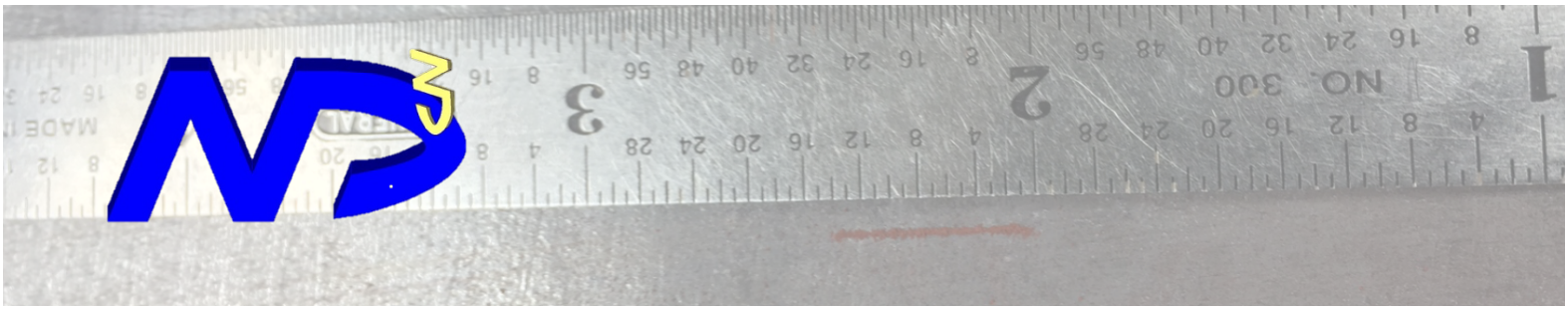

Techinical Bits: Online Training

I'm asked, from time to time, why ND3 doesn't offer online training. In this installment of Technical Bits, I'll explain my opinion of online training as it relates to NDE.

First a little background. I've worked almost my entire career in the Oil Field; offshore, refineries, fabrication yards and chemical plants. Additionally, most, but not all, of my training has come in the field as hands on experience and by putting my face in a book – the original online training.

I've never been satisfied with doing only one thing over and over and over and … anyway, you get the point. I liked to do a variety of things in my career and to do that I've always relied on a couple of things, my base intellect and the experience of others to show me the way. I'm grateful to those individuals who showed me how to do this stuff in the field. The point is this: To become a well-rounded NDE'er, you must have education comprised of multiple compartmentalized components - theory, and practical. The theory shows **"why"** it works and the practical shows **"how"** it works.

A friend of mine, also a Level III, told me once that, as trainers, if we make training harder than 8th grade math or 9th grade physics, we weren't doing our job. That kind of resonated with me. So, I use that as the barometer of my success when teaching. We all know that this NDT stuff involves some physics (yep, I used that ugly word to describe what we do). Physics is difficult stuff but it's there and we do use it. Physics is the ***"why"*** things work like they do. Putting your hands on a machine and seeing the physics in action is the "how" it works. They must be used in conjunction with each other.

Training the physics online seems like a no-brainier, slap some interactive slides up and have the students read it while a disembodied voice reads the same thing. Have you ever been to generic industry safety training? Remember how mind-numbingly boring that was? Just turn off and try to click "next" a bunch of times to get to the test? That's exactly what happens during an online NDE class. It's what happens when you take a live-in-person class if the material doesn't interest you and the instructor sucks. Sorry, I probably shouldn't have said that some instructors suck.

So, if you've managed to slog your way through an online physics course for, let's say ultrasonic testing, and get the online training diploma and someone hires you and you go to work in the field, what's next? You'll go to work with a technician who may or may not have a firm grasp of the technical concepts involved in UT work. You may retain only 10% or 20% of what was presented because of several factors. First you had to decide the meaning of sometimes complex principles by yourself using your experiences as the guides for understanding and second, because the material is presented in only one form (the premise being that you retained enough to make it through the test at the end) you may only be prepared to respond to any question that may be asked only if the question is presented in the exact or nearly exact terms used during your training. You may have a problem when faced with a test that doesn't conform very closely to the standard Q&A books available in the industry.

The technician that you'll work with may be a great UT technician or may not be. You have no idea because of your one-dimensional training and have no clue what a good technician looks like. You don't have a lot of confidence in yourself because the process is new and because you've never, or only for a short period of time, put a machine in your hand – it's very hard to simulate a UT machine online and make reflectors act like reflectors and make your hand act like your hand on a computer. Everything that the certified technician teaches you becomes your own methodology when conducting an inspection.

I've just outlined the problems associated with online training as current technology allows it to be: There is no interaction with live instructors or instruments so that you can ask your questions and become competent in the method that you are learning. That interaction is key to successful learning. It is the premise of a successful class in the most basic format of learning.

I've taught a lot of classes, I've attended a lot of classes. I've had what I consider some major successes as an instructor and I've, especially at the beginning of my teaching career, had some train wrecks. Over the years, I've learned many techniques for getting my point across, the biggest of which is that the interaction that I have with the young men and women at this stage in their career is the basis that they have for moving their career forward. They cannot excel if I "phone it in". That, to me, is the fundamental problem with online training. There is no real-time interaction with the student that allows them to assimilate the information on their terms, in their own time, using their own words and experiences. They can't physically use the physics that is learned in the classroom on a real part under real-ish conditions in real-time.

Some online training offers the student the opportunity to travel to some testing center to gain some "hands-on" experience with a piece of equipment. Ummm, what's the point of having on-line training if the candidate should travel to go to a training center to learn how to use a machine? Especially if the online portion and practical portion is separated by some time. Take UT for instance. When we do a UT course, we generally have time, during a discussion of some physics, where we prove the premise by firing up the UT machine and seeing the response and explaining the reason why something works and how it will look in the field. That's when we get the AH-HA moments and the light bulb goes on. It's really rewarding for both the student and the instructor.

So, if you are contemplating an online training course, please do so with caution. We have made the conscious decision that online training for the type of work that we do is ineffective at best because it usually doesn't involve direct interaction with the instructor or effective practice on any unit that the technician will use.