Velociteach

Virtual Classrooms

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March 20, 2020

There are many reasons to hold meetings and live-instruction classes using an online, virtual classroom application to host a webinar. Many tools exist—some free—with similar capabilities; this discussion will not delve into the pros and cons of various applications. The goal of this article is to review the features of the virtual classroom as well as techniques in using them to make the virtual classroom experience as close to a live, face-to-face class as possible. Engaging students in the class is not just about eliciting a response, but maintaining the attention and focus of the student to maximize the transfer of knowledge from an instructor.

Getting Connected
(Participants)

The biggest challenge in beginning the use of a virtual facility is the students' connectivity issues when the class first convenes. Once the instructor has ample experience with the specific classroom application being used, then the instructor should become more adept in guiding students and answering "how-to" questions related to the classroom features. However, a couple of tips can help this challenge:

- Practice Sessions
  Before a webinar, especially a large class that would have many challenged students or participants, consider scheduling and advertising one or two 30-minute sessions on separate days about a week before the webinar to allow participants to connect, test speakers and microphones, raising hands, and submitting chat-style questions to the class leader, etc. This minimizes the delays on Day-1 of the class trying to get everyone connected successfully.

- Administrative Assistance
  Plan to have a support person available at the start of the virtual class to provide offline assistance to participants that have connection issues. The support specialist could be logged into the webinar as an administrator with the same capabilities as the webinar leader. If you present a pre-webinar banner as participants join the webinar, include information about how to contact the support person if there are any connection difficulties – or other student questions and concerns. This tactic removes some of the burden and stress from the webinar leader—especially on the first day of class!

Instructor Connection Considerations

Leading a webinar poses some challenges technically for the instructor. Ironing out these potential issues is part of the tooling process for the webinar leader.

- Connectivity

  The webinar leader's connection to the virtual classroom should be robust, both in reliability and in bandwidth.

    - Reliability

    A huge disruption to the webinar is when the instructor's personal computer drops offline or out of the virtual facility! During the practice session and at the beginning of the webinar, instruct students about the protocol if the instructor drops off. Often when the instructor leaves the webinar, it is ended for all participants. One approach to minimize the impact of this event is to have the support person maintain a connection to the webinar as a co-presenter or administrator to prop up the webinar in the case of the instructor's dropping off. The instructor should be aware of external issues that may affect the reliability of the class connection. One instructor shared the horror story of leading a class from home—with great internet bandwidth—on the same morning that a contractor scheduled to pressure-wash the home's exterior. The network interface box outside was saturated and dropped the internet connection for about 2 hours! Plan to have no potential irritants to your chosen location if possible.

    - Choose Your Environment

    The instructor's location should have a reliable network connection as a part of the protection against dropping out of the webinar. A WiFi connection is not better or more reliable than a hardwired connection. The location should be in the control of the instructor so that access and configuration of the connection is suitable. Having no background noise is also a consideration for the instructor's choice in location. Similar to a recording studio, implement signs, lights, or other indicators to people in your location that broadcasting is in process and to please keep the noise to a minimum.

    - Network Bandwidth

    The speed of the instructor's network connection varies in importance depending on which virtual classroom application is chosen. Knowing the adequate speed comes from practice, experience, and confidence of the instructor. Most network users think in terms of download speed; however, when presenting online, the upload speed is also very important. Having increased upload speed makes the difference when the presenter wants to enhance the presentation with video or webcam displays of the presenters themselves. Having a facility that requires uploading of the presentation to a web server in advance is one attempt to reducing the need for better upload speed during the webinar. The choice of presenting from a home location versus an office location may be solely based on network speed alone. Regarding network bandwidth, note that other applications being executed by the instructor during the webinar may steal bandwidth from the classroom. For example, using Skype to instant message should not be running during the classroom since it uses a lot of the network bandwidth to keep statuses updated, etc. Additionally, if the instructor's Outlook or other email application is running, be cautious about automatic Send/Receive cycles. For example, updating every 5 minutes may keep the Intray up to date, but the update may hit and cause a disruption in your classroom's throughput momentarily. Also, as an instructor, be in the practice of keeping your personal computer up-to-date with operating system as well as application updates. Instructors seem to get prompted at the most inopportune time to perform an upgrade!

