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How to Get the Most Out of Technical Training

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CM6052 How often have you gone to a training class, returned to the office, and forgot what you've learned? This class covers reasons for training (or not training) your employees and what managers can do to make sure their people are in the right classes at the right times. We will also look into the ways individuals learn when they attend a training class and how they can retain that knowledge. Finally, it covers ways in which managers can help their employees to retain class knowledge.

Learning Objectives

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

- Differentiate between an issue that can be solved by technical training and one that cannot.
- Identify people that benefit most from various types of technical training.
- Analyze learning styles and principles.
- Establish ways to help people retain knowledge from a training class.

About the Speakers

Martha Hollowell *is a senior instructional designer for ASCENT-Center for Technical Knowledge, based in Richmond, Virginia. Every year she writes and updates the training courseware for Revit Architecture, MEP, and Structure used by trainers around the world. She is an award-winning trainer and writer for the last 20 years, and has worked with Autodesk, Inc. products since the early 1990s, working on various architectural projects and customizing the software. She has a BS in architecture from the University of Virginia, a M.A. in Cross-Cultural Studies from Fuller Theological Seminary, and training as a Lifeforming Leadership Coach. She is skilled in leading individuals and small groups to understand and build on their potential. She facilitated an unconference/round-table discussion on best practices in teaching Revit software for Autodesk University 2011. A birding enthusiast, she has seen over sixty bird species in her yard alone with a growing life list of over 220.*

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Paul Burden *is the Director of Product Development for ASCENT – Center for Technical Knowledge, based near Toronto, Canada. He has been involved with technical training and support for CAD systems since 1995. During that time, he has led training content development projects for CAD and PDM software from most of the major developers of these types of software. Paul's latest projects include implementation of digital formats for student guides, including eBooks and online learning portals. Paul holds a Bachelor of Engineering degree and is a licensed Professional Engineer in the province of Ontario in Canada. When he's not at work, Paul enjoys any and all outdoor activities with his wife and two children, and still finds a little time to indulge his passion for television sitcoms.*

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Introduction

Over one hundred billion dollars is spent on training each year. A recent state of the Industry report by the Association for Talent Development says that much of this money is wasted because what is learned is not applied on the job. You don't want that happening in your company! To counter act this trend, we will use some words spoken in the play *Hamlet* to give you the tools that help you and your employees get the most out of technical training.

- *To Train or Not to Train?* – What are the real issues?
- *Method in the Madness* – Who needs training and which type of training is best for the situation?
- *To Thine Own Self Be True* – How do adult learning principles impact training selection and implementation?
- *I Beseech You, Remember* – How do I make sure that what is learned is used?

Question: What technical training are you thinking about implementing right now?

To Train or Not to Train?

Differentiate between an issue that can be solved by technical training and one that cannot.

The first step toward effective technical training is to make sure that training is the answer to the question. Not every technical issue can be solved by training. To make this decision, you need to identify both the real issues underlying the problem and the people who will be impacted by the solution.

Identify the real issues.

No amount of technical training can solve personnel issues (though some soft-skills could help). If you don't have the software loaded on the machines and don't have a plan to implement a roll-out then the technical training will be wasted. The solution, in that case, would be to include training in the implementation plan and not have training stand on its own.

Here are some questions you can ask to help you identify the real issues:

- Are your employees efficient and effective? Should you make a change?
- Is your copy of Autodesk Suite sitting there unused? Why?
- Are you doing the same thing over and over? Is there a better way?
- Are new users getting up to speed quickly with or without training?
- Are you keeping your most valuable employees?
- Are you being all you can be to your customers without additional training?

Identify the people involved.

Commonly called the stakeholders, these people, from all levels of the company, are the ones whose work is impacted by the situation you have identified.

- Upper-level administrators – Are they willing to pay for the training?
- Managers – Will they support the people being trained?
- Employees – Do they understand the need for the training?
- Employee's Peers – How are they going to work together with or without training?
- Customers – Will the training ultimately benefit the customer?

Question: Who are the stakeholders in your company? Are they on board with the training?

Method in the Madness

Identify people that benefit most from various types of technical training.

Once you have decided that technical training is the right solution, then it is time to choose the right people and the right type of training. This is especially important if you are implementing something new and life-changing. Just ask anyone who has moved from 2D drafting to 3D modeling!

Motivate the people.

You need to get people who are going to be impacted by the training involved and motivated.

> *"Most people come to training with one of four mindsets: as a learner, a networker, a vacationer or a prisoner."*
>
> *-Bob Pike*
> *Creative Training Techniques*

You want people to come to training ready to be learners. People who are interested in something are much more able to learn and apply it either through a class or on their own.

Choose people who:

- Will champion the product. Once you have champions in place others might be willing to come along too.
- Like to learn and are interested in the product.
- Are already using the software but not to its full capacity.
- Will put the training to immediate use.
- Some people are better off not being trained.

Select the right type of training.

People are critical to the equation, but it is also important to choose the right type of training for the situation. When you set the constraints (time, money, resources) surrounding the proposed training you can then select the type of training that matches the assets available. Ask more questions such as:

- How much time is available for training?
- What level of training is needed?
- Who should do the training (in-house, off-site, etc.)?

