Training Your Users with No Training Budget

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CM2797   Times are tough and companies are having a hard time justifying the cost of training. On the other hand, as a CAD manager, it is your responsibility to ensure that your users are trained in the tools that they use. What if you could provide the training they need with little or no budget set aside for training? What if you could train them with very little impact on production? This class will give you some great ideas about how to accomplish just that. You may find that new approaches to training not only reduce the cost of training, but also provide better results.

Learning Objectives

At the end of this class, you will be able to:

- Sell management on a new way of training

- Identify training obstacles in a tough economy

- Apply training approaches that reduce impact to production

- Apply training approaches that reduce cost

About the Speaker

Eric is a veteran instructor at AU, with this being his ninth consecutive year. He is the Author of AutoCAD Civil 3D 2013 Essentials published by Wiley/Sybex. He also serves as Design Systems Manager for Timmons Group, a Civil Engineering Consulting firm located in Richmond, VA and works as a consultant for Engineered Efficiency, where his duties primarily include writing and developing educational materials for Autodesk® products. He has also worked for Avatech Solutions (now IMAGINiT) as a Project Manager and Applications Engineer. During his tenure at Avatech, Eric provided training and consulting to hundreds of firms across the country, in addition to authoring seven training manuals for Avatech training courses. Before joining Avatech, Eric worked for ten years in the surveying and civil engineering fields as an employee of the H. F. Lenz Company in Johnstown, PA.
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Introduction

There is no doubt that times are tough especially within industries that involve the use of technologies such as CAD. Many companies have been in "survival mode", chuckling at the idea of spending money on anything that is not directly billable, such as training. With the economy in this condition, many companies are having to get creative about ways to provide training to their employees.

In this class, we'll discuss many ideas - many of which I hope will apply to yourself or your company/organization. I don't claim to have a magic formula that will enable any company to produce experts at zero cost, but I have had to rely on some creativity (mine and others') to get some training done in my company over the last few years and I'd like to share some of that with you. I've also been on the other side, working for resellers and consultants, the kinds of people who provide training to people like you. This has also given me some additional insight into the ways training can happen, what is effective, and what is necessary.

How We'll Break This Down

In an effort to understand the challenges piece by piece, I'd like to look at four distinct items that affect a company's ability to provide training to its employees:

- Training Budget - Money available to pay instructors, buy books, pay travel expenses for students or trainers, etc.
- Trainers - In-house experts who have the subject matter knowledge as well as teaching ability.
- Resources - Training rooms, computers, books, and other tangibles that are necessary for training
- Out-Of-Production Time - Ability of employees to step away from billable activities to spend time in a training class.

To work our way through this, I'll start with the perfect scenario: an unlimited supply of all of these things. Then we'll work backwards from there, gradually taking them away and talking about how to overcome a limited supply of each one. My hope is that this will be an effective way to address the needs and concerns of a variety of individuals and companies in a variety of situations.

The Perfect Scenario - Unlimited Everything

What would training be like if you had unlimited budget, resources, ability for folks to be away from production, and your very own team of in-house experts to perform the training? What is

the best, most effective way to train your users when money is no object? In my experience the answer is a training program that takes place in three parts:

1. Classroom Training
2. Over-the-Shoulder Training
3. Ongoing Support

Let's take a closer look at these three parts:

Classroom Training

Classroom training is important for many of the same reasons that people work out better with a personal trainer. In a classroom setting you are informed, influenced, and inspired by your instructor as well as the others students in the room. Left to your own devices, you will not be as thorough or as diligent as you complete the training. You will also not be able to get answers to questions you have about what you're learning.

Classroom training should be hands-on and instructor-led. It should be a combination of lectures and demonstrations from an instructor who has extensive experience along with exceptional speaking and motivational skills. The book provided for the training should be written specifically for your company and the datasets that go with it should be of projects that were completed by your company. In other words, it should be completely customized.

Over-the-Shoulder Training

The most effective way to take what you've learned and "make it stick" is to apply it to the real world immediately after the training. This usually requires the help of the instructor to bridge the gap between what you've learned in class and actually applying it to a project. Following the classroom training, the instructor should follow up at each student's desk to sit with them and work through "real" designs on active projects. This is also a good time to go over parts of the class that the student missed or didn't understand.

Ongoing Support

Even after two rounds of training, users will still run into problems and situations where they don't know what to do next. The instructor should be on-call to answer any questions and to provide further guidance and instruction if needed.

