful, and memorable educational experience.

VIRTUAL BACKGROUND: my students found the virtual background feature and it is very distracting: Again, as in a face-to-face classroom, students might think it is funny to cause some sort of distraction. It should be handled in the same way as in real life. Inform the student that their behavior is not appropriate and that they are not allowed to distract students from the instructional lesson. You can also log into your online Zoom account at www.zoom.us, go to the Personal settings section, go to In Meeting (Advanced) section and deselect "Virtual background." Additionally, as the instructor, you can stop the video feed of any student at any time.

INTERNATIONAL: I have students that are trying to access classes from other countries. Will they still be able to use Zoom: Zoom is designed to work all over the world, however, due to political issues some countries are restricted. View a listing of countries that are not allowed to use Zoom at: <https://support.zoom.us/hc/en-us/articles/203806119-Restricted-countries-or-regions>

ACCESSIBILITY: I have (or my student has) a disability. Will Zoom be able to accommodate for this: Zoom has a multiple of accessibility features all of which can be viewed here: <https://zoom.us/accessibility>

SECURITY: I saw on the news that there was some sort of security issue with using Zoom: There were various different security concerns dealing with uninvited guests being able to enter a Zoom meeting as well as privacy concerns dealing with how Zoom user data, in general, was handled. Zoom's current version of its program now requires a password to enter a Zoom meeting and allows for the use of a digital waiting room which increases security by having the instructor specifically let students in one by one. Individuals' user data is also now handled completely differently to ensure greater privacy and security. A Zoom security white paper dated April 2020 is also available for additional information: <https://zoom.us/docs/doc/Zoom-Security-White-Paper.pdf>

Term Definitions

Asynchronous Learning: (antonym for synchronous learning) instruction that can be accessed whenever the student wants/needs as opposed to at a specific time/location. Often used as part of online instruction and/or flipped classrooms so that students can access instructional/lecture videos on their own time. An example would be allowing students to view an on-demand video online, instead of having to watch a live video Zoom session as it happens.

Chunking: a logical organizing of instructional material into smaller, bite-sized segments to make it easier to understand, prevent cognitive overload. and to make content easier to manage and/or stream online. An example would be to make an instructional video in logical 6 to 15 segments as opposed to one long 50 minute to 2-hour long video lecture.

Closed Captioning: simultaneous presentation of text synched with the spoken word within a video. Closed captions are controlled by the viewer and can be turned off or on when needed (this is what makes it distinctly different than embed subtitles). Creation and use of closed captioning are strongly recommended in that they have been shown to be very helpful and effective not only for those with disabilities but for all learners as well (Anders, 2017a).

Cognitive Overload: occurs when an individual is exposed to too much information overwhelming his/her processing/comprehension capabilities. Results when information/instruction being presented is too complicated, there are too many things happening at the same time, and/or the student is required to do too many things at the same time. This often leads to anxiety and frustration with the learning event. Cognitive overload can be mitigated through logical presentation of information in multiple ways (modalities) to help ensure comprehension, controlled progression of difficulty level for tasks being learned, and chunking of data presentation.

Experiential Learning: originally developed by Kolb (1984), this refers to the process of learning by actively engaging with the instructional subject matter (a real experience), followed by reflection, then purposeful integrating of what was learned with prior knowledge, experimentation/practice of learned skill/information, and finally applying what was learned to a different/new experience (a repeated process of learning).

Scaffolding: instructional techniques, assistive tools, & content generally temporarily, used to help learners catch up or become more independent learners. Examples: additional text, explanatory videos, quizzes, simulations, games, tutoring and/or A.I. assistive tools.

Synchronous Learning: (antonym for asynchronous learning) requires that all students access the educational session/class at the same time as all the other students. An example of this would

be to require all students in class to login to Zoom to participate in a Zoom meeting/session at the same time. *For best educational results, a combination of both synchronous and asynchronous learning is recommended (Anders, 2017b; Mick & Middlebrook, 2015).*

Virtual Background: this feature of Zoom allows the meeting host and/or participants to easily digitally swap out “virtually change” their background to a static image or video. This can improve the professionalism of a presentation if done correctly or can serve as a distraction for students. There are different ways to control this tool, see guidance above within this document.

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