SAP BUSINESS ONE
Developing PowerPoint Based Training

Contents

Purpose

This document will guide you through the course design and development process. It is a mini-course in instructional design.

You will see the terms *learners* and *participants* used interchangeably. Generally, we use the term *learners* when referring to the instructional design process point of view. We use the term *participants* when referring to who will attend the course.

Course Components

What do you need to create for an instructor-led class?

PowerPoint presentation	Guides the instructor through the course and includes concepts and notes, as well as placeholders for demonstrations, exercises, quizzes, and other activities that the participants will complete. Quizzes add interactivity to a presentation, and provide feedback during the training that the learners have absorbed the concepts presented.
Demonstrations	The instructor shows how to complete a task in the system. You can include instructions for giving the demo in the instructor notes in the presentation or in the instructor guide. You must provide the specific data to complete the demo successfully.
Exercises	Activities that the learners complete in the system. Exercises reinforce the concepts presented by the instructor, and are usually focused on tasks that the learners will need to do back on the job. You can use step-by-step procedures or work instructions. If the learners do not have access to a system, you can provide them simulations (see **Optional Course Components** section).
Assessments	Validate that learning has taken place. The assessment is taken after the class ends and can be in the form of questions or activities. You can include quiz questions or an additional exercise, a case study, or a group discussion. The assessment must relate to a learning objective (see **Learning Objectives** section).
Instructor Guide	Contains directions for the instructor to conduct the course. We recommend a separate document for the instructor guide, but you can put the directions in the PowerPoint slide Notes section. You must decide how you want to use the Notes section. Do you want to print the Notes for the participants to read or are the Notes only for the instructor's use?
Data: demos & exercises	You need to provide specific data for the demonstrations and exercises. You may include the data in the actual demo/exercise or supply a separate datasheet. You should think about how you will maintain the data for future training sessions. If the data is "used up" or will change from session to session, you need to maintain and update it for each session. It is easier to maintain a separate datasheet than to edit every exercise for each future session.

Optional Course Components

What are some optional forms of training you can consider?

E-books	E-books are recorded PowerPoint slides. There are many tools on the market for recording PowerPoint, for example, Articulate and Camtasia. You can add a voiceover to increase the learner interest. E-books provide an alternative when the learner cannot attend classroom training or when there are potentially hundreds of learners located in different geographical areas. You can embed recorded demos and quizzes in the e-book to add interactivity. If you are training learners to use your product, an e-book alone is not enough, and you should also provide exercises and an assessment, such as an online test, to measure that the participants completed the training and absorbed the content.
Virtual Training	The PowerPoint slides can be delivered live in a virtual environment, using conferencing tools such as GoToMeeting and Adobe Connect. This is useful if the learners cannot attend a physical class. You should still use demos, exercises, and assessments in a virtual class. You need to build in a feedback loop to make sure each learner completes the exercises and assessments.
Simulations	Prerecorded screen captures that guide a learner to complete a system task. There are numerous tools for creating simulations (including Adobe Captivate and SAP Workforce Performance Builder). You first record the mouse movements and any data entered, then, when the learner plays the simulation, they are required to enter the same mouse clicks and data. You can add prompts and hints to help the learner during the simulation playback. You might consider a simulation when the task requires a large amount of data or setup, or the task is something done infrequently or by just one person, for example, month end or year-end closing.

Participant Guide

What materials should you provide for the participants attending an instructor-led class?

1. The printed slides. You can print the slide with the Notes, or print just the slides.

   If you just print the slides, print them as 2 per page [image] or 3 per page [image].
   Participants can then write their own notes in the space.

   If you want to print the slides with the slide Notes, [image] choose **Print** and in the
   Settings select **Notes Pages** as the print layout.

2. Exercises and associated data. The exercises are normally Word documents. You
   may include the data within the exercise or provide a separate data sheet.

3. Additional reference material, as needed, for example, installation guides, how-to
   guides.

Instructor Guide and Related Documents

What materials do you provide for the instructor?

1. Instructor guide. See the Appendix section **Characteristics of an Instructor Guide**.

2. The PowerPoint presentation slides.

3. Demo instructions and data. You can optionally include this in the presentation
   Notes or instructor guide.

4. Exercises and associated data. The exercises are Word documents. You may
   include the data in the exercise or provide a separate data sheet. You should include
   the answers to the questions that are included in the exercises.

   [image] The instructor should have **all** the information you provide to the participants.

Training Materials Development Process

Introduction
The best learning takes place when the learner discovers through experience and then has time to reflect on what has happened. Therefore you should build opportunities for hands-on practice into your training.