In order to provide this experience to your users, you will need the following:

Training Budget	Trainers	Resources	Out-Of-Prod. Time
• Instructor's classroom teaching time • Instructor's travel expenses • Writing of custom material • Instructor's over-the-shoulder teaching time • Instructor's support time	• Reseller or consultant	• Training room • Computers • Projection equipment • Books	• X hours out of production • Down time during over-the-shoulder training • Down time during support calls

Limited Training Budget

So now let's assume you have everything you need in the other three categories but find that your company cannot or will not fork over the cash for all of the things in the Training Budget column. Training can still happen in the absence of any or all of these items and here's how:

Use In-House Instructors

This one is easy: have one or more of your own employees serve as instructor. That might be you, someone else, a number of people, or any combination. Keep in mind that, although you might be the CAD Manager, it doesn't mean you have to be the trainer for everything. In fact, it might be a good idea to let one or more of your in-house experts do the training. It's quite possible that there are people in your company that spend a lot of time doing one particular type of design or another, making them even more expert than you in that particular area.

The obvious benefit is that your company gets to keep the money it would have paid to an instructor provided by a reseller or consultant. Of course you still have to pay your internal people, but you would have done that anyway. A big challenge associated with this approach is that your trainers are often your top-notch production people as well and it might be difficult for them to break away from their "real jobs". It helps immensely to get a time commitment up front from the supervisors of any people that you've asked to be trainers.

Have the Training Presented Remotely

Having an in-house person be your trainer takes care of this one too. However, if you don't have someone in-house you may need to stick with a trainer provided by a reseller or consultant. This is good time to ask about having the instructor present the class remotely. By using one of the many online meeting services, your instructor could teach the class from wherever he or she hails, eliminating travel expenses. A challenge with this approach is that it can be more difficult to keep the

students attentive, or even in the room, when they don't have a real person looking at them. Still, a skilled and experienced instructor can still be nearly as effective across the web as he or she is across the room.

Use Vanilla Training Material

Custom training material is great but it is very expensive to produce. For every hour of instruction in the classroom, it is not uncommon for 4-8 hours of lesson writing and dataset development to be required. Since only the best of the best are typically able to write good training materials, this can get expensive in a hurry. As an alternative, use a training manual already on the market that comes with its own dataset files (most do). The challenge here is that you're sacrificing some of the relevance factor meaning that students might do things in class that they'd never do at their desks. A good instructor can bridge the gap for them and make connections that establish relevance for them. Relevance is important for an effective learning experience.

Scale Back the Over-the-Shoulder Training

As mentioned in the previous section, relevance is important to an effective training experience and having some one-on-one training on a real project is about as relevant as it gets. However, paying a professional instructor to do this for a large number of employees can carry quite a price tag. There are several ways to reduce that cost. One is to do the training in small groups rather than one-on-one. Maybe gather 3 or 4 people around one person's desk, assuming those 3 or 4 people all do the same types of designs. Another idea is to have the instructor provide this training remotely via web conferencing software. This will obviously reduce travel costs but often a lower hourly/daily rate can be negotiated for this type of service. Finally, you can have an in-house person provide the over-the-shoulder training. Perhaps have one of your power users attend the training to get a good feel for how the instructor presented the material, then have that person do the follow-up training instead of the professional instructor.

Scale Back the Delivery of Support

When questions arise, the value of having the instructor available to answer them is considerable. In a perfect world, the instructor would stay on-site and be available for questions for an extended period of time. Of course the instructor has to be paid for this time, making it potentially cost-prohibitive. To help offset this cost you could opt for a less "on-call" type of support and allow your users to simply e-mail questions to the instructor. Many companies will even offer this service at zero cost as long as they don't have to commit to any kind of response time or quality of service. Another approach could be to once again have one of your own power users attend the class and provide support in the days following its completion. It's important that the individual providing the support be someone who actually attended the training; otherwise the answers could be confusing or even contradictory.

Limited or Unavailable Trainers

Let's say that your company has nobody in-house that can perform the training and is unwilling to pay a consultant to perform the training. Here are few options you can consider for this situation:

Have a Consultant Provide a Recording

If trainers are in short supply, it might be a good idea to call your reseller or a CAD consultant and ask them if they can provide recordings of the lectures of a given class. Chances are they may already have recordings of their "vanilla" classes that they can sell you or maybe even offer up for free. The closer you are to subscription renewal time, the better it is to ask for something like this as an added value to your subscription.

