



Entrepreneurial Evolution:

Blending Education and Technology by Alan M. Miller

With nearly 27 years of experience in the health care industry, I've used just about every means and technological modality possible to perform professional training. I've learned a lot and have made a lot of mistakes, but throughout my career I have made it a priority to find innovative ways to provide practitioners with the most up-to-date training possible. Now, with Apple's introduction of the iPad, training on new products has taken a "leap frog jump" to the next level.

Throughout the years, I have experienced first-hand the application of how industry training has evolved. I learned a few lessons along the way, which helped me in the development of the world's first dental laser app for the iPad.

Lesson One, Age 20

For one of my first training opportunities I walked into the conference room energetic and enthusiastic. The audience smiled and laughed. Everyone seemed to really be enjoying themselves throughout the presentation. As I walked to the car afterward, I realized my zipper was down. I quickly figured out what or shall I saw "who" was so funny. **The lesson: Overall appearance is important.**

Lesson Two, Age 23

Trying to gain experience and pay for college, I took every job the hospital would offer me. I was given the chance to train doctors on how to implant pacemakers in surgery. I was training in surgery centers all over Indiana. Luckily I learned early on that eight hours of using a slide projector, handouts and hands-on training proved long, laborious and boring for both me and

the audience. I learned to teach by speech and to be concise. **The lesson: Keep it short, to the point and accurate.**

Lesson Three, Age 26

I became focused on training in mobile and modular cardiac catheterization, as well as MRI and CT labs. The difficult subject matter required me to create a tactical game plan – to have a schedule, to build endurance, and to learn by repetition. I would begin with the basics, move through the guts of it and begin again. Talk. Show. Learn. Repeat. **The lesson: Have a strategy and teach by repetition.**

Lesson Four, Age 28

Accucam hired me, welcoming me to the world of dentistry. Training in dentistry proved to be very different than my previous experience of teaching in hospitals. I developed my own teaching style – demonstrate it and let the staff run with it. During that period, I discovered that practitioners needed some type of support material, so I wrote brief "how-to" and FAQ manuals. I learned that generally, dentists favor visual learning while staff favor auditory learning. **The lesson: Adapt training methods to people's needs.**

The Culmination of Lessons, Age 45

With each jump in technology our visual aid tools have become easier to work with. Slides and the projector were effective but clumsy, VCR tapes were functional but not easy to work with; however, as the digital age has paved the way for computers and DVDs, our training aids have become more compact and eas-



The iPad™ with a custom designed AMD LASERS App is currently offered in conjunction with the Picasso brand dental laser package.

ier to facilitate. When I developed the Picasso, I knew a whole new world of dentists would enjoy the benefits of laser dentistry. Designing, manufacturing and selling the number-one laser in the world is fulfilling, but an equally great need is a focus on training. First I developed an online training and certification program which was adequate, but not great. Issues with bandwidths and “glitchiness” made online training challenging. We then tried the same curriculum on DVD. This time we had issues with compatibility among different brands of DVD players and CPUs. There had to be a better avenue to get this training to the physicians...

Taking lessons from my youth – knowing overall appearance is important; understanding that people only pay attention if information is short, accurate and to the point; using strategy and repetition for learning; and knowing that different people learn in different ways – helped me develop the first ever dental laser app for the iPad, a whole new vehicle of technology for training.

What's H“App”ening Now?

The Apple iPad presents the ability to educate and communicate instantly without scouring manuals, looking for DVDs, or dealing with frustrating online issues. It is compact, efficient and state-of-the-art technology, and creating an AMD Lasers app became an obvious solution to intelligently access company educational and marketing materials.

The company enjoyed a huge success earlier this year with iPads at the California Dental Association Presents (CDA). While other companies were firing lasers into apples, we were educating with our iPads by showing clinical cases. The overall response resulted in a packed booth, and nearly 200 professionals placed orders for new Picassos. Much of our success can be attributed to educating about the lasers rather than “selling” them.

“How do you create an app anyway?” you ask. Most importantly, I can tell you that you must be completely dedicated to the process.

Developing an app is not as easy as one would think. Although Apple allows anyone to do it and there are some off-the-shelf programs that will help, writing something that hasn't been written before has its challenges.

