Running A Technical Training Course

A trainer requires very different skills from a technician, so if you are asked to take on this role it's well worth spending time preparing yourself. **This is the first of a two-part article.**

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As a PC support person there is a good chance that, sooner or later, you will be asked to run a technical training course. After all, your job is to help your users get the maximum benefit from their computers. Well-structured training is a key part of that process. Many IT departments run in-house courses for their end-users, and people from the PC support team might well be expected to organise these classes and serve as instructors.

Clearly, the skills needed to teach a technical training course are different from those required for troubleshooting hardware or configuring software. Many IT departments are full of gifted technicians who are hopeless at imparting their knowledge to other people. That said, if you feel comfortable standing up in front of an audience, and if you are able to explain technical concepts in a way that others can understand, there is no reason why you shouldn't succeed. You might even find technical training an enjoyable and rewarding activity in its own right.

In this article I will focus on how to organise and teach traditional classroom-based training courses. Despite the growing popularity of computer-based training (CBT), training videos, and other forms of self-paced study, the old-fashioned instructor-led course, where all the participants work together in the same room, is still the most effective form of technical education. This is true whether you are teaching end-users how to exploit the latest version of their word processor, or enlightening fellow IT professionals in the intricacies of software development or network management.

The Objectives

Before you can plan the course you will need to be clear about its objectives. In particular, you will need to know what sort of people will be attending, what their existing expertise is, and how they expect the course to benefit them. The objectives should be formally agreed by the instructor, the trainees and their respective managers. Management will want to see objectives expressed in terms of measurable benefits. When describing these benefits, you should do so in concrete terms, using language which everyone concerned will understand. For example, don't say that the course "will explain how to use the corporate database as a data source to a mailmerge process". This is too abstract, and does not communicate any benefits. It would be better to say that the course "will show how to generate personalised letters to the company's customers".

Having agreed the objectives, you must then spell out the skill levels or experience that those attending will be expected to have. Dealing with underqualified trainees is one of the most frustrating situations which an instructor will face: trying to teach advanced Excel macros to someone who has only a passing knowledge of spreadsheets, for example.

Workshop Or Lecture?

Another important issue is the extent to which the course will be based on practical work. When teaching any kind of computer-based activity - whether it is editing Word documents or writing C++ programs - by far the most effective approach is to have the trainees actually do the work, on PCs, in the class. They should be able to work along with the instructor, and also undertake practical exercises on their own, under the instructor's watchful eye. To achieve this, you

Update 146:January 2001
Page 13

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File: T0170.1
Tutorial:Guidelines

will of course need a properly equipped training room. More importantly, you will need to limit the size of the group, as you will not have enough time to supervise the practical work of a large number of trainees. Most professional trainers believe the maximum size of a practical-based class should be between six and eight, although you might be able to increase this in some cases.

Ideally, each trainee should have the sole use of their PC. Some trainers argue in favour of two users per computer, on the grounds that they can collaborate more easily, and that the faster person will help the slower one. I disagree. In my experience, sharing PCs substantially slows the pace of the course and robs the participants of many of the benefits of a hands-on approach. Besides, there are other ways of encouraging collaboration.

Although hands-on training is usually the most effective approach, it is not the only possibility. A more traditional format, where the participants simply listen, ask questions and take notes, might be appropriate if you are teaching a theoretical subject, such as systems analysis or database design. You might also be forced to forego the practical element if you cannot provide enough computers for the course, or if you have a large number of people who need training. However, theoretical classes do not have to be formal lectures. You can still encourage discussions, and you can use paper-and-pencil exercises to vary the pace and introduce a practical element. Ideally, a theoretical course should be relatively short, so that the trainees can return to their desks and put their new skills into practice as soon as possible. If you cannot cover the subject in, say, a day, consider breaking it into separate courses over a longer period.

The Venue

The physical environment will be a vital factor in the success of the course. The training room must be comfortable, well lit, properly ventilated, quiet, and with plenty of room for the trainees to spread out their papers, take notes and work at their computers. Temperature control is especially important: with half a dozen or more computers and a data projector on the go, the room could become uncomfortably hot within a couple of hours.

Pay particular attention to the seating pattern. All the participants must have a clear view of the instructor and of any display surfaces (projection screen, flipchart, etc) without having to constantly twist their heads. In a practical class, the instructor must be able to easily walk among the trainees to see what they are doing on their computers. If you want to encourage interaction and discussion, the participants should also be able to see each other without undue turning of heads. A good approach is to arrange the desks in a V- or U-shape, with the trainees seated on the outside, and the instructor standing at the open end. This arrangement promotes good all-round visibility, provides ease of movement for the instructor, and does not come across as being too formal. But it also takes up more space than traditional theatre-style seating. Where space is tight, a herring-bone pattern, with each row of desks facing diagonally inward and to the front, offers a good compromise. The worst arrangement - but one which is often used even by professional training companies - is to have all the desks facing the wall.