The more learners are actively involved, the better they learn and retain what they have learned. This means including hands-on practice, quiz questions to test recall, and other types of interactive activities (see section **Adding Interactivities**). Ideally the learners are actively involved at least 50% of the time.

Training Goal
The overall goal of task training is for the learner to be able to complete a task correctly and competently when they return to their job. To meet this goal, our training will focus on **PPE**:

1. **P**repare the learner to practice the task. Give the learner enough background information so that the practice makes sense.
2. **P**ractice the task
3. **E**valuate that learning has taken place and give feedback. Also called a learning or knowledge check, evaluation will let the instructor and the learner know that the learner can complete the task properly.

In training, you repeat these steps as needed until the evaluation shows the desired level of competency. This could include completing additional practice and clarification of concepts or instructions. As you develop your training, remember **PPE**.

How do you start?

Overview of Steps

You should follow a series of steps to design and build training content to support **PPE**. In the ideal world, each of the steps shown here would be neat and tidy and we could complete each in order. However, in reality, it usually does not happen that way. There are constraints all along the way. For example, you may determine your specific learning objectives **after** you determine the tasks that each of your functional areas or audiences must complete. Alternatively, you may determine how to evaluate the learning while you develop the content or when you determine the tasks.

Training Development Process
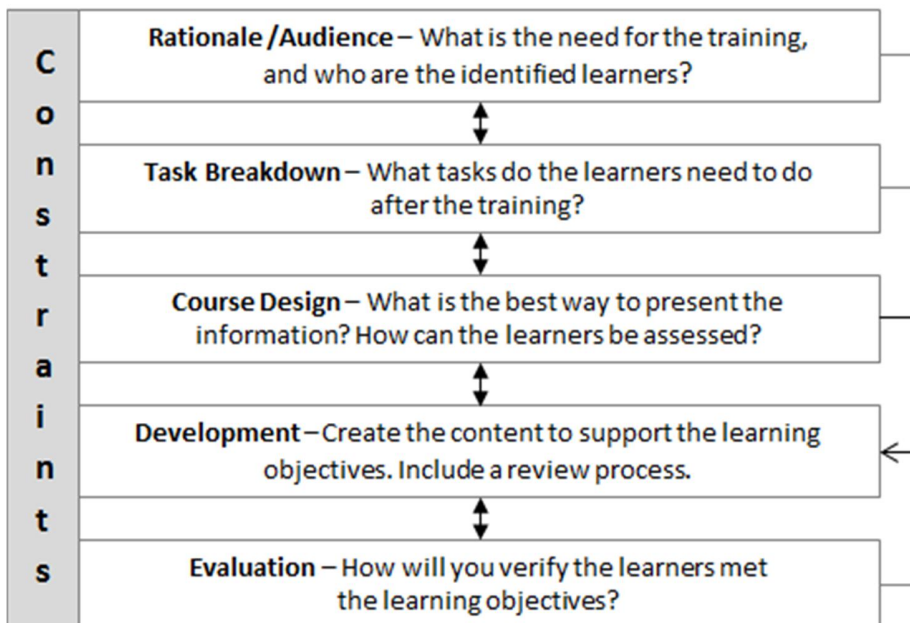
Let us look at the steps in more detail.

Step 1: Rationale and Audience

You must first determine the audience for the training. Who are the learners, where are they based, what is their existing level of expertise, and why do they need this proposed training? What will happen if no training is done? This information enables you to make some basic design decisions.

Learner Demographics	Impact on Design
Number to be trained and geographic location	If small number of learners in one or two locations, classroom training is the best option. If learners are geographically dispersed, consider virtual training. If large number of learners are geographically dispersed, consider e-book approach.
Language spoken	Course materials and screenshots may need to be translated into other languages (or localizations), and the instructors will need to speak the local language.
SAP Business One experience	If learners have no or limited SAP Business One experience, you need to identify prerequisite training and make sure the learners complete this training. Identify the minimum level of training required to bring the learners to a level where they can be successful with the new training. If learners have mixed levels of SAP Business One, provide the prerequisite training to the least experienced learners.
Job role	Do all learners have the same job, or are there different jobs with different training needs? For example, end users and consultants both need training on a topic, but they have a different focus – end users need to perform daily tasks whereas consultants need to know the setup and installation aspects.
Motivation	Are the learners motivated to learn the new information provided in the training? How much time can they spend away from their jobs? This can be difficult for a consultant who is billable, or for the staff at a small business who cannot take time off from the job. Are they allowed to travel to a class, or do they need to learn on the job, using e-books or virtual classes?
Preferred learning style	Be aware that learners have different ways of learning new information. Some learners are very self-motivated and will dive into new software. Other learners are more hesitant and need to be guided by an instructor. See **Appendix 3** for information on learning styles.