Of course this will be tougher to do for a custom class but if you're willing to pay someone to do it, I'm sure they'd be more than happy to record themselves teaching the lessons for your training. This is a great money-saving option when you've got to offer the same class multiple times due to the number of people you are training. You could do the first session live, record it, and then play the recording for the remaining sessions.

Record Yourself

Another approach that might work is to record yourself doing the lecture portions of the training and then make those recordings available to your users via intranet, DVD, or some other means. You could even set up a class and have them gather in your training room or conference room, and simply play the recording of the class. This frees you up to continue doing support or production work and gives your students a simulated version of being taught. If they have questions, perhaps they can e-mail you or give you a call to come to the training room and assist.

Of course this requires your time to create the recordings but perhaps you could do this during off-hours when there is no production or support to be done. Or maybe you could enlist the help of a few power users in your office and split up the work a bit.

There are several screen capture programs out there that will record what you say, what you do on screen, and what you do on camera all at the same time. They are relatively inexpensive and easy to use. A decent headset microphone is also a good investment because it will greatly improve the sound quality of the video. Don't get caught up spending hours on editing to make it perfect, this can easily become a huge drain on your time. The users will have basic video controls to jump back and skip ahead to get to where they want to be. Often folks will spend a lot of time making menus, breaking up the video into segments, removing dead spots, etc. If the info gets across, that's all you need.

Have Users Train Themselves

As a last resort, you can always provide the materials and have the users work through them on their own. If the motivation of your users is in question, you may want to introduce some testing into this scenario so that they have some incentive to actually complete the training they've been assigned. If possible, make yourself available to answer questions via e-mail or maybe even an internal discussion board. Some users will do just fine learning on their own, others will not. But if you don't have the money or the personnel to either perform the training or record it, then you're out of options anyway.

Limited or Unavailable Resources

Training takes more than just a trainer and some books, especially when you're talking about CAD training. I'm fortunate in that my company has two training rooms; one equipped with computers and one without. Both rooms have built-in projectors and projector screens. For really large crowds I even have a third option that can seat about 150 people.

I realize however that not all companies are this well-equipped for training. What if you're company doesn't have access to some or all of these resources? Of course, if you're using recordings and/or the train-yourself approach from the previous section, all of this can be done from the users' desks anyway. But what if you want to provide the traditional classroom experience but lack some or all of the resources? Here are some ideas:

Get Creative with Your Training Room

Most companies have a conference room that can seat at least 4-6 people. This can be a place to set up a small class, even if it's a hands-on class. For larger groups, you may have to get creative. Perhaps you can rearrange some furniture in your office to make a larger open space where multiple people can see a single instructor. Maybe there is a hotel nearby that rents out its conference room space at reasonable cost. Do you work with any clients or subcontractors that have training facilities you can borrow? Perhaps if you open the training to a few of their employees too, they might let you use their facility. Whatever the case, the room doesn't need much…enough space for the number of

students you're expecting, some tables to hold computers, some chairs to hold students, a table or podium for the instructor, and a small table to hold a portable projector.

Get Creative with Computers

For hands-on classes, securing computers for your students can be challenging. You might think that using their work computers is an easy solution but the disruption of moving all that stuff to another room can be considerable. It's much better if you can have separate computers set up in your training room (official or unofficial) and ready to use. A good place to start is with your IT department. They may have some computers that were retired out of rotation because they weren't quite up to par for production but work just fine for training. If you're willing to spend a little money, your reseller may offer one of its mobile computer labs for rent. This is a tool most resellers and training companies have to enable them to do on-site training. In most cases, they're more than willing to rent it out during a time when it's not in use.

Another completely different solution is to have your students come to your training area for the lecture/demo part, but then go back to their desks to complete exercises. To keep from wearing out the carpet between their desks and the training room, perhaps you cover an entire chapter at a time and then send them back to their desks to do an entire chapter of exercises. This approach actually has some advantages. It breaks up a long day of training, gets the students on their feet at regular increments, and gives you a clear idea when everyone is done with their hands-on work: when they're all in the room.

Projection Equipment

This is an item you pretty much cannot do without. If you're going to be demonstrating the use of a computer program to 2 or more people, you need to place it on a large screen of some sort. A projection screen isn't always necessary if you can find a clean white wall but the projector itself is a must-have. If your company doesn't own one, then you should track one down either to borrow or rent. Some companies have large flat-screen monitors in their lobbies that serve as company billboards. If your company has one of these, perhaps you could borrow it for your training.