Do your best to ensure that the class has exclusive use of the room throughout the course. In some companies, the training room doubles as a general meeting room or a place to keep shared equipment. You certainly won't want people wandering in "just to use the scanner". For the same reason, try to ensure that phone calls are not put through to the room and that the trainees are not called out to deal with problems. Finally, don't forget the refreshments. A good supply of hot and cold drinks and light snacks will be greatly appreciated by the participants. And make sure they are close at hand. You will lose a lot of time if you have to lead the group to a distant coffee room whenever it is time for a break.

Visual Aids

Traditionally, instructors have relied on flipcharts, whiteboards and the like for their visual aids. These still have a role to play, but in a computer-related course you have a much more effective tool: your computer screen. Given that you will want to demonstrate the actual techniques that you are teaching, the best approach is to let the trainees see your screen as you work on your PC. If your course

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Update 146:January 2001
Page 14

PC Support *Advisor*
www.pcsupportadvisor.com

File: T0170.2
Tutorial:Guidelines

has no more than four participants, you can usually achieve this by attaching a second monitor - ideally a 19-inch model or bigger - to your PC, turned to face the audience. Don't try to do the job with a single monitor. With one screen, there is simply no way that you will be able to work at your computer, interact with the audience, and have the audience see your screen at the same time.

In larger groups, you will need a good-quality data projector. At a pinch, you might be able to manage with an overhead projector and a separate data panel, but this will never give as good an image as a dedicated LCD projector. If at all possible, use a projector which is powerful enough not to require the room lights to be turned down. Familiarise yourself with its controls in advance, and - an important point - make sure that spare bulbs are available and that you know how to change them. Using the computer in this way means that you will also be able to use a presentation package, such as PowerPoint, for your visuals. Power-Point slides are much easier and cheaper to prepare than other visual aids. It is also easier to change the sequence of the presentation - and even edit slides on the fly - as the course progresses. Take care to keep your slides concise and to the point. Stick to punchy bullet points rather than verbose text, and avoid crowded graphics or distracting animations. Choose a simple background pattern and apply it consistently - and take a similar approach with fonts and colours.

If you are using PowerPoint, it's worth creating your own design template; the POT files supplied by Microsoft tend to be too intrusive for sustained viewing. For the best combination of colours, choose light text on a dark background. White or yellow on blue is probably the ideal scheme, although it is worth experimenting with others. (After some trial and error, I settled on pure white for my text; for the background, I chose a shade of blue with the RGB value of 0,102,204.)

A useful trick is to add sequence numbers to the slides. If you insert an unobtrusive number in the corner of each slide, and jot down the same numbers at appropriate points in your own notes, this will greatly help you synchronise your material. In PowerPoint, the easiest way to number the slides is to enable the "Slide number" option in the Headers and Footers dialog.

Preparation

Ask a dozen professional trainers for the secrets of their success, and the chances are that they will all mention the same word: preparation. No matter what subject you are teaching, you will need to put a lot of effort into preparing your material. Without proper preparation, the course will muddle along, fail to hold the trainees' interest, and quickly run out of steam.

How do you know how much material to prepare? If you want a formula which tells you how many slides you will show per minute or how many topics you will cover per day, forget it. You could teach the same course twenty times, and each one would run at a different pace. Some groups will ask questions, start discussions, probe for more details; others will listen in silence as you race through your material. Thus I strongly advise you to prepare more - much more - material than you think you will need; believe me, there are few things worse than finishing a one-day class just after lunch. Keep a couple of extra topics in reserve; prepare some additional exercises; have in mind some extra points for discussion. As the course progresses, be prepared to vary the content according to the pace - while always keeping the course objectives in sight.

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Preparing a course takes a lot of time and effort. As well as writing and practising your notes, you will need to create the visual aids, write the courseware, plan the exercises, and provide sample solutions. You should rehearse the course several times so that you are familiar with the material and confident that everything you plan to demonstrate will actually work. But don't waste effort timing the rehearsals - the chances are that the timings will be totally different when you have an audience to contend with.

Before the course starts, send out joining instructions to the delegates. They will need to know when and where to report, what time the course will finish, what they will need to bring with them, and what arrangements have been made for phone messages. You might also need to deal with disabled access, special diets and so forth. If the course is to be held at the users' site, this information should go out a day or two in advance. If the delegates will be travelling to the venue, send it out at least two weeks ahead of time.

On the day of the course, arrive at the training room early. You will need time to check that the equipment is ready, that the required software is installed, and that all the bits and pieces - marker pens, notepads etc - are in place. It helps to keep a checklist of these requirements, including a note of the items which you need to bring with you. If possible, arrange for the trainees to gather somewhere else - a coffee room, for instance - while you are making your checks. Then, when you are completely ready, go to meet them and lead them back to the training room.

Introductions

You will probably start the course by introducing yourself and asking each of the participants to do likewise. This will give you an idea of each student's capabilities and attitudes, and also help establish your own credentials for teaching the course (obviously, this is less appropriate if you all already know each other). More importantly, these introductions act as an ice-breaker. By requiring each person to open his or her mouth in front of the group, you will make it much easier for them to ask questions or contribute to discussions later on.