- Presentation Source

One of the considerations in choosing a virtual classroom tool is knowing how to share the presented information with the class. Some tools allow sharing of the leader's display to the participants, while other tools require the leader to prepare the presentation and upload it to a central web server for display to the participants. As previously mentioned, upload speed may be a factor in this decision, but also consider how dynamically the instructor may decide to modify or re-order some of the presentation topics. This may not be feasible when the presentation is pre-loaded to a web server. Sometimes an impromptu question from a student spawns the need for the instructor to reach into a different presentation or graphic image to share with the class to best respond to a question.

- Know Your Tools

The best preparation by the instructor is total familiarity with the features and controls of the virtual classroom tool. At the beginning of the first class session, instruct the students on the controls that they can access. To streamline this step, recall the recommendation of a practice session to acquaint participants on the controls. Even if a practice session is implemented, have an early slide that shares images of the student environment and how to raise hands, ask a question, and self-mute or unmute their microphones when called upon.

- Be On Time

The instructor leads the class in more ways than lecture. Set the example for being right on time. If the class is scheduled to begin at 8:00am, then make your instructor connection earlier so that students aren't in a waiting room before class starts. The instructor can set up their personal computer to broadcast soft background music before starting to allow students to test speaker settings beforehand. In some cases, if there are audio lessons available, such as pre-study sessions, those could be broadcast 1-2 hours in advance of class as an extra feature of the virtual class.

Participant Engagement

This is the greatest challenge of the virtual instructor in delivering the content of the class effectively with student absorption and retention. The keys to making the mental connection are the differences between good instructors and great instructors.

- Directing the Students' Attention

In a live, face-to-face class, the instructor may use many techniques to guide the students' eyes to the content being conveyed: hand gestures, a laser pointer, facial expressions, body language, walking among the classroom, wall posters, etc. Feedback from the students can be observed by the instructor with eye contact, reading their body language, and noting general attention and acceptance of the subject matter delivery. Even if a hand is not raised, the instructor may note a question purely from the facial expression of a student. These face-to-face benefits are what make this form of communication the most effective! Most of these attributes are not available to the virtual class instructor. However, other virtual techniques can help.

  - Laser Pointer

  Most virtual classroom applications feature some sort of a pointer. Learn how to turn this feature on and off and how it affects using other controls in the classroom. For example, when the pointer is on, the instructor may not have the control to advance the presentation to the next slide or frame. It may be intuitive to the instructor to just use a mouse pointer to direct the students' attention to a data point on the display; however, the classroom tool may not show the instructor's mouse pointer! Know your tool.

- Dynamic Doodling
Showing a screen full of bullet points or images depicting the concept being discussed may grab the students' attention momentarily, but then they are tempted to multitask, checking email or text messages, etc., while the instructor completes comments about the current slide. Moving to the next slide re-engages the students momentarily. One approach to maintaining the attention of the students is to annotate, or add to, each slide being discussed. Between the virtual classroom application and the presentation application being used, there is typically a method by which the instructor can draw free-hand on the slide. Arrows, checkmarks, circles, underlining, writing short text, etc. are ways to keep the students' focus on the presentation display as the instructor guides their eyes and ears. Drawing free-hand with a mouse or touchpad can be challenging both in accuracy as well as quality. Consider attaching a graphics tablet to the instructor's personal computer and using a pen or stylus for the annotations. This increases the instructor's speed, quality, and engagement of students.

- Impromptu Questions
Encourage the students to raise a hand when a question arises. The instructor should keep an eye on the list of attendees to notice when a hand has been raised. To minimize the distractions of background noise, all students' microphones should be muted by the instructor most of the time. When a hand is raised and noticed by the instructor, the instructor should acknowledge that as soon as possible, and either ask the student to hang on a minute, or inform the student that the mic is being unmuted now and ask him or her to go ahead with the question—just like the process in a live, face-to-face class. In some cases, the student may have inadvertently raised a hand, and at the notice of the instructor the student may withdraw the hand.