Step 2: Task Breakdown

This is an extremely important part of the process. When you develop training for a software product, you focus on the tasks that users perform.

Tasks usually refer to transactions that the learner will perform in the system. User tasks are normally associated to a user role that in turn is based on system functionality, user security, legal and separation of duties requirements. For example, a manager may approve employee time and expense but would not have access to make direct accounting adjustments to the costs.

Task Selection

Questions to help you determine the tasks to include and how to group them.

- Who performs the task? (audience)

- What prerequisite skills, knowledge, and abilities are required to perform the task? (Will help to order/chunk the tasks)

- How critical is the task? For example, if no one completes the task, is there a consequence? (To determine if the task is "need to know" or if you should only include in the documentation)

- Is there another way to deliver the training such as using a job aid, Online Help or other documentation?

- What is the consequence if the user performs the task incorrectly? Does a subsequent task use information from this task? (The answer to this question will help to order/chunk the tasks)

- How often is the task performed: one-time setup, occasionally, daily, weekly, monthly, or annually? (To determine if the task is "need to know" or "nice to know")

- What information does the learner need to perform the task? What is the source of information? Is the data set up simple or complex? (If very complex, you may decide to use a simulation instead of a demonstration or exercise)

- Can more than one user perform the task at the same time? If no and the task is important, you have several choices: use a demonstration, create a simulation, or have the learners take turns completing the task.

- Does execution of the task require coordination between other personnel or with other tasks? (Process knowledge required)

- If it is one of a set of collective tasks, what is the relationship between the various tasks? (Process knowledge required)

- What level of task proficiency do you expect following training? (Evaluation: User can complete with no reference to documentation. User can complete with reference to documentation.)

Example – Task Selection
We will look at an example. You have been asked to develop training for an add-on for SAP Business One. The add-on reports and analyzes customer deductions in A/R. You create a matrix of the possible tasks:

Task	Audience	Frequency	Importance	Difficulty
Enter report selection criteria and run reports	A/R manager	High	High	Easy
Analyze patterns and trends that result in customer deductions	A/R manager	Medium	High	Medium
Reference report information when contacting customers	Collections manager	Low	Medium	Easy
Assess the cost/benefit of time spent in collecting underpayments	Accountant	Low	High	Hard

As you can see, the tasks performed in the add-on vary according to the **user's role**. Therefore training is not a "one size fits all" solution. Where possible, you should break the training into separate courses for each audience.

Constraints and Priorities
You will always have constraints on the time and money you can spend on developing training. Therefore you need to prioritize which tasks you will cover in the training.

After you have developed your list of tasks, you can assess the frequency, importance and difficulty of each task:
- Frequency – how often is the task performed in a user's job?
- Importance – what is the impact on the company's business if the user is not trained to do the task?
- Difficulty – is the task easy to perform? Could the user perform the task with no training?

This task matrix will help you focus on what you should develop when time is short. As a rule, the biggest payback, from a training development perspective, are the tasks that have **high frequency and high importance**.

On the other hand, a task that is very difficult might have a low frequency. An example is shown above with the Accountant task, which is a critical task that is performed infrequently. Because this task is important and difficult, you need to create training so that the accountant can perform this task correctly. In addition you should consider providing a step-by-step exercise or a simulation for the accountant to take back as a refresher on the job.

Learning Objectives

After you have a list of tasks, you can write the learning objectives. Objectives provide the plan or the direction for the course developer, the instructor, and the learner.

Objectives are the core around which you build the course content, and are also how you measure that the learners have mastered the tasks. As Lewis Carroll said, "If you don't know where you are going, any road will take you there." In other words, if you don't have an objective, how do you know you are successful? How do you know where to start or where to end?

An objective tells a learner what he or she will be able to do after the learning has occurred. If learners understand why they are learning something and where they will end up, it is easier to digest the steps along the way.

How do you do this? A good place to start is to review the purpose and benefits of your software. You should be able to extract high-level objectives from that information. Try to get an idea of the audiences by looking at who would perform the general tasks and how often they would perform the tasks.

Another approach is to look at the business processes and extract the tasks the various user groups will perform.

You will base your training on these assumptions so you should formally state them up front. You may refine these assumptions as you determine the tasks you want to train.

How do you write an objective?

You can see in the table below, an objective consists of two required components, Who and What (task), and two optional components, the Condition and the Standard.