Ideally, this round of introductions will also be an inclusion activity - one which involves the group as a whole. For example, you could ask one of the audience what he or she thinks of the software or application they are learning about, then ask the others if they agree. Again, the aim is to get the delegates into the habit of discussing ideas as part of the group. But don't spend more than about five minutes on this, and don't force a discussion if the class is not ready for one.

To help remember names, consider having the trainees wear name badges or display name cards. But don't rely on these completely, as they can easily get

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Update 146:January 2001
Page 16

PC Support *Advisor*
www.pcsupportadvisor.com

File: T0170.4
Tutorial:Guidelines

forgotten or lost. If you don't trust yourself to memorise the names, draw up a plan of the desk layout and write the names in the appropriate positions.

Before starting the course proper, run through the administrative arrangements. Make sure that everyone knows the finishing time, the arrangements for lunch, and where the toilets are. Point out any refreshments which are available, and make sure the participants understand the policy (if any) on eating and drinking near the computers and on smoking. This is also a good time to remind delegates to switch off their cell phones and pagers.

Course Content

And so to the course itself. How you approach the actual teaching will depend on the subject matter and on your personal style and preferences. In most cases, you will want to break the content into distinct modules and follow a planned routine for each of them.

In my own courses, I have adopted a "four phase" approach. For each topic, I start by presenting a short overview. Here, I simply speak to the audience - often walking among them - without visual aids of any kind. I then demonstrate the topic on my computer, encouraging the trainees to work along. (For this to work, it is important that everyone has the same version of the software and the same sample documents or test data.)

Next, I switch to PowerPoint. I generally show half a dozen or so slides to reinforce the main points of the topic. It is important for these slides to be concise and easy to absorb - two or three bullet points per slide is usually about right. Summarise each slide as you go along, but resist the temptation to read the text verbatim.

In the final phase, I hand over to the trainees. This usually takes the form of an exercise, but it might also be a short discussion. During the exercise, I visit each trainee in turn, helping them out with any problems, and dealing with any questions which they might prefer not to ask in front of the group.

It is at this point that differences in abilities will become most obvious. Some students will complete an exercise in a fraction of the time allocated to it, while others will still be struggling long after they should have finished. For the fast ones, it pays to keep some "advanced" exercises in reserve. But give these out

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Update 146:January 2001
Page 17

PC Support Advisor
www.pcsupportadvisor.com

File: T0170.5
Tutorial:Guidelines

quietly, on an individual basis, rather than to the group as a whole. This will prevent the slow people feeling that they are getting even further behind.

To help the slow people, you must be prepared to give them a little extra personal attention. Encourage them to complete at least part of each exercise so that they feel they have accomplished something. It is also useful to have a sample solution available. If a trainee is completely at sea, you can at least suggest that they study the solution and try to understand how it works.

After the exercise, I run through the sample solution to the group as whole. Where appropriate, I stress that this is not necessarily the only correct answer, but simply one method of achieving the goal: "Most of you are on the right track, although some of you have approached it in a different way".

Any Questions?

Ideally, you should encourage the trainees to ask questions as you go along, although this might not always be possible in a large class. Telling the group to wait for a separate Q&A session at the end of the day is not a good policy, as you risk leaving people behind if they fail to grasp the fundamental points. Spontaneous questioning also helps keep things informal, and it gives you a chance to stop speaking for a few seconds, something which you will rapidly come to appreciate.

As well as answering these questions, you should also try to learn from them. The questions will give you instant feedback on how well you are explaining the topic and whether you are moving at the right speed. Listen to the questions carefully and adjust the pace accordingly. They will also help you identify topics which might need a different treatment on future occasions.

When answering a question, try hard never to make the trainee regret asking it. There are few things worse than asking a question and then being made to feel that the answer is obvious or is something the instructor covered ten minutes ago. If you did just cover the topic, never make a point of saying so. Instead, say something like "I obviously didn't explain that very well; let me put it another way... ". Make a point of addressing your answers to the class as a whole. This will imply that the question is of value to everyone. And it never does any harm to prefix your response with "Good question" or "I'm glad you asked that".

If the trainees are reluctant to ask questions, try asking some yourself: "Who can tell me the best method for... ?", for example. If no answer is forthcoming, let your eyes rest for a second or two on each delegate in turn, thus signalling that you expect that person to answer. If silence still reigns, try a technique which professional trainers call the pregnant pause: simply wait, for as long as it takes. Sooner or later, someone will say something, if only to end the embarrassing silence. It is surprising how often this technique will encourage a response from someone who would not otherwise open his or her mouth.

When seeking responses in this way, favour open questions over closed ones: "Why would you want to use this feature?" or "What's wrong with that approach?" rather than "Which function key would you press here?". Follow up the answers with: "Has anyone got any other views on that?". These are all good ways of promoting discussion.

Do encourage discussions, but make sure they are kept under control and are relevant to the topic. They can provide you with additional feedback, help vary the pace, and make the trainees feel involved. But don't overdo them. They are not meant to be a substitute for teaching. Three to five minutes of discussion every hour or so is probably the right amount to aim for.

This article will be concluded in a future issue of PCSA.

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Update 146:January 2001
Page 18

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File: T0170.6
Tutorial:Guidelines

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