Books

Books are another must-have item for any training class. They can also be a somewhat touchy subject because of the temptation to duplicate copyrighted material. I can tell you from personal experience that the kinds of folks you're stealing from when you photocopy books are just regular people like you and me; not millionaires by any stretch. So please, honor the copyright of printed material. For custom material that is created just for your company, this is typically not an issue and the material can be copied as many times as you need.
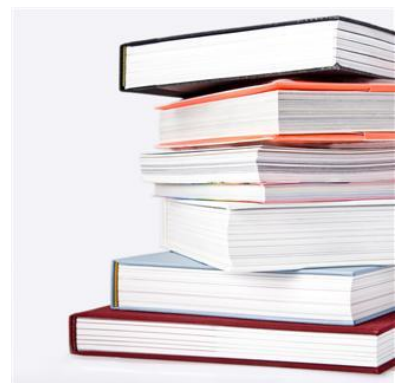
With that out of the way, what can you do? If you're using copyrighted material, contact the publisher to see if you can get a bulk rate on purchasing multiple copies of the book. Some publishers will even sell the books in digital format which can

be a big money-saver if you need a large number of books. If you want an even lower price, perhaps you can purchase used copies of the books you need.

Another route you can take is with your reseller. Some resellers produce their own training material for their customers and are willing to offer it at reduced price or even free depending on what promotions are going on at the time. It never hurts to ask so give your reseller a call and ask if the folks there can hook you up with some books for you training.

Also, keep in mind that although your students will want to walk away from class with their own book, this doesn't have to be a necessity. Instead of purchasing books for your students, purchase them for the classroom - just enough to supply a full class. Let folks know that they can come to the classroom to borrow a book but make it clear that it's not their book and must be returned. In this way, you can buy just 10 books and use the same 10 books 10 times to train 100 people - a 90% reduction in training book costs!

Limited Out-of-Production Time

Sometimes a company has the budget for the training, the materials, and the resources, but the users just cannot break away from their production duties to participate in training. Awhile back, this was typically because they were just too busy. In recent times, this has been because they need to make every minute billable to stay profitable in a tough economy. Whatever the reason, you have a dilemma: you have training to provide but no users to provide it to. What do you do?

Over-The-Shoulder Training

When users need to stay productive then your answer is to let them do just that: stay productive. To make this work, the project they're working on must become your training dataset and you must use the project itself as a training opportunity. This type of training is usually very specialized, covering a specific type of design or procedure during a short time. For example, if a user in my office wants to learn how to design road intersections, she should try to estimate the point in time when she'll be ready to perform that design and set up an appointment with me. If all goes as planned, we'll meet at that time for an hour or two, I'll walk her through an intersection design on her project, and all is good. She'll use what she's learned to design other intersections in that project as well as future projects. Most importantly, most if not all of the time spent on the intersection design is billable. She trained and got work done at the same time - a great accomplishment.

I have used this method of training many times over the last few years and have become quite fond of it. This type of on-demand learning is extremely effective and efficient. In vanilla training classes, some of the material a user learns will be irrelevant to the job that he or she does. For example, if I had taught intersection design in a training class, there might be several people in that class that are never faced with that type of design. With over-the-shoulder training, the material is always relevant. For that reason it can benefit the user immediately and is often retained much better because of its relevance. With this model, people learn what they need to learn, when they need to learn it.

A downside of this method is that there are gaps in each users understanding of the software. Users are unable to identify instances where they need to use certain features of the software simply because they don't know these features exist. For this reason, it is important to supplement over-the-shoulder training with some basic "vanilla" training as well. The basic training may not give them production-ready skills in all aspects of the software but it will at least make them aware of all of the software's capabilities. Then, when they identify the need for a certain feature or procedure, they can request over-the shoulder training to get an in-depth understanding of that feature.

Conclusion

When considering training for your company, don't lock yourself into the traditional outside trainer - classroom model. There are many ways in which you can deliver training using your own skills, the skills of your co-workers, technology, and some creativity. Effective training does not have to be delivered in a classroom by a single instructor whose primary job is to be a trainer.

In the first part of the class we outlined the perfect training scenario when time, money, and resources are in abundant supply. Even though we've discussed all of these cost-cutting and time-saving measures, I think it's still important that you shoot for this "perfect" model as much as possible. Don't cut costs or cut corners just because you can. If the time, money, and resources are there, give your employees a quality training experience. If you find some of these things lacking in certain areas, then start to employ some "value engineering" to your training at that point.

Of course I don't expect you to use every one of the ideas in this class to train your users but hopefully a few of them will pay off for you and you can get some training done that you wouldn't have otherwise. Good luck!