Rochester Institute of Technology (RIT), The Wallace Center

Distinguished university uses Adobe® Connect™ to make content accessible at the world's largest technical college for deaf and hard-of-hearing students

R·I·T

**Rochester Institute of Technology
The Wallace Center**
http://wallacecenter.rit.edu

Industry
Education

Challenges
• Improve accessibility to course content
• Implement a cost-effective accessibility solution
• Conduct ongoing research to implement alternative accessible solutions

Solution
• Accessible eLearning
• Blended distance learning

Integrating real-time captioning pods in Adobe Connect, RIT is making higher education highly accessible to thousands of deaf and hard-of-hearing degree program students.

Results
• Enhanced educational opportunities for deaf and hard-of-hearing students
• Significantly reduced travel and admission costs by tens of thousands of dollars a year
• Developed custom pods for real-time captioning
• Supported blended distance learning models
• Improved student and faculty collaboration and communication

Systems at a glance
• Adobe Connect
• Adobe Connect Captioning Extension
• Adobe Captivate
• Adobe Presenter

Highly evolved commitment to accessible learning

When Academic Technologist Jeremiah Parry-Hill reflects on the rich history of distance learning at the Rochester Institute of Technology (RIT), he sees a longtime commitment to accessibility. Founded in 1829, RIT has been delivering distance learning for over thirty years. Along the way, the institution has been committed to making course content accessible, continuously striving to overcome the ongoing challenges of cost and educational copyright issues.

As far back as the early 1990s, the preferred—albeit the only—way to make course content accessible was by capturing lectures live and adding a layer of captioning on the resulting video tape. In the early years, RIT piloted a web conferencing solution using Adobe Connect web conferencing software, the use of which grew exponentially. At that time, Adobe Connect was used exclusively for online delivery of lectures, but it quickly expanded to support blended learning models still evolving today.

"We've been chasing new media and dropping captioning on top of every type of media that comes along. Wherever educational media goes, we have to make it accessible. Our dream is to make all of RIT's course content accessible. That dream is a difficult one, but today Adobe Connect is helping us create online course experiences in meaningful ways," says Parry-Hill.

RIT faculty are required to consider accessibility when developing curriculum. All media used in course materials must be captioned. All class interactions have to take accessibility into account. For example, learning situations such as phone conferences are problematic because deaf or hard-of-hearing students cannot identify speakers or sort out cross talk. With the research, development, and support provided by the academic and instructional technologists at RIT's Wallace Center, accessibility requirements are being met in new ways.
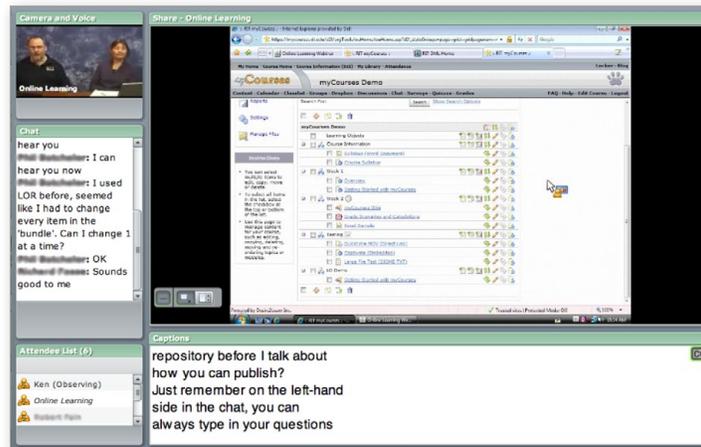
It's up to the Wallace Center staff—tasked with managing and supporting technology for all RIT colleges—to guide faculty toward alternative accessible solutions using Adobe Connect, especially in serving the 1,200 degree students in the National Technical Institute for the Deaf (NTID), one of RIT's eight colleges and the world's first and largest technological college for students who qualify as deaf or hard-of-hearing.

Breaking sound and signing barriers

The innovative thinkers at the Wallace Center have dedicated themselves to pushing the limits of accessibility, working in close collaboration with RIT academic researchers and outside technology partners. As a team, they leverage the affordances of the online learning environment that put every student on equal footing, regardless of hearing status.

"Deaf and hard-of-hearing students in mainstream educational settings simultaneously face multiple inputs of both text and non-text information, such as an instructor, an interpreter, PowerPoint presentations, and video," says Peter A. Lalley, Ph.D., NTID. As part of a National Science Foundation grant, Lalley and a group of researchers have been working with text generation systems (Dragon v.10 and MacDictate) in conjunction with different kinds of display modes that can bring all these different inputs together in a unified visual field, eliminating the need for students to divide their attention among various inputs.

Adobe Connect helps make RIT educational opportunities not only engaging, but also accessible to thousands of deaf or hard-of-hearing students. RIT Wallace Center staff customized Adobe Connect using the free Adobe Connect Captioning Extension. The extension adds a real-time captioning pod to the Connect environment, helping ensure that all participants can fully engage in the online learning experience, as well as use recorded Connect sessions as study aids.

