



# How Online Training Can Benefit Schools

BY **ROB MUNRO** WITH **DAVE CAPITOLO**

Online training is education or training that takes place over the internet, and is available anytime, anywhere. Everyone learns at a different pace and retains information differently. The freedom of online training allows the student to invest their full attention into their own development, and progress at their own pace.

AERA works closely with trade schools and has developed an Engine Machinist Certification Program that can be customized to work for all engine classes. The AERA program allows the instructor to set goals, timelines, and view results by tracking student progress, giving both student and instructor more flexibility for valuable shop time.

I had a chance to sit down with De Anza College's Auto Tech Instructor and Department Chair, Dave Capitolo. Dave uses the AERA online training program in his curriculum. He has been one of our pioneers of the program, and even had the opportunity to work closely with Gary Lewis who is the author of our training book, *Automotive Machining & Engine Repair*.



“Using the online training program frees up class time that can be used for more hands-on learning.”

— Dave Capitolo,  
DeAnza College Auto Tech  
Instructor and Department Chair

**EP: How did you get started in the industry?**

**DC:** Like many of us in this industry, I got started working at a gas station cleaning floors and pumping gas. After two years at Skyline College Automotive Technology, I continued down Interstate 280 to attend De Anza College. I heard that De Anza College had a full machine shop and I had developed an interest in machining and engine building. That is where I met Gary Lewis who happened to be an instructor at De Anza. After completing the year in Gary's class, I went to work at a semi-production machine shop, doing machine work and building engines. After many years working in the industry I got the itch to teach and when Gary announced his retirement, I was lucky enough to be hired to take over for him. I have been teaching at De Anza College for 15 years and have been using the online training for the last five years.

**EP: What are the advantages of an online training program from an educator's perspective?**

**DC:** Using the online training program frees up class time that can be used for more hands-on

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learning. Before online training, I would give my class the 18 chapter-ending quizzes during class time. On average each quiz required 60 minutes for the students to finish, time for me to run the scores, and another 30 minutes to answer questions about the quiz. During the course of a school year, that amounts to more than 30 hours. Those 30 hours of class time that we save by taking the quizzes online, can now be used in the shop to complete more work.

Another advantage for the students is learning how to become more self-sufficient because they cannot procrastinate with a deadline looming. The quizzes must be completed by a deadline to get credit. Deadlines also make students realize the importance of accountability.

### EP: How does online training complement face-to-face instruction?

DC: I feel that classroom work is always needed for students to become complete learners. Even though some students really are kinesthetic learners, I do not



Pictured above are the 2017-2018 students from De Anza College's Machining and Engine Repair class who all completed the AERA online training program.

Shown left is one of the certificates graduates receive upon completion of the program.

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In addition to diploma-quality certificates, graduates also receive patches.

let them get away with using that fact as an excuse not to work in the classroom. The material in the online training provides another resource for students to use outside of the classroom.

### EP: What is your perspective on online training and cheating?

**DC:** Obviously, I do not condone this behavior, but since the tests are taken outside of class time, I cannot control what they use as resources. Even if students are using their textbooks to find the same question that is on the test, students are still reading the question multiple times and reading the answers multiple times. This is repetition. I still give several tests in the classroom to make sure that students are doing the work and not just finding the answers. The first of these in-class tests usually sends a message that students cannot get away with a lack of effort with the online tests.

### EP: What are your thoughts on how the younger generation likes to learn? (hands-on vs. classroom)

**DC:** Students often tell me that they learn better with hands-on learning. I agree that working in the shop is a great way to enhance learning, but it is only one learning modality. To become a well-rounded student, reading, writing, and note-taking are important. I like to think of the shop work not only as time for hands-on learning, but also time for developing motivation and passion.