- Eliminate Echoes
Student engagement will decline if students cannot understand what is being said, or even worse, when asking a question or making a comment—stutter and stammer when trying to speak and hearing a digital delay or echo of their own voice. If a student uses a speaker and microphone for the webinar, what comes out of the speaker goes into the microphone, right?! In your pre-class communications as well as the practice session, counsel the students to use headphones or earbuds to hear the webinar to eliminate feedback (digital delay) into their microphones. The instructor, as well, should use headphones or earbuds to hear the students when their mics are unmuted.

- Countdown Timer
The instructor should use a visual countdown timer that shows when the session will start or reconvene after a break, exercises, or a class quiz. When the instructor is prompt to begin as soon as the time hits 0:00, then the students will learn to be back from breaks on time. By the way, this works well in a face-to-face session, too!

- Questions for the Instructor
If a student wants to type a question in background rather than raise a hand and vocalize the question, some class-room facilities feature a question board or a chat feature to allow that channel of communications. Though it is difficult to monitor the questions during lecture, the instructor should keep an eye on the questions in case issues arise, like no audio, or no advancement of slides in the presentation. Additionally, if a support person is available in the virtual class, that person may monitor the Questions dialogue and respond for the instructor when appropriate. Questions and responses should be private between the instructor (or support personnel) and the student.

- Quiz Results
If the instructor is tracking class quizzes and the resulting scores per student, then a private Question box is ideal for the student to make such a report.

- Be Prepared

  This is not just a good Scout motto; it applies to instructors, too! If there are extra windows, applications, graphs, images, etc. that will be shared during the course of the class, be sure to have these opened and ready for display before class begins. Additionally, if there are websites or applications that require a login, perform this login on the instructor's primary monitor before moving the window onto the secondary monitor for broadcasting to the students.

- Good Performance of Presentation Tools

  Instructor knowledge and expertise in managing the virtual classroom application is a must. However, additional finesse of the presentation application being used, e.g., MS PowerPoint or Prezi, is also evident to the students. Do not lose their attention while you try to discover how to pull off the feature that you need at the moment. Discover nuances of the tools offline. In fact, practice the presentation in the same Slide Show mode as the class delivery. Any subtleties or anomalies should be discovered and worked-around prior to class. Also, if the presentation is modular, practice driving the presentation from module to module so that it is second nature to the instructor; the students will observe this efficiency and count it toward the same expertise that they attribute to you as the subject matter expert of the class overall.

• Discourage Students' Multitasking Besides stating this as counsel for good ground rules in the class, be sure to minimize the opportunity for distraction within the virtual classroom, too.

  - For example, in a live, face-to-face class, you cannot control some of the chatting across the aisles or students' talking among themselves. However, in the virtual classroom, do not enable the feature that allows participants to chat privately with each other. This detracts from the student's focus on the instructor's broadcasted visual and audio message.

  - During review of the class structure and ground rules, be sure to discuss when breaks should occur as well as lunch breaks, etc. This allows the students to reserve some time outside of the active class for any other meetings, email messages, texts, meals, etc. that may cause disruption during class time. One suggestion is to schedule fairly long lunch breaks (90 minutes?) to promote the use of that time for students' needs rather than their multitasking or missing a portion of the class.

Managing
the Webinar

The instructor may feel like a radio disk jockey or a talk show host during the delivery of a virtual class. In many ways, the roles are the same. The instructor, however, has control of the board and may not have the benefit of a producer's managing everything in background. Practicing the management of a virtual class is the best learning ground. A few considerations:

• Displays

In a live, face-to-face class, the instructor may use a personal computer connected to a video projector for class presentations. Using the extended desktop mode allows the instructor to have a different view on the primary monitor, while sharing the class presentation on the secondary monitor—the projector. For example, MS PowerPoint features a Presenter's View for the instructor that provides navigation tools, presentation tools, as well as control over the presentation. If a slide is "hidden" in the presentation, it can be selected for sharing dynamically from the Presenter's View based on class flow and student questions. For example, the instructor may anticipate a topical question may arise, and may have a "hidden" slide available in case the question comes up. For a virtual class, the instructor should have a second monitor connected that is the "projector." This allows the instructor to control what is being broadcast to the class. Additionally, if other windows are desired at times to share with the class, e.g., the class countdown timer, the window can easily be slid or moved onto the second monitor and automatically broadcast to the class. Such features are a justification for using a virtual classroom application that allows dynamic sharing of displays rather than requiring an uploaded presentation.