Training Types

Types	Uses	Methods
Job Aids	CAD/BIM Standards Brief “how-to’s” Context specific directions	Step-by-step Checklists Forms Decision Tables Post-it Notes (for the DYI crowd)
On-the-Job Training	Perform tasks Direct instruction	Coaching or mentoring Shadowing a co-worker Formal apprenticeships
Self-Paced Learning	Broad concepts Preliminary material for a class Self-selected information As needed	Training Guides and books e-learnings sites YouTube videos Search Engines Blogs
Instructor-Led Training	Complex content Immediate feedback Access to experts Group interaction	On or Off-site training classes Web Conferences e-learning with Instructor connection Lunch and Learn

If you are going to be the in-house trainer you can use all of the types of training. Be on the lookout for documentation that is already available as you don’t want to have to reinvent the wheel.

- Provide job aids such as a quick chart of some CAD/BIM standards such as file naming schemes and folder locations on the server.
- Work one-on-one with people when they are tackling a specific issue such as the first time they attempt a complex part of a project.
- Provide training guides or e-learning sites specifically selected to use when they have the time.
- Do Lunch-and-Learn programs to get groups of people up to speed.

Question: Who should be trained? What type of training would be best?

To Thine Own Self Be True

Analyze learning styles and principles.

No matter who you are in the learning process (manager, trainee, or instructor) it helps to understand how adults learn so you can produce the training and know what to look for when you attend the training.

Learning Styles

Everyone has a different blend of learning styles so adapt training to meet the needs of the people involved. The best training includes a mix. Some people learn best when they:

- See It - Visual learners prefer pictures, diagrams, videos
- Hear it - Auditory learners prefer verbal instruction and repeating it back
- Do it - Kinesthetic learners prefer hand-on tasks

Adult Learning Principles

The learning styles listed above are active throughout your entire life, but when you become an adult there are new twists to the way you learn. Many people have written about these principles but it all boils down to a cooperative learning environment.

Principle	Adults Say…	Ways to Engage
Respect	Don't treat me like I'm stupid.	Partner with the participants.
Benefit	I'm ready to learn because I see the need for it now.	Show participants what they will get out of attending training.
Relevance	Why should I bother learning this?	Focus on real-life situations and tasks.
Experience	I already know how to do my job, let's build on that.	Let them the participants contribute.
Responsibility	You don't have to tell me that I need this. I know it already.	Find out the expectations of the learners.
Motivation	Teach me what I need to do so I can do my job.	Give a sense of control, of being self-directed

Question: What is your primary learning style? Which of the adult learning principles is most important for your situation?

I Beseech You, Remember

Establish ways to help people retain knowledge from a training class.

Training can be like drinking water from a fire hose – so much information is thrown at you in a short period of time that there is no way you can remember everything. Training with no follow-up is a waste of money. To make training pay off back at the office:

Demolish Barriers to learning.

This needs to happen before, during and after a training event. Typical problems include:

- Lack of time
- Lack of confidence
- Lack of information about opportunities to learn
- Scheduling problems
- Lack of motivation
- "Red tape"

Create an action plan.

Action plans should be put in place before training to set expectations. While you are in training, make notes about what you want to try when you get back to the office. Each person can do this or meet as a group (if applicable) to decide what needs to be implemented and in what order.

- Write down your action plan when you are finished. That way everyone can look back and make sure the changes are being made.

"The palest ink is better than the best memory."
-Chinese Proverb

Plan for the best and prepare for the worst.

This is true with just about any project. Have options in place when everything works as expected and when situations derail all of your plans.

- What are some alternates to training if this doesn't work out?
- What happens if everyone gets trained on new software but a crisis happens and you have to revert to the old way of doing things for a while?
- How do you balance the time needed to apply something new with the time needed to get something done?

Evaluate the training.

Donald Kirkpatrick, a professor and grandfather of adult training and development, created a list of four levels of evaluation that have stood the test of time:

Level	Questions	Methods
Level 1 – Reaction	• How did the participants react to the training? • Were they satisfied? Did they find it relevant?	Surveys
Level 2 – Learning	• How well did the participants acquire what they were sent to learn? • Are they ready to apply the information?	Tests
Level 3 – Behavior	• How well are the participants actually applying what they were sent to learn? • Are there systems in place to encourage the use of the information	Observation Interviews Surveys Tests
Level 4 – Results	• Did the training bridge the gap between the expected performance and actual performance? • Did the amount you spend on the process give you a good return on the investment?	Records Data

Coach your team.

Not everyone can or should be a trainer or know every aspect of a software package, but everyone can learn to coach someone. Coaching can be an informal way of working with someone who is struggling with a specific problem. Instead of doing the job for them, help the person work through it.

One of the primary purposes of a coach is to provide *accountability*. Someone else is looking out for you but in an encouraging way. Of course, to do this you need to know exactly what the person is accountable. Set SMART goals together. Goals are a good part of an action plan.

Here is a simple example of a SMART goal:

Starting with the XYZ project we will use the ABC software as outlined in the contract.

Specific – The goal includes a specific project and software.

Measurable – The project is done or not done using the software.

Achievable – After training, the staff hopefully has the ability to use the software.

Relevant – The goal needs to meet the contract's specification.

Time-bound – The goal has both a beginning and an end.

Real goals will have a bit more depth as well as many actions and possibly sub-goals to fulfil the main goal. Keep the goals SMART on all levels and you will know whether or not they are met.

Question: What are you going to do now to prepare people to apply what they learn?

Conclusion

As you ask the questions about whether or not you should train, who should be trained, and which types of training best meet the company's needs, don't forget to care about the people, not just the actual training. Adult learning principles teach that people need to have input at every stage of the game, including what to do after training. While caring about people is not a very tech-oriented approach, it is one of the best ways for everyone involved to get the most out of technical training.