First I started with a list of priorities and a list of what I wanted the app to include. As a business owner, philanthropist and a normal all-American guy, I wanted to pave the way for other dental manufacturers in going green. Reducing the paper (manuals, etc.) and the plastic (DVDs) we send to our clients has its advantages.

I wanted an easy-to-use app that could be downloaded from iTunes, preloaded onto an iPad and shipped with our laser. It would include all of our manuals, articles, quick start guides and patient educational brochures – basically anything we would have printed. I wanted set-up videos, “how-to” videos and of course our six-hour soft-tissue laser certification course with an interactive test. Let's throw in electronic coupons for free laser accessories, a direct link to our e-commerce site for ordering supplies and a RSS feed to send our clients instant updates and messages. I researched third-party companies that can help with app development and found a wide range from \$5,000 for help from India to more than \$100,000 for help from California. I elected to go with a local Indianapolis company and I am glad we did. Many back-and-forth conversations and multiple site visits were necessary to accomplish writing and delivering a breakthrough app.

After months of design and redesign, Apple approved¹ the 1.0 version and we were already at work on 1.1 and 1.2.

Because appearance is important (Lesson #1) we chose a familiar and aesthetic look – eBooks. Our app looks much like a book shelf with icons of PDFs and videos. Manuals and laser articles have easy-to-view icons and descriptions – just touch and they are instantly readable.

Because I know people are more interested and engaged when the information is accurate and to the point (Lesson #2), you can zoom, rotate and print files and the “How-To” section is comprised of short videos. When you press the icon for “How to Initiate a Fiber,” it instantly plays a clinical video in either portrait or landscape format. Same is true for the entire group of “How-To” icons. All are easily viewed and understood.

I am especially proud of the six-hour certification course and test. The course is divided into 12 chapters and made the test interactive so you can save your progress if you do not finish in

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one sitting. It allows for an entire office to enter their name and take the test. This way video chapters can be reviewed if there are questions, because I know that repetition is key (Lesson #3) and that various team members may need to further review how-to manuals or watch demonstration videos to cater to their learning styles (Lesson #4). When they hit the "submit" button they get an instant grade and are shown which answers are wrong so they can go back and review and retake. When they pass, their name and grade are sent to our server and a certificate is generated. All with a touch of a button.

When the course is passed, it instantly pings our server with the demographics and laser serial number, and will generate a printable PDF certificate. It's a very seamless process but delivering CE credits for passing a test on device a thousand miles away was very challenging to set up. I think I am most proud of the test.

The state-of-the-art security built into the app limits the number of downloads per office. This is a programming feature that compares serial numbers to ensure multiple offices are not using the same serial number. The volume of detail to work through is incredible, but the size of the content proved to be the most challenging. The resizing and compression of the existing DVD-based videos proved to be most challenging. It had to look great but be compressed enough to be downloadable.

The app works like most any other app. When we add, delete or modify content it auto-alerts users to download the update when connected to iTunes. Recent research reports that

30 percent of people who are familiar with the iPad are interested in purchasing one.² An important caveat: don't forget to include (in the cost) the time you must individually devote overall from concept through fruition.

Ralph Waldo Emerson said, "Build a better mousetrap and the world will beat a path to your door." By incorporating a few lessons I learned through the triumphs and mistakes of my youth, listening closely to what potential users wanted, having a commitment to up-to-date technology, and keeping a vision in mind, I reached my goal. AMD Lasers has the first laser dentistry app available, and just as I had envisioned it, it is now loaded onto iPads and is being shipped with our products. ■

Author's Bio

Alan Miller is president and CEO of AMD LASERS, LLC. He resides in Indianapolis, Indiana where AMD LASERS, which was founded in 2008, is currently headquartered. He has more than 25 years of experience in high-tech medical and dental technologies, and is revered by dentists around the world for making laser technology affordable for all.



1. Apple requires all apps go through an approval process and they charge on average 30 percent of whatever your list price is. This approval process is necessary in order to get updates and Apple support.
2. techfever Network. (2010, June 7). Let's talk about numbers survey. Retrieved October 1, 2010, from <http://www.techfever.net/2010/ipad-statistics>



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