### EP: What skills do your students develop after completing the online training program?

**DC:** This online training program is an excellent complement to hands-on work in a shop environment. I am fortunate to be able to lecture for a while every morning, help students work in the shop, and then complete the learning by using the online tests. Classroom activities and online studying with topics like speeds and feeds really helps students figure out machine set-up and operation so they can be more productive. So much of the automotive industry is using



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critical thinking skills to figure out complex problems and understand failure analysis. So, I guess I can summarize by stating that the reading and online work helps prepare students for more productive shop work. In education this is usually called lab work, but I prefer to call it shop work.

### EP: Is the AERA program incorporated into your student registration fees? If not, how is it paid for?

DC: No, each student pays for the online training program directly to AERA and it is considered the equivalent of a textbook fee. The cost is \$75 per student and includes access to the online training environment and a paper copy of the textbook. This cost is heavily discounted because AERA offers discounts for larger groups.

### EP: AERA has established the Engine Rebuilders Education Foundation (EREF) to provide scholarships and grants to individuals who have the passion to enter the engine rebuilding industry. Do your students receive any kind financial aid?

DC: Most college students who are economically disadvantaged receive different forms of financial aid to help pay for school, books, and living expenses. There are some students who may not receive enough financial aid to live and attend school. Some students may be eligible to apply for EREF funds to help offset the cost of the online training. There have been a few students over the years that have used EREF funds to help with the cost of the online training.

### EP: What is the average length of time your students need to complete the program?

DC: My program is unique in that I have the same students for the entire school year, so we take the whole school year to complete all the online training. I establish a deadline for each test as we finish each chapter. I then record their scores after the deadline and I use that score as the grade for that chapter. As previously mentioned, I give an in-class test every six weeks to make sure that students are actually learning. I think it is important to mention that students are also given performance appraisals to prove competency in the shop.

### EP: Do you allow students to complete the online training in class or are they to complete the work on their own? What if they don't?

DC: The most exciting outcome for me using the online training is the amount of class time that is freed up for more learning in the shop environment. This only happens if the test-taking is done at home on the student's time. I have experimented with allowing all students to complete one of the finals in class together, sort of in a collaborative environment. We are fortunate to have 24 school laptops that I distributed to the students for the final. It gave the students the opportunity to take a fairly intense test in a more relaxed environment. Our completion rate is 100%, mostly because the scores become a big part of the grade. The other motivating factor to completing is the professional looking certificates that students earn by successfully completing the entire program.

(continued)

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**EP: How do you monitor the students' progress? How do you make them accountable?**

**DC:** AERA issues a unique login to the instructor. The instructor then has an additional tab that displays the entire class and all the individual scores for each test. Each student completes these online tests according to the chapter being studied and submits them before the deadline. There is a sense of urgency to complete each test on time, but maybe that is because grades are at stake.

**EP:** As Dave mentioned, the AERA online training program is priced right and is only \$75 per student based on a group of 10 or more, which includes the training book. For more information please visit our website at [aera.org/training](http://aera.org/training) or call Karen at 815-526-7600.

It's schools like De Anza College that hold the key to our future engine builders. There are many schools around the country that are teaching engine programs. I would encourage all shop owners to take the time and get to know

the instructors in your area, your next engine builder may be right around the corner. ■



Rob Munro, AERA's Membership and Technical Development Manager, has 34 years of industry experience and is a former machine shop owner. In 2000, Rob's shop won the prestigious "Machine Shop of the Year Award". Rob began serving AERA as a board member in 2001, was board chairman in 2007, and continued serving as an advisor into 2014. For more information, email: [rob@aera.org](mailto:rob@aera.org).

*AERA would like to thank Dave Capitolo for his support and for taking the time out of his day to answer some questions about his experience with our Online Training Program. It's great to hear that this program has helped save classroom time and provided the students the opportunity for more shop time.*



## AERA Automotive Machining Online Training

For more information about the AERA Cylinder Head and Machinist Certificate Program, call Karen at (815) 526-7600 or visit the website:

[aera.org/training](http://aera.org/training)

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