

Raymond D. Aller, MD, and Hal Weiner

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Making the most of classroom technologies to train residents

Google the phrase “millennials killed” and you’ll discover a genre of Internet clickbait claiming the generation in question has rejected a lengthy assortment of previously popular items, from “the suit” to “napkins” to the “hangout sitcom.”

While the clickbait accusations may be spurious, millennial learners, as a whole, do have a distaste for the traditional lecture, according to Edward Klatt, MD, preclinical curriculum director and professor of pathology at Mercer University School of Medicine, Savannah, Ga. “We have a generation of people who have grown up with electronic access and expect information to be delivered to them in other [nontraditional] ways,” he says.

The education arena increasingly is addressing the demands of these learners by offering a host of information-management tools, many of which can expand the learning environment beyond traditional lectures. Furthermore, many of these tools can be acquired inexpensively, as pathology residency and other health science education programs are usually part of a larger institution with access to WiFi networks, servers, and computers.

Classroom technologies, however, are not one-size-fits-all, and they should be selected in accordance with the curriculum and level of the learners, says Dr. Klatt, who gave a presentation on information technologies that support education initiatives at the 2016 American Society for Clinical Pathology annual meeting.

Audience-response systems, for example, which allow teachers to pose questions throughout a class session and collect student answers electronically, are well suited for residents because they foster high-level discussion, Dr. Klatt says. He recommends that instructors allow students to submit answers through the system anonymously, helping to create a nonthreatening atmosphere for less-confident students.

Audience-response systems facilitate student participation in lectures by requiring students to answer questions via clickers or software apps. The lecturer then receives immediate feedback about whether students understand the material. This can compel educators to allot more time to discussion, Dr. Klatt says. And that’s OK, he adds, because “the act of discussion is as important as reciting the facts.”

Dr. Klatt is quick to note, however, that hardware and software alone do not create a curriculum. “Organizing [your] educational delivery is key,” he says.

Among the myriad of tools available specifically to keep didactic materials organized are course-management systems. While these aren’t often used at the postgraduate level, Dr. Klatt says, they can be helpful for organizing a residency program curriculum. Not all professors are aware that commercial CMSs may be available for use in university-based residency programs, he adds.

A course-management system is basically “an electronic filing cabinet,” Dr. Klatt explains, noting professors can use Moodle, a freeware version of a CMS, if they don’t have access to a commercial version of the software. He

advises educators to carefully organize the content of the course-management system to ensure students can intuitively find all materials. “Just putting something in an electronic format doesn’t necessarily solve all your [organizational] problems.”

Another classroom technology, examination software, provides exam delivery, scoring, and analysis, allowing teachers to easily run statistics that track individual and group performance and compare different cohorts. “The real value is being able to develop an exam and use it year after year,” Dr. Klatt says. He recommends cloud-based examination software that students can access from a Web browser and that is priced per user rather than per exam or institution.

Dr. Klatt also advocates the use of cloud-based lecture-capture software, which gives students the flexibility of listening to lectures outside the classroom. Lecture-capture software provides an inexpensive and easy mechanism to reproduce material for use at home, he explains. Cloud-based software can generate a URL for teachers to post or email, allowing students to access lectures from a Web browser.

Like lecture-capture software, podcasts offer students the flexibility of a “remote classroom.” The freeware podcast recording program Audacity produces an easily editable audio file. “[It] produces about 90 percent of what you could produce in a sound studio,” Dr. Klatt says, though he notes that PowerPoint also has a recording function.

The use of online textbooks and journals is also on the rise, but they can be expensive, and pricing must be negotiated by the institution. Costs may differ depending on such factors as whether an institution is public or private, whether it wants limited or full access, and whether it wants individual versus institutionwide licensing.

The size of the institution should be taken into consideration, Dr. Klatt adds. He suggests that smaller institutions consider partnering with larger ones on such technologies. “Mercer University, for example, has contractual arrangements to provide our hospital with online journals and textbooks, to which the residents have access,” Dr. Klatt explains.

Because decisions about classroom technologies are often made at the institutional level, Dr. Klatt advises convening faculty members from different departments who have expertise with classroom technologies and can evaluate their pros and cons. The group should establish a goal of selecting tools that can be used in every classroom on an institutionwide basis and that won’t require frequent updates or replacement.

The amount of faculty and student training required to master classroom technologies should also be taken into account. Some technologies, such as audience-response systems, must be used frequently to maintain proficiency, Dr. Klatt notes. Another key consideration, he adds, is whether the technology can help to teach skills, rather than simply impart information, and thereby prepare students for board exams.

“If possible, test a group of students and faculty members on a technology before adopting it widely,” Dr. Klatt advises. “If you decide to use a technology without testing it, you run the risk that users will not make good use of it.”—*Charna Albert*

Visiun debuts tool for AP analytics and reporting

Visiun has released an anatomic pathology analytics and reporting module for its Performance Insight business intelligence and lab analytics system.

The module is designed to help pathology department staff monitor operational workflow and performance metrics in anatomic pathology. Among its features are the ability to track turnaround time from specimen collection through case sign-out, identify pathology utilization and synoptic reporting metrics, and compile and categorize quality metrics for pathology specimens and outlier reports.

[Visiun](#), 800-941-4937

Data Innovations releases new version of middleware

Data Innovations recently introduced version 8.15 of its Instrument Manager middleware product.

Among the enhancements in this latest version is a high-availability feature, which continuously monitors the status and availability of a client's primary Instrument Manager system. "If the system detects a critical system event, the system will automatically initiate a failover sequence to a secondary, mirrored system to resume operations and minimize downtime," according to a press release from Data Innovations.

Also new to version 8.15 is a simplified traceability feature, which groups and organizes specimen audit information to quickly identify the chronology of events and actions performed for a specimen.

[**Data Innovations**](#), 802-658-2850

HHS cybersecurity center to address threats to health care

The Department of Health and Human Services is expected to launch, this summer, a health care-focused cybersecurity center modeled on the Department of Homeland Security's National Cybersecurity and Communications Integration Center.

The new entity, which will be named the Health Cybersecurity and Communications Integration Center, will share information about health care-specific threats with other government agencies and the private sector, HHS chief information security officer Christopher Wlaschin explained while speaking at a meeting of the American Council for Technology-Industry Advisory Council. The center will analyze cyber threats, deliver best practices, and collaborate with the private sector and government agencies on innovations that safeguard patient data.

HHS has provided grants to the National Health Information Sharing and Analysis Center, a community of infrastructure owners and operators within the health care and public health sector, to encourage "broad participation" in the cybersecurity initiative, Wlaschin said.

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