Objective Component	Description	Example
Who Required component	The audience or who performs the task	The learner The participant The administrator
What or Task (Action or behavior) Required component	What the learner performs. This starts with an observable and measurable action verb that describes the overall task.	Create a purchase order Post an adjusting entry Change the due date
Condition Optional but desirable component	How/when the task is performed Describes a simulation or the job environment within which the learner will perform the task.	At month end For each purchase order Referring to the manual
Standard Optional component	How well the learner should perform the task. If not stated, it is **implied** that the learner completes the task in a timely manner with no errors.	Within three minutes With no errors

Examples of Good Objectives

In the following examples, the implication is the learner will complete the action.

- Copy (action verb) a table from Excel into a Word document (task) within 3 minutes (standard) without referring to the manual (condition)
- Using the sales invoice, (condition) calculate (action verb) the sales tax due (task) for each jurisdiction. (Condition)
- Create (action verb) a purchase order (task) from the related requisition (condition).
- Using the error list (condition), identify the transaction to use to correct the error (task).

Examples of Poor Objectives

Avoid writing objectives such as these:

- The learner will be aware of the differences between the two month end processes.
  Cannot measure "Aware"
- The learner will understand how to approve the budget request.
  Cannot measure "Understand"
- The facilitator will show how to analyze the month end reports.
  Objective must focus on the learner not the facilitator
- You will learn the required fields in the check request screen.
  Cannot measure "Learn"
- The instructor will demonstrate how to post the adjustment.
  Objective must focus on the learner not the instructor.

Action Verbs to Use in Objectives

Activate, Add, Approve, Arrange, Authorize

Backup

Cancel, Calculate, Categorize, Change, Chart, Choose, Classify, Close, Complete, Confirm, Convert, Copy, Create, Compile

Define, Design, Develop, Demonstrate, Describe, Determine, Display, Divide, Duplicate

Edit, Enter, Evaluate, Execute, Explain

Find, Fix

Identify, Illustrate, Initialize, Insert, Install

Label, List, Locate

Make, Mark, Match, Measure, Modify, Multiply, Name, Number

Open, Operate, Order, Outline

Post, Prepare, Print, Process, Prove

Record, Register, Replace, Report, Reverse, Revoke

Save, Select, Show, Sort, Solve, Specify, Start, Stop, Substitute, Subtract, Sum, Summarize, Switch

Tell, Terminate, Test, Translate

Validate, Verify, View

Unverifiable Verbs – Do Not Use in Objectives

Appreciate

Be aware of, Be familiar with

Comprehend

Enjoy

Grasp

Know, Know how to

Learn, Like

Practice

Realize

Think about

Understand

Value

Step 3: Course Design

The next step in the instructional design process is the course design. This is not the actual development of the PowerPoint slides – that comes later. In this step you plan how you will **structure the course and create an outline for the course**. This is sometimes called a Design Document. The outline should specify each learning objective and how the content will be created to meet the objective.

Chunking

"Chunking" is a term used by instructional designers to break down the course content (PowerPoint slides plus demos plus exercises) into logical, manageable chunks sometimes referred to as **topics**.

A typical "chunk" should contain these components:

1. Objective (Task)
2. Overview / Big Picture / Process Flow
3. Content – information needed by learners in order to perform tasks competently
4. Demo by instructor
5. Exercise
6. Feedback on exercise
7. Summary
8. Questions

A "chunk" does not always map to a task. You might combine multiple small tasks into a chunk. Or, you might have a complex task that you break down into multiple chunks.

Ideally, learners should be actively involved at least 50% of the time. This includes completing exercises and participating in discussions and questions.

After 45 minutes, learner attention span starts to drift, so it is a good practice to end a topic and change the pace by starting a new topic.

Sequence of Topics

There are many ways to sequence the tasks within a course. Some options to consider include:
- Starting with the tasks that are common to all job roles
- Starting with the tasks that are easier to perform then progress to more complex tasks
- Following the natural order of tasks as performed on the job
- Starting with basic tasks then progressing to tasks that require mastery of the basic tasks

Role Based Design

Often the learner's roles and the tasks they perform will influence the design. Let us look at the task matrix we created earlier:

	Task	Audience	Frequency	Importance	Difficulty
A	Enter report selection criteria and run reports	A/R manager	High	High	Easy
B	Analyze patterns and trends that result in customer deductions	A/R manager	Medium	High	Medium
C	Reference report information when contacting customers	Collections manager	Low	Medium	Easy
D	Assess the cost/benefit of time spent in collecting underpayments	Accountant	Low	High	Hard

We could include all the tasks shown above in a single course. However, this would not be a good design, since there is a mixed audience for the tasks. You do not want to waste a user's time by attending a class when they are only interested in a small part of it.

