

Engaging Online High School Students with the use of ClassLive Pro Powered by Elluminate

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INTRODUCTION

It is often suggested that distance education is too impersonal to keep the attention of high school students. Although Internet-based or online distance education has been more prevalent in post-secondary institutions, virtual high schools are starting to flourish on the Internet as an alternative delivery system for K-12 education (Berman & Tinker, 1997;

Roblyer, 1999). Typically, the rationale for online learning in K-12 schools is different from that of higher education. AWESOME

Often, online education in K-12 schools focuses on expanding course offerings for students who are at risk, home-schooled, rural, or who have disabilities, or on providing access to educational resources and expertise unavailable in remote or rural areas (Mills, 2002). Berman and Tinker (1997) further contend that schools' primary motivations seem to center on offering effective, affordable course options to high-ability, at-risk, home-schooled, rural, and disabled students.

Course management systems (CMS) provide virtual environments for distance teaching learning. They support critical functions of online instruction and course administration. For many educational institutions, the majority of distance courses use online asynchronous tools in conjunction with synchronous text chat or streaming video. With asynchronous distance education programs, students often experience a feeling of isolation. Throughout their program, students have to work mostly on their own, with little contact with other students and instructors. This isolation can be a serious detriment to learning for many. Interactions between students and instructors, as well as student-to-student interaction, greatly enhance distance education by



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improving student attitudes and motivation, increasing completion of coursework, yielding better performance on tests and greater retention. Moreover, the increased interaction provides a sense of community to the students.

Research in distance education continues to emphasize the importance of interaction for effective learning and teaching. Previously, technologies that increase interaction have been expensive, difficult to use, and not often utilized. With the advances of technology and the all-pervading nature of the Internet, distance education has changed. It is now easy and cost-effective to incorporate interactive instruction using a new model of distributed learning that combines asynchronous online learning with online synchronous tools. Synchronous collaboration software, such as virtual classrooms, allow for real-time interaction with students and instructors. A model, which combines both asynchronous and synchronous education to connect students, instructors, and educational content in live online learning communities, is the ideal solution. The desired outcome of using these synchronous communication tools is to add value of real-time interaction that once was mostly text content. Synchronous interaction has many benefits to students and instructors, providing immediate feedback to and from the students and instructors; it replicates a traditional classroom; reduces the feeling of isolation; creates a forum for student collaborate at any time; creates a sense of community among learners; provides motivation to the students; and it is a new technology that increases student technical aptitude.

THE USE OF THE ECOLLEGE SOLUTION—CLASSLIVE PRO AT GWINNETT COUNTY ONLINE CAMPUS

Gwinnett County Online Campus (GCOC), part of the largest public school system in Georgia, Gwinnett County Pub-

lic Schools (GCPS) was a direct outgrowth of the need to use the Internet for the expansion of instructional resources for high school students. The initial involvement in providing its students with distance learning opportunities began in 1998. The flexibility and availability of offering its students online classes has continued to grow since. In 2006, GCOC had an enrollment of over 3,000 students. The virtual high school's students have varied learning types, ranging from homebound learners to students seeking accelerated classes. In addition, nearly half of GCOC's student population enrolled for the credit recovery opportunities provided by the virtual school. GCOC has served its online high school students with eCollege eLearning solutions since 1999. With the desire for synchronous technology that could more closely mirror traditional face-to-face communication, providing a critical oral component for courses like foreign languages, mathematics, science and computer applications, every student enrolled in a GCOC class experiences the real-time environment of ClassLive Pro, powered by Elluminate. Teachers engage their students on the first day of class by giving their orientation presentations as a live Web conference. This is an excellent way to demonstrate the use of the tools, review class expectations and allow students to ask questions and receive an immediate response.

CLASSLIVE PRO FEATURES

ClassLive Pro is supported by Elluminate, a leader in synchronous tools for live Web conferencing and e-learning solutions. It is a live voice-over-Internet Protocol (VoIP) and video conferencing tool for the eCollege platform version of Elluminate *Live!* The ClassLive Pro tool allows teachers to display the class syllabus and other important information on an interactive whiteboard or as a PowerPoint presentation that can be seen by every student logged into their course.