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Jeremiah Parry-Hill
Academic technologist,
The Wallace Center, RIT

"During our research, we found Adobe Connect to be a very attractive system to help provide the unified field of vision students need. Adobe Connect can enhance educational access, not only for deaf or hard-of-hearing students, but also for students with other special needs such as learning disabilities and attention disorders, as well as English as a Second language (ESL) students," says Lalley. "We think Adobe Connect has great potential for supporting educational success at both secondary and post-secondary levels, especially in the science, technology, engineering, and math disciplines."

According to Jessica Hooper, an instructional technologist at the Wallace Center, the two biggest challenges of making course content accessible are cost and educational copyright issues. Although it is possible to capture an American Sign Language (ASL) provider alongside a live lecturer, frame rate and image quality are not always conducive to sign language transmission. Additionally, current trends in education and accessibility result in some students entering college without ASL fluency.

"We experimented with pointing a camera at someone signing ASL, but that didn't accommodate students of all needs. Also, the quality wasn't good enough for students to fully comprehend everything that was being delivered," says Hooper. "If we didn't have the ability to fully engage students with speech-to-text real-time captioning, all our online courses would be limited to asynchronous message board style classes, which doesn't necessarily work for all instructional models."

With clinical and academic data at hand, the Wallace Center staff has found a way to implement advanced real-time captioning of audio content by customizing Adobe Connect using the free Adobe Connect Captioning Extension. The extension adds a real-time captioning pod to the Adobe Connect environment, helping to ensure that all participants can fully engage in the online learning experience, as well as use recorded Connect sessions as study aids.
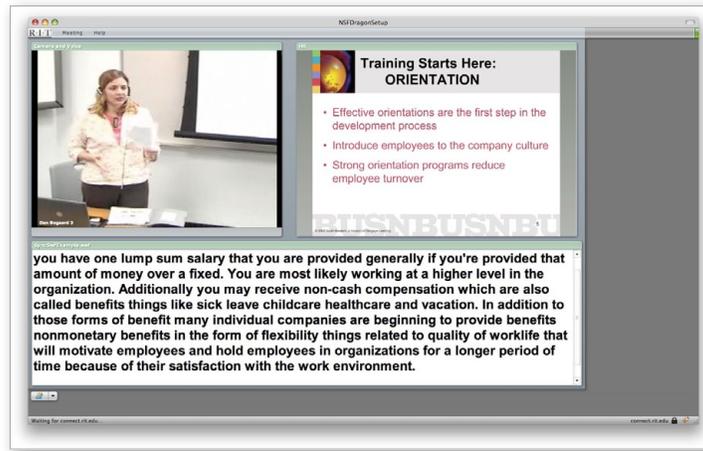
The caption pod displays the text provided by Caption First's Communication Access Real time Translation (CART). The custom solution was first developed by the Media Access Group at public media station WGBH in Boston. Looking forward, an established real-time transliteration system called C-Print exists at NTID, which will also integrate seamlessly into an Adobe Connect captioning pod.

Ease of use and ubiquity drive adoption on and off campus
One part of Hooper's responsibilities is to oversee Connect training for faculty. "The biggest reason Adobe Connect has been embraced by many of RIT's academic departments is because it is so easy to use, and is so accessible worldwide. It requires no special downloads thanks to the ubiquitous Adobe Flash® Player," says Hooper.

In addition to using Connect to make content accessible for deaf and hard-of-hearing students, RIT is using the solution for distance learning and to support blended learning environments. RIT's College of Applied Science and Technology has several international programs in Croatia and Dubai that use Connect for synchronous and asynchronous content delivery. In all cases, recorded Connect sessions have become valued assets as study guides, and are of particular use for students whose first language is not English. Use of Adobe Captivate® and Adobe Presenter software contributes to the creation of archived educational material.

Adobe Connect provides the unified field of vision students need—enhancing educational access for all students at both secondary and post-secondary levels, especially in the science, technology, engineering, and math disciplines. Adobe Connect has been embraced by many of RIT's academic departments because it is easy to use and is accessible worldwide.

Across campus and across the globe, RIT faculty use Adobe Connect in a variety of ways including online office hours and synchronous lectures involving multiple guest speakers. Additionally, Connect has proven to be an essential tool to facilitate communication and collaboration for faculty meetings, outside partner collaborations, professional staff development, and non-credit community webinars, as well as for recruiting and orienting incoming students. According to RIT's Office of Part-Time and Graduate Enrollment, Adobe Connect has significantly reduced travel and admission costs by tens of thousand dollars a year.

With Adobe technology helping RIT meet its mission—and after three decades of ongoing commitment to the successful delivery of accessible online learning—RIT has received the accolades it so richly deserves. In 2008, RIT received a New Media Center Award of Excellence recognizing the institution's advancement of emerging technologies, faculty innovation, and online learning.

For more information
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