Therefore you need to design based on the audience roles. The first two tasks (A and B) can be combined into a single course. For the Collections manager task (C), which is relatively easy, you could decide to eliminate training altogether and provide work instructions or a simulation.
For the Accountant task (D), which is difficult, you should provide a separate course, even if there is just a small audience, since this is a crucial task.

You may determine you need to change the task sequence as you develop the actual content to support the activities.

Prerequisites

Another thing to consider in your design is the prerequisite knowledge and skills of the learners:
- What knowledge and skills do they already possess?
- What do they need for each task in your training?

By looking into the prerequisites, you might need to change the design of the course. If the learners cannot meet the prerequisite objectives, you need to provide or identify additional material to train them. You can mandate that these learners attend a prerequisite class, or include the additional material in the new course (this makes your new course longer).

What can happen if you do not take into account the prerequisites in your class design?

Well, the participants will be lost, they will not grasp the new concepts you are trying to teach them, and therefore they will be unlikely to succeed. Worse still, the participants will be very frustrated and unhappy with your course.

Let us look at our task matrix again:

	Task	Audience	Prerequisite
A	Enter report selection criteria and run reports	A/R manager	Run reports in SAP Business One
B	Analyze patterns and trends that result in customer deductions	A/R manager	Process A/R documents in SAP Business One
C	Reference report information when contacting customers	Collections manager	None
D	Assess the cost/benefit of time spent in collecting underpayments	Accountant	• Enter criteria and run reports (task A) • Analyze patterns and trends that result in customer deductions (task B)

We can see that the prerequisite for task A is "Run reports in SAP Business One". If none of the learners can run reports, you should consider adding a topic at the start of the course to cover the basics of running general reports in SAP Business One, with a lecture, demo and exercise. The lecture would cover how to run a report, report tools, report output formats, and basic selection criteria. The exercise would allow you to observe that the learners can successfully run reports in SAP Business One.

The prerequisite for task B requires significant experience with processing A/R documents in the SAP Business One application. Again, you need to ensure that the learners can perform this task, and create or identify the prerequisite training.

Now we can see that the prerequisite for task D is actually task A and task B. This changes our design, since now the accountant will attend the course along with the other audiences.

If there is only one person who needs to perform task D, you could consider one on one mentoring either at the end of the course or back on the job.

Step 4: Course Development

The next step is to develop the actual content: the PowerPoint presentation slides, the instructor guide, scripted demonstrations for the instructor, exercises for the learners, and the data that supports the demonstrations and exercises.

Since there are many components (PowerPoint slides, demos, exercises, etc.), where do you start?

The most difficult part of this step is usually deciding what to exclude, rather than what to include. Remember, the content must support the learning objectives in one of the phases: Prepare, Practice and Evaluate. When in doubt, leave it out.

You must also estimate the time that will be required to complete the course content. This includes the introductions, lecture, demonstrations, exercises, activities, discussion and so on. Remember to include breaks in your total time.

An 8 hour training day is really only 6 ½ hours of training time if it includes two 15 minute breaks and one hour for lunch. Of course, you will adjust your break time to meet local standards. Since this is just an estimate, it is important to test your materials to determine the real time it will take to complete the training. You do this by conducting a **pilot course**. A pilot course is the first delivery of the course. The audience can be your colleagues, or you can invite participants from the target audience, and perhaps offer them a discount in the price.

See section **Conducting a Pilot Course** in **Appendix 2** for information on the pilot course.

Average Task Times

Lecture	10 - 15 minutes maximum per chunk. Remember, that the instructor can include conceptual information while completing a demonstration. Therefore, you do not have to tell everything in advance, such as defining every field and all new terms.
Demonstration	5 - 20 minutes depending on the difficulty and the explanations the instructor gives while completing the demo.
Exercise	4 - 20 minutes. With new or inexperienced users, the first exercise usually takes longer than you think it will, as the user gets used to the system and using the materials.

Adult Learning Principles

The key to teaching adults is to remember that most of them come to class with prior experience of the job or the industry. They might have more practical knowledge than you!

As you develop training:
- Make it challenging for the learners. Change the exercises slightly, so that they are not just a repeat of the demo, and so that the learners have to think. Only do this for experienced learners, do not do this for novice learners.
- Use realistic business scenarios in the PowerPoint slides. Try to include real-world scenarios in the presentation. This implies you should have some familiarity with the user's business and industry and how they will use your product.
- Make the exercises relevant to the real-world job and/or industry.
- Include real-world business problems and processes. Present how they can be solved by your product.
- Use interactions and activities to encourage learner participation. Add questions to the slides, such as "What would you do?"