Table 1. ClassLive Pro's Voice Over Internet Protocol (VoIP)

<i>ClassLive Pro Features</i>
Communications Features
Text Chat
Closing Captioning
Voice over Internet Protocol
Video
<i>Content Delivery Features</i>
Whiteboard
Graphing Calculator
Application Sharing
Multimedia (play movies)
Web Tours
<i>Classroom Management</i>
Polling, Hand Raising, Stepped out, etc.
Recordings
Moderator ESP
Cross Platform/Low Bandwidth Support
Breakout Rooms
Quiz Manager

ClassLive Pro helps GCOC leverage the flexibility of e-learning's asynchronous environment, but still allows students and instructors to create a forum for synchronous feedback. As teachers review the tasks and topics required throughout the term, students can ask questions using their microphones or other tools in the chat window. Table 1 presents a list of ClassLive Pro features.

GCOC personalizes the online classroom student experience with ClassLive Pro's VoIP and video capabilities to engage its students who enroll in its online learning program. The students in GCOC's fully online classes are able to see and hear their teachers during scheduled class sessions. Using ClassLive Pro provides a highly interactive element to all online courses. The live video and voice conferences draw students into a community of online learners. Once students feel part of a larger community, they are engaged more fully in the learning process. Thus, ClassLive Pro creates the link most students need for success in online education.

EXTENDING LEARNING WITH SYNCHRONOUS CONFERENCE TOOLS

Using extended learning with the synchronous conference tools allows online instructors to see and hear their students in an entirely virtual classroom. Online programs that have used synchronous models have not often used voice as part of the learning model. Often this is because teleconferencing all the students and instructors together is troublesome and quite expensive. However, the new solutions feature built in VoIP eliminating the need for a telephone, and interaction with students is done completely over an Internet-connected computer equipped with a microphone and speakers (or headset). The added voice component provides increased human interaction, increasing meaning and understanding through a user's tone of voice. It also increases sense of "community," provides an effective and efficient communication vehicle, and offers flexibility in responding and interacting, as well as multiple methods to interact with students with differing learning styles.

Historically, these tools have involved simple elements for real-time communication such as a whiteboard and chat, but they have continued to evolve. Today's synchronous tools include new features, such as application sharing, online polling, breakout rooms, and VoIP. This tool can now be used to expand the boundaries of a physical classroom with remote guest speakers, connecting participants from other classrooms for combined lessons, and recording content for participants who may have missed a class or need additional assistance. Teachers can present a lesson from a single computer, load a presentation template in the whiteboard, and engage their students who are used to multitasking and motivated by the use of technology.

BENEFITS OF GCOC USING CLASSLIVE PRO

Using ClassLive Pro, GCOC instructors deliver interactive, real-time classes that include shared whiteboards, text messaging, and record/playback capabilities, including advanced voice over the Internet, and application sharing, participate in breakout rooms, video. GCOC participants launch synchronous sessions or recordings using ClassLive Pro directly from the eCollege CMS, which delivers a more powerful learning experience. GCOC's faculty use of synchronous tools within their online courses greatly improves the student's sense of community with the class, which has proven to increase course completion rates. The program makes use of two-way audio, direct messaging, live video, an interactive whiteboard, application sharing, breakout rooms, polling/quizzing, file transfer, synchronized Web browsing, and the archiving of sessions—all in pursuit of real-time online learning and collaboration. This real-time tool provides GCOC's online teachers with an interactive, multi-dimensional classroom setting.

GCOC also use ClassLive Pro to make staff more productive and students more successful by individualizing learning. Best practices are employed during first-day-of-class meetings that allow students to meet their teachers and show students how to participate in their online course. This makes the review, remediation, and individualization of student instruction effortless. Using file transfer to hand out and turn in documents is easy and convenient. Application sharing is done with demonstrations that enhance student learning in many modalities, with many users engaged at once and in different rooms. As a result of its use, there has been improved student and faculty satisfaction in their online experience, leading to increased course completion and program retention. In addition to the many uses of ClassLive Pro at GCOC, Gwinnett County Public Schools personnel use these tools at county-wide meetings, for book discussions, for instructional dissemination by county instructional program leaders, and for professional development for teachers, including adjunct faculty. In addition, remote experts can address staff to keep them up-to-date on new technologies, policies, strategies, and teaching methodologies. Instructors can use their time more effectively by attending sessions without traveling, and even play back recorded sessions at their convenience.

