

# Educator, Preceptor, Researcher, Author and . . . Techno-Geek!

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Back when dinosaurs roamed the earth and many of us were optometric youngsters, all the technology we required for teaching was an overhead projector, a slide projector, a piece of chalk and a chalkboard. At that point, we just needed a group of students in front of us who at least pretended to be awake for that 8 a.m. class. Students would often write furiously to gather the written and spoken words.

Today, it's a whole different story. Technology has made, and continues to make, its way into every aspect of teaching and learning. One of the consequences is that we as educators have some serious learning curves to climb. Not to mention that the time it takes (either on our own, with a group or online) to learn everything that is new has the potential to interfere with our ability to do research, develop lecture material, teach students in the classroom/laboratory/clinic, interact with patients and appropriately perform all the other responsibilities we have as optometric educators. Furthermore, we are expected to interact with students via e-mail, forum posts, chat rooms and various social media sites. No wonder we often feel overwhelmed.

On the other hand, new technologies allow students to interact and engage. They allow us to build digital bridges

to students' minds to improve the educational experience. In addition, they can help us determine whether our students understand what is being taught. In the past few months, we at the Illinois College of Optometry (ICO) have undergone a whirlwind of digital transformations. Almost simultaneously, we not only remodeled our lecture center, but installed (and are in the process of tweaking) a host of cutting-edge technologies. This article provides an over-

view giving all some food for thought regarding both the challenges and the opportunities associated with technology in optometric education

## Technology in the Clinical Procedures Lab: the EyePod

The EyePod is ICO's new clinical procedures laboratory. (Figure 1) We have installed computerized visual acuity

**Figure 1**  
Learning to use patient care technology in ICO's EyePod.



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systems, electronic health records (NextGen) and digital eye health teaching devices. For example, the Eyesi Ophthalmoscope (VRmagic) is a training simulator for binocular indirect ophthalmoscopy. (Figure 2) The device can simulate patients with AMD, retinal detachments and other eye health problems. It can even determine whether our students actually saw that peripheral retinal hole.

The EyePod also includes digital video/audio recording capability that can be used during student proficiency evaluations for various diagnostic procedures and patient interactions. (The same computerized/digital enhancements are already used in the Illinois Eye Institute.) The digital recordings can then be played back at a later date so faculty and students can readily determine where students performed well and where they need to improve. The video can also be made available to students online so they can review it at their leisure.

Interesting videos or images shown at the teaching podium or gathered by the slit-lamp camera in the first lane are displayed on all monitors in the room.

### Technology in the Lecture Center

The ICO lecture center has been completely remodeled so that students can digitally access what we teach via Wi-Fi or take notes that augment the presentation. (Figures 3 and 4) Each comfortable seat has its own table space and electrical outlet for plugging in laptop computers or other digital devices. In addition to high-resolution projectors for displaying our lectures, high-definition monitors are strategically placed for student and lecturer viewing. Cameras placed throughout the lecture center record presenters no matter where they may move about the stage area. This recording starts and ends automatically and then becomes immediately available to students right after the lecture for review from any Internet-accessible location. The recorded lectures show a video of the presenter and anything being shown on the data projector at that time. Live streaming of the lecture and optical character recognition of all PowerPoint slides are features still in the works. Imagine a student or faculty member being able to search the entire

**Figure 2**  
**Heather McLeod, OD, Assistant Professor at ICO, tests the Eyesi binocular indirect ophthalmoscopy simulation device.**



**Figure 3**  
**The new technologically advanced lecture center.**



**Figure 4**  
**Richard S. Kattouf, OD, DOS, Chairman of the ICO Board of Trustees, speaks in the new lecture center.**



catalog of lectures in the optometry program and find all occurrences of any keyword. With a mouse click, he or she could replay just those particular spots of the video recording.

During lectures, students and faculty can interact using the Turning Point Audience Response System. These clickers allow faculty members to pose questions via PowerPoint slides, retrieve answers from students, and display the results in a bar graph showing the number of students who selected each answer.

### **Student Information System**

The College also converted to an entirely new Student Information System. Blackbaud, the global provider of software and services, integrates the activities of our admissions, registrar, business and development offices. Seamless sharing of information now allows data to be entered only once. The ICO Web

page, applicant/student portal and faculty/staff portal also underwent a total overhaul with the introduction of My.ICO.edu, a Blackbaud interface that allows all of our digital resources to be available in one place. That's not all. An entirely new Learning Management System, powered by Sakai, has also been installed. Among its many functions, it gives students instant access to our PowerPoint presentations and lecture handouts.

### **Technology in the Exam Room**

Just as with our teaching and laboratory spaces, our clinic areas have also become digital. Faculty and students use computerized visual acuity tools, visual field devices, non-contact tonometers and autorefractors/keratometers. We continue to work on improving our productivity with the new electronic health record system.

Our mission is to make all of this new technology work flawlessly while providing superior eye care to our patients and an exceptional teaching experience for our students. There's no doubt it demands a tremendous amount of effort for all of us. Strangely enough, when the digital gods shine upon us, we do manage to accomplish all we need to accomplish most of the time, and the march forward has benefited our students and educational programs in amazing ways.

## **A Farewell** *from the Authors*

Dear Colleagues,

Sadly, this is the last installment of ASCOTech from the Amazing Digital Duo of Goodfellow and Maino.

You can continue to keep up with what we have to say about technology by befriending us on Facebook, linking to us on LinkedIn, tweeting us on Twitter, visiting MainosMemos.blogspot.com, contacting us the old-fashioned way, via e-mail, or reading our new column that will appear in the AOA News.

It certainly has been a pleasure writing this column for *Optometric Education* and for all of you over this past decade.

Thank you,

DM & GG