Make sure the instructor also follows these principles when presenting the slides. You can add these tips to the instructor guide or the PowerPoint notes:
- Relate the slide content to something the learner already knows. It does not have to be work related.
- Instead of just reading a slide, ask the participants a question that draws on their experience. You will find that some participants are already familiar with the task or process.
- If you do not know the answer to a question, write the question down and research later.
- If you feel comfortable enough, you can ask the participants to tell you the next step when you demonstrate the software.
- Use interactions and activities to encourage learner participation. Ask questions when presenting the slides, such as "How is this done at XYZ company?"

Content Slides

The content slides for a topic should include:
- Objective
- Business process or scenario
- Introduction to task / what problem does it solve / how does it help the business?
- Key points or concepts that learners need to know in order to perform the task
- Summary

Screenshots

Screen shots can be very powerful in presenting software capability. There are many tools on the market for grabbing screenshots of an application, for example, Techsmith Snagit. You can even take a screenshot from a PowerPoint slide by choosing *Insert > Screenshot*, then choosing *Screen Clipping.* Then switch to the target window, where you can select the area. The screenshot is placed on the slide.

You should **only** include the **portion** of the screen that you will talk about in the slide. Compare the two screenshots below. Imagine that the course developer wants to show the icon for the Format Painter. The full screenshot is hard to read. The partial screenshot shows just the relevant information.

Example – Whole screenshot to show the Format Painter icon
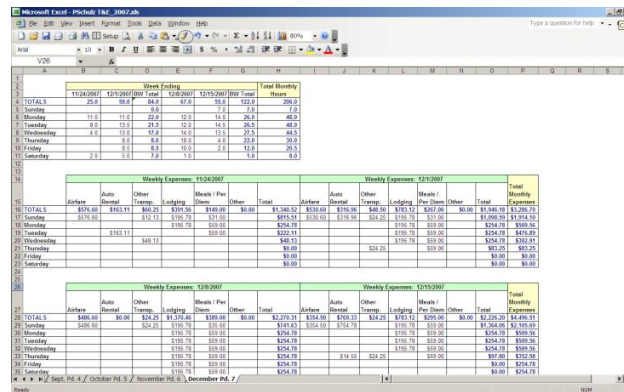
Compare the image above to the partial image below that is the same size.

Which view would help you to identify the Format Painter icon?
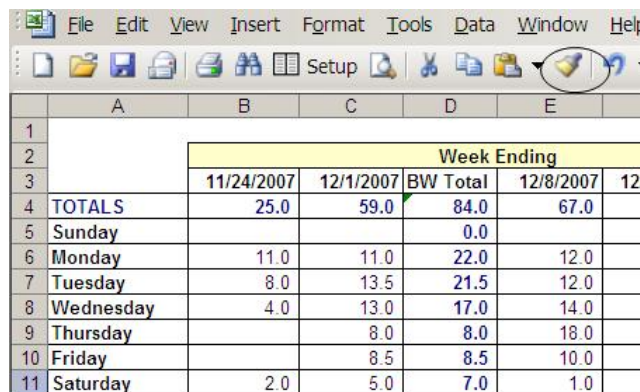
An alternative to a screenshot is a **mockup of a screenshot**. You can use the drawing tools in PowerPoint to create an area and set the color appropriately. Use text boxes

SAP BUSINESS ONE
Developing PowerPoint Based Training

and tables to mimic the part of the application. You do not need to replicate every field, only the key fields that are covered in the course.

Although a mockup takes longer to draw than a screenshot, it has some advantages:

- You can simplify a complex screen layout by just focusing on the important fields.

- If you are creating training for multiple languages, you cannot translate a screenshot but you can translate the text strings in the mockup so they are relevant for multiple languages.

Example: screenshot of item price in price list

Example: mockup that highlights only the relevant information. A rectangle was drawn with the same background color as the application screen. A table was added to the rectangle, then the text strings were added on top.

Price List

#	Item number	Description	Base Price	Unit Price	Inventory UoM
1	AL0001	Laser Printer	90	180	Manual
2	AP2010	Printer Paper	1	2	Pack
3	AP2020	Copy Paper	2	2	Pack
4	B00320	Craft Paper	50	50	Pack

Avoiding Common Mistakes when Developing PowerPoint Slides

Inexperienced course developers often rely on too many screenshots. Yes, screenshots can be powerful and effective, but often they are used instead of any real content.