The best way to demonstrate the benefits of live distance education and Web collaboration technology is with real-world examples. This real-time tool provides online teachers with an interactive, multi-dimensional classroom setting. Teachers are able to schedule classes for direct instruction for the entire class or for a small group. The virtual classroom captures the essence of a traditional face-to-face teacher/student interaction in an online format. Every online session is archived as a downloadable podcast in the event students are unable to "attend" class. No matter where the teacher or students are

located, teachers can offer virtual office hours, allowing students to drop in to ask questions or get clarification on an assignment. This tool affords students the ability to conduct group collaboration, without the need to drive to their school building where they can connect virtually to share documents, presentations, and spreadsheets. Lessons can be recorded for students to view at their leisure if they missed class or wish to review class material at any time from anywhere. Tutorials can also be made available to students as part of their course work.

APPLICATION SHARING WITH CLASSLIVE PRO

The power of ClassLive Pro enables a shared interactive whiteboard that has many flexible tools for writing, drawing, and erasing. It also enables collaboration on multiple whiteboard screens; the ability to edit, group, align, resize and layer objects; provides access to a library of presentation symbols and clipart; the ability to insert clickable URLs, to drag and drop images from a file folder; to load animated GIFs, and to insert images, clip art, and screen captures. The moderator can also grant permission to have students save (as a PDF) and print any screen with the easy-to-use menus and buttons that allow hosts to take snapshots of content for markup and share applications that run full screen while managing interaction.

CLASSLIVE PRO CAPABILITIES USED BY GCOC

GCOC uses the following ClassLive Pro capabilities to create a dynamic online learning environment for their students and faculty participants:

- Live Webcam Video—Instructors can show live video at rates up to 60 frames per second. They can take snapshots of video content and move it to the white-

board, as well as give video privileges to one or more selected participants, or all participants.

- Remote Control—Instructors can give control of applications or the desktop to others, enabling true hands-on training and support, and allow users to take control automatically or by entering a password.
- Breakout Rooms—Instructors can create breakout rooms that contain private audio and content (whiteboards, application sharing, etc.). Moderators can move themselves and participants between rooms freely and easily. Participants can be randomly assigned into breakout rooms and returned to the same rooms at any time.
- Virtual Labs—Instructors can create a virtual lab environment where participants can work on applications independently.
- Quiz Manager—Moderators can deliver quizzes or surveys and create questions in advance or on the spot. Participants respond and submit their answers from within the session. Results can be displayed to all (in graphical format) or kept private.
- Chat—Participants and moderators communicate using a variety of messaging capabilities, including private messaging between moderator and participant, one-to-one messaging between participants, and one-to-many messaging between moderator and participants.
- Graphing Calculator—Participants can plot one or two graphs and find their points of intersection and x- and y-intercepts. This can be done privately publicly, with viewing controlled by the moderator.
- AppSnap—Screen shots can be captured from any application or the user desktop and show it on whiteboard creating another quick and easy way to build content for class sessions.

← Au: Trade mark symbols are not used in running text.

- Synchronized Web Browsing—Instructors can push multiple URLs to participants via embedded windows, and allow participants to interact independently with content in fully functional windows, and redirect participants to any link, all at the same time.
- Synchronized Notes—All users are able to take notes in separate window. Notes are automatically saved to local computer and can be edited/merged/added to during interactive playback, saved to file, and shared with others. Users can transfer files to distribute documents, assignments, and handouts. Instructors can give privileges to participants to transfer files. When loading files, all users can be prompted to save the file, or files can be transferred silently and saved only by those who need the file.
- Interactive, Indexed Recordings—Live sessions are recorded and indexed for later play. Instructors can build a library of live sessions, or create personalized content to be used asynchronously. Recordings are interactive, allowing users to save slides, text messages, and profiles. Easy-to-use controls allow viewers to pause, forward, rewind, or navigate to a certain location in the recording.
- Polling—Instructors are able to poll participants with yes/no, true/false, or multiple-choice questions, and visually monitor responses, privately or publicly.
- Emoticons—Participants are able to express themselves to moderator and other participants with emotion indicators.
- Close a Session—The moderator is able to prevent additional participants from joining the session.
- “Stepped Out” Indicator—Participants and moderators let others know they had to step away from their computer temporarily.
- New User Notification—Moderators receive an auditory and visual notification when a new user enters the room.
- Hand Raise Notification—Users raise their hand at anytime to indicate they have a question. Users are placed in a queue. Moderators decide if they wish to have an audible notification when users raise their hands.
- Track Whiteboards and Content—Moderators have full session awareness with whiteboard content. Moderators associate all objects on a whiteboard with each participant. When participants are allowed to navigate through slides, moderators track which whiteboard screen each participant is viewing and ensure participants are on-track with assignments.
- Announcements—Moderators send text announcements to all participants, including those in breakout rooms.