• Control Windows

The classroom facility may feature several windows to control the class, for example, a participant's list – which shows hands raised or that questions have been entered into a Question box for response. The Attendees List may also indicate if the virtual classroom window is "on top" of the student's desktop display, an indication whether or not the student is multitasking or paying attention to the presentation. If too many students are not paying attention, it would be a signal to the instructor to point out a specific topic on the display, or even to ask a question to the class—asking for a volunteer to respond. It should not take too many such events to help students realize that they need to follow more closely and not multitask. One of the key points here is that if the various control windows are helpful to the instructor, then even a third display may be beneficial to allow the instructor to glance at displays without having to manipulate which windows are "on top" and switching around to keep up with the class status. If the instructor's personal computer isn't equipped for a third monitor connection, consider a USB-to-HDMI/VGA adapter to add the capability of a third monitor.

• Pacing of Delivery

There may be a window in the classroom application that allows the instructor to see exactly what is being broadcast—and when all of the participants' displays have been updated. If some participants have a slower download speed, more time may be required for updates. This allows the instructor to observe what kind of pacing is needed to not talk too far in advance of what is being displayed. Again, having a third display may be helpful with additional control windows. The more students are connected, the more space the instructor will need to keep up with the class dynamics. An experienced virtual instructor may easily handle ~5-25 students with two monitors, but once the class list grows above 30-40, a third monitor or a class producer is recommended to help manage the incoming requests for questions, hands raised, etc. If the class is large and a producer is involved, a back-channel of communications is good between the producer and instructor. If they are colocated, a visual channel of communications is good.

- Students' Right to Privacy
  In a live, face-to-face class setting, students will form relationships with each other; they will often exchange contact information to touch base later about class topics or other networking opportunities. In a virtual class, this is not accessible. Do not turn on the feature that allows the participants to view the Attendee List, and know who else is in the class. Some students may not welcome others' knowing their names and email addresses, etc. If the instructor is leading a class of students that all are employed by the same company or organization, the class sponsor may find it preferable to allow the students to share contact information. In this case, the Attendee List could be set as viewable, but the chat feature is still not recommended. If the virtual class application has a feature allowing every student's webcam to display their video to the entire class—turn this feature off. The class is not a workshop or a meeting in which everyone contributes toward an objective. The various videos would inhibit students' privacy, but also would be detracting from the students' attention to the presentation. Additionally, the videos would stress the network bandwidth of the virtual classroom.

- Classroom Limitations
  Be aware of the conditions surrounding the use of the virtual classroom application.
  The provider of the service may have:
    - Limits about how long a single session may run before it expires;
    - Limits to how many participants may join the webinar;
    - Feature limitations based on the level of the provider relationship
    - Limits to how long the classroom may be dormant before it is automatically disconnected (e.g., everyone goes to lunch for 90 minutes and return to a disconnected classroom; re-starting connections may take time, and the classroom reservation with the provider may have expired. Using a countdown timer for breaks and lunch can override what may otherwise be viewed as a dormant classroom.)

- Risk Management
  Brainstorm all of the things that could go wrong with the class. Determine what approach, tactic, or strategy would best respond to the disaster. If instructions are appropriate to share with the class, do so at the very beginning. For all non-identified threats to your class webinar (unknown unknowns), have a fall-back plan of everyone's contacting the support person at a central phone number. If trouble erupts (and it will), the instructor should immediately contact the support person with the details and any applicable workarounds.

- Group Activities
  Not every course is conducive to virtual classroom training. Courses with group activities or breakout sessions may need to be reviewed or adjusted if targeted for a virtual classroom. Some virtual classroom applications feature the ability to have groups break into virtual conference rooms or breakout sessions. If this approach is to be employed, be sure to practice the assignments, navigation, messaging, and close-out of the breakout sessions.

Summary

Four major areas were discussed:
- Getting Connected (Participants)
- Instructor Connection Considerations
- Participant Engagement
- Managing the Webinar

Nothing replaces the instructor's knowing the subject and the presentation completely. Attention to the four areas mentioned within this discussion should provide the foundation of a great class presented by a great instructor with the benefits of an enjoyable virtual class experience.