- Screenshots alone are not training. Use demonstrations, simulations, and exercises to show the screens instead.
- Not only is simply viewing screenshots incredibly boring, it does not engage the learners. They will **not** remember what they saw.
- A whole screen is very difficult to read, it is small, it is static, and the learner will not know what is important and what is not important.

See the document *How to use the SAP templates* for details on how to use the PowerPoint template. This is provided in the *SAP Templates* folder with the PowerPoint template.

PowerPoint based training is **not** demonstrating the menu structure and then showing all the related functionality.

- You must decide what are the important tasks based on the audience and learning objectives.
- You must organize those tasks logically.
- You will not include every system task and every system option.

PowerPoint based training is **not** a user manual.

- A user manual has its place and usefulness, but not in PowerPoint.
- A user manual would include step-by-step instructions that span multiple pages and that does not translate well to PowerPoint.
- If you need to include lots of text that the learner should read, create a separate handout or place the text in the Appendix to read outside of the training or to use with other training materials.

PowerPoint based training is **not** paragraphs and paragraphs of text

- Boring, boring, and more boring.
- Do you really think the learners are going to read and remember pages and pages of text?
- Are you planning to read it to them?
- Our reading speed does not match our listening speed.
- Reading and listening together can often confuse learning rather than reinforce learning.

Adding Interactivities

As the course developer you should include activities in addition to exercises. Some examples of activities are:

- **Asking questions.** You can provide the instructor sample questions to ask participants during the slide lecture.

- **Quiz questions.** You can create a slide with the questions so that the instructor is prompted to ask the questions at the appropriate point in the lecture. These can be multiple choice questions, or fill in the blank questions. See the sample course and PowerPoint template in the *SAP Templates* folder for some examples.

- **Discussions.** On a slide, present a real-world problem that is addressed by your software, and ask participants how they would solve the problem.

- **Reflection questions**. On a slide, present a rhetorical question relating to the business process or task. Tell the instructor to pause for a few seconds to give participants time to absorb the question, then ask the participants to answer the question, drawing on their own experience. There may be several different answers, and some may be correct or some may be off target, but the important thing is to get the participants to think about the problem and relate it to their own experience.

- **Case study.** A case study is often used towards the end of a course, and should be designed to bring together several topics taught in the course. The instructor can divide the participants into groups of 2 or 3 (depending on the number of participants in the class). Each group works to solve the problem or challenge and then presents their solution to the other groups.

- **Draw on whiteboard.** Tell the instructor to draw the business process on a whiteboard instead of simply reading out the slide. The instructor should encourage the participants to participate in the drawing of the process. This is more interactive since it allows the participants to add additional steps that may be unique to their own process at their company. The participants have the out-of-box process in the slides as a reference, and can mark up the slide with the extra steps or deviations that can occur in real life.

- **Demo participation.** The instructor demos a process, and during the demo asks the participants to volunteer the next menu path or screen option to move the demo forward. This engages the participants more than a passive demo.

- **Recall.** A recall is a good idea to use between topics, especially after a coffee or lunch break. The instructor kicks of a new topic by recalling a key point from the previous topic, and asking the participants a question about the previous topic.

Demonstrations

Usually, a task demonstration follows the concept slides and precedes the task exercise. Use realistic business scenarios and data. The instructor should be able to link the scenario to the business process. During the demo, the instructor will do more than simply complete the fields. The instructor should point out fields that default, how the learner can use optional fields (such as text descriptions), show relevant searches, and supply information that will help the learner complete the exercise.

You need to provide instructions for the demos in the instructor guide. If the instructor is very experienced in your product, you only need to provide high-level steps and key points for the demo; but if the instructor is inexperienced you need to provide detailed steps to the instructor.

When planning demos, consider:

- Should every exercise have a related demonstration? Should every demo have a related exercise? If an exercise is similar to a previous exercise or demo, the instructor does not have to complete a demo.
- Should you include demos that complete the process but are not something the audience will complete? This is especially true if the audience must work with the results of the demo. For example, if they complete steps 1 and 3 in the process, you may want to demo what happens in step 2.
- What data will be required for the demo? Is the data already available in the database, or will the instructor need to create the data before they can run the demo?

Exercises

As soon as possible in the training, involve the learners in an activity or exercise. Adults are usually anxious to "get going". This could be something as simple as following along to display data or running a simple report.

See the document *How to use the SAP templates* for details on how to use the exercise template. This is provided in the *SAP Templates* folder with the Word exercise template.