EXAMPLES OF CLASSLIVE PRO IN USE AT GCOC

Figure 1 illustrates how GCOC math teachers use the math teaching tool with the use of PowerPoint presentations and the whiteboard can bridge the Wacom tablet and application share of the TI software. Students are able to get a visual and following along in to see if they have come up with the correct responses, as the teacher gives visual instructions via video as students ask questions either in the text box or voice comment. Working in this mode allows collaboration in real time, regardless of Internet connection speed, with everyone seeing and hearing the same thing at the same time. Participants and moderators speak to each other using full-duplex audio with built-in volume control through a standard microphone connected to the computer. Sessions can be configured to allow up to 6 attendees to speak simultaneously. In addition to showing formulas on the whiteboard or PowerPoint slide, the GCOC online math teacher uses a stylus notepad to write out formulas on ClassLive Pro’s shared whiteboard tool.

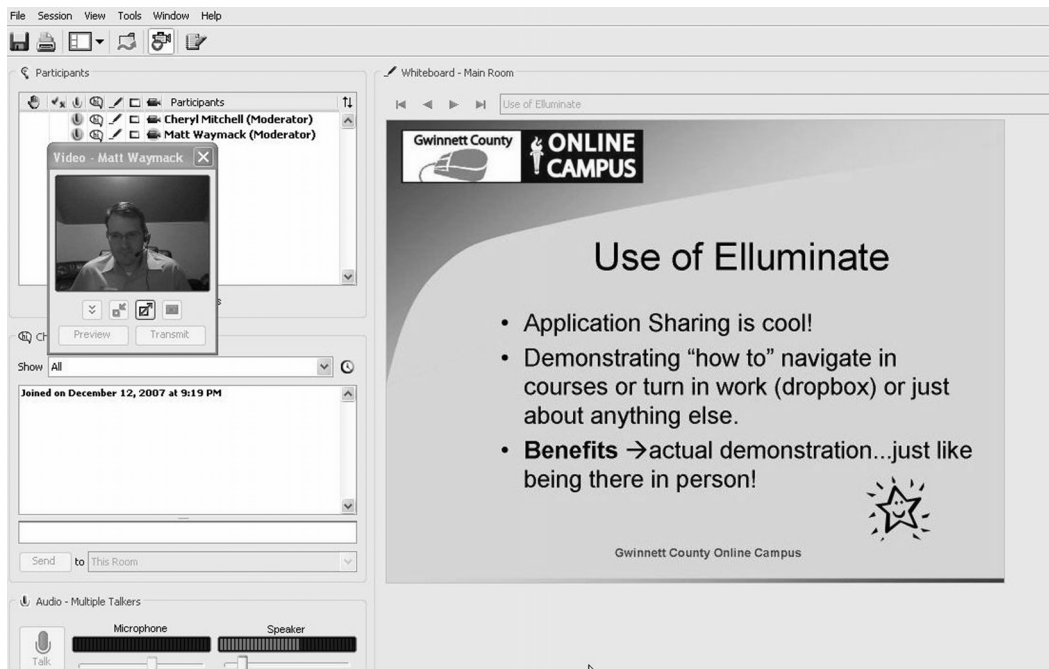


Figure 1. Using ClassLive Pro application sharing in a math class.

Figure 2 illustrates how using ClassLive Pro is used to share an application from Microsoft PowerPoint. Working in this mode saves the teacher time by having prepared lessons and visuals available to students to show and demonstration operations during online lectures. It provides a visual outline of the class discussion, and provides clearer explanations of concepts with applications that are shared with the class in real time.

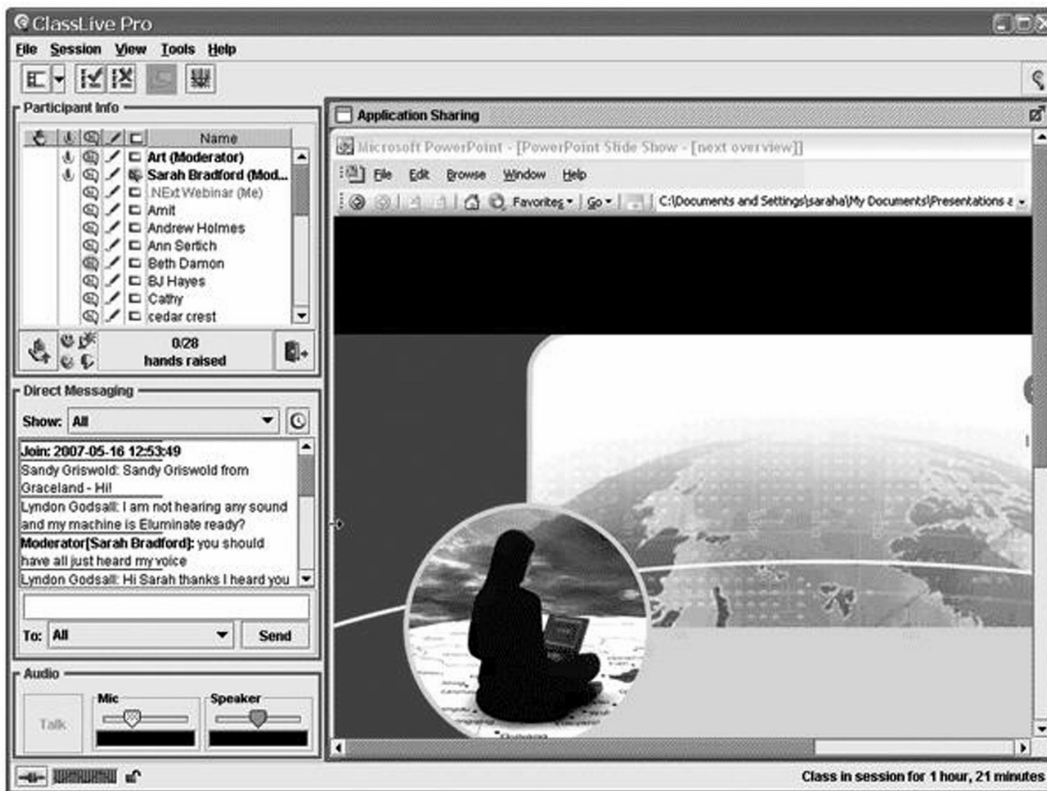
CLASSLIVE PRO PROVIDES SERVICES TO GCOC SPECIAL NEEDS STUDENTS

In support of the Americans with Disabilities Act (ADA), Section 508 of the Rehabilitation Act, and the World Wide Web Consortium (W3C) Web Accessibility Initiative (WAI), ClassLive Pro provides the flexibility to allow all individual users to experience live distance education and Web collaboration environments. GCOC special needs students are able to partici-

pate as equals in their ClassLive Pro session. Other features have also been implemented that allow students with a range of disabilities and other challenges to participate and to feel that they are a part of the class community. There are features that promote accessibility, including keyboard access to menus and dialogs, closed captioning, enlarged video, user-defined color, and screen reader compatibility.

CONCLUSION

The use of ClassLive Pro has many benefits for GCPS, as it captures the essence of face-to-face instruction and empowers learning and collaboration for the entire school system. Using ClassLive Pro provides a highly interactive element to their online campus program. The live video and voice conferences are the greatest benefit of pulling students into the community of online learners. Once students feel part of a larger



Beyond Synchronous VoIP capabilities, the ClassLive Pro conferencing tool offers richer and more interactive features than any other whiteboard tool.

Figure 2. ClassLive Pro application sharing with a PowerPoint presentation.

community, they are engaged more fully in the learning process. ClassLive Pro creates the connections most students need for success in online education. Since the implementation and use of ClassLive Pro GCOC, students have achieved better end-of-course test scores and fewer students have dropped out of the program.

Using ClassLive Pro also allows the online campus administrators to attract and retain qualified instructors and leverage limited teaching resources. It is available to the entire school system to conduct professional development to teachers and administrative staff without costly travel or teleconferencing, and increases the efficiency and effectiveness of faculty and staff meetings. It also provides an efficient

means of dissemination of instructional information.

Synchronous tools are becoming more commonly used in all distance education environments, which enhances the quality of a student's online experience. Beyond synchronous VoIP capabilities, the ClassLive Pro conferencing tool offers richer and more interactive features than any other whiteboard tool.

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