Before you start to write the exercise, determine how much detail you need to provide in the exercise:

- If the learners' have a lot of experience, and will have just seen a demo, you could write just a few high-level steps to guide them. However, you need to consider if the learners need to have a procedure to follow when they are back at their jobs. If you develop work instructions when you implement your software, can you use these for the exercise?

- If the learners are completely new to the task or the software, you should provide detailed step-by-step procedures or work instructions.
- If your software has detailed online help, can you direct the learners to follow the online help to complete the exercise? You do not want to write detailed instructions if these already exist as online help or work instructions.

Best Practices for Writing Exercises

When you write the exercise, follow these best practices:

- Use realistic business scenarios and data. If there is a related demo, do not duplicate the data. The data should be similar but not the same. You want the learners to think about what they are doing, not just parrot back what they saw.

- Relate the exercises to experience the learner may already have, such as a manual process they may now use.

- Relate the exercise to the learning objective. Exercises should only cover tasks that are taught in the presentation and demo.

- Several short exercises throughout the process are better and more effective than a single long exercise. This allows the learners to reflect on the process and build on what they are learning.

- With complex or very important tasks, the learner should complete the exercise multiple times. If data is an issue or if there is complicated or time consuming data setup, consider having the learners work in pairs instead of on their own.

Other Considerations for Exercises
You must allocate sufficient time for the participants to complete an exercise. Ideally you can have a colleague perform the exercise and measure how long it takes them to give you an idea of the time to allow for the exercise. In class, the instructor must monitor for participants that finish the exercises early, and for participants that struggle to complete the exercise in the allotted time. Consider adding additional exercises for students that finish early so they are not bored.

Do you include the actual data or create a separate data sheet?

- If the learners will create the data from scratch (such as master data), then including the actual data in the exercise may be reasonable.

- If the exercise references existing data that is then "used up", it may be easier to create a separate data sheet that contains all the data for all the learners. Think about how you will maintain the documents. Again, you do not want to maintain different versions of the same data.

Simulations

A simulation is a recorded demo that runs automatically and prompts the user to select menus and enter text. The simulation pauses until the user responds with the required mouse click. You may use a simulation for many reasons such as:

- data requirements make it difficult to complete a live demo, such as clearing certain errors that may require large data setup

- it is an optional task

- it is a year-end task or completed under very special circumstances

- only one user at a time may complete the task

- security requirements limit who can complete the task

You can also provide a simulation if you decide to publish your training as an e-book. The simulation allows the learner to see the software in action. The advantage of a simulation is that it engages the learner more than a demo.

When you create a simulation, it helps to first write a script with the detailed steps. You can then follow this script when making the recording.

Review the Materials

A review of materials is a key part of the course design process.

You should review the materials and exclude anything that does not support a learning objective or prepare the learner to practice a task.

After you have created the PowerPoint slides, and scripted out the demos and exercises, you should have the materials reviewed for accuracy by a subject-matter expert (SME) in your organization. **This is an important step in the course development process and should not be ignored. Even if you are a subject matter expert in the course content, you should have the materials reviewed by another person.**

Run the spell check in all your materials! Spelling and grammatical errors can reduce your credibility (and are very embarrassing)

SME Review and Test Process

When you first start the course development process, you should give notice to the SME that you will require their time on a certain date for a set length of time.

You must communicate how much the SME will need to allocate to review documents.

Be explicit in your request, and also give them a reasonable amount of time to complete the review. You will not be popular if you ask the SME for 20 minutes of their time when in fact they will need to spend two hours on the review (and your deadline is tomorrow!)

You should ask the SMEs how they would like to review your materials.

- Do they want to review several documents at once?
- Do they prefer to review each as document as you complete it?

Step 5: Evaluate the Learning (Assessments)

The last step in the course development process is evaluation. You develop evaluations to assess the learning objectives. When you wrote the learning objectives, you made a claim that your course material would prepare the learners to perform the objectives when they are back at their jobs. An evaluation enables you to test your claim - how well your course content fulfills the objectives.

You need to provide a way for the instructor to evaluate that the participants are prepared to use the software in their jobs. Here are some examples:

- You can include a set of questions at the end of the course, covering all the tasks. You should provide the questions and the expected answers to the instructor.

- Or, you can create a separate exercise that the learners complete on their own. You must tell the instructor how they can check that each learner has successfully finished the exercise. Most likely the instructor will need to validate the exercise results in the student's system.

If learners do not meet the evaluation standards, you should have an optional exercise available that the instructor can assign at his/her discretion. **Additionally, the instructor must provide you feedback so you can decide if the course material needs to change**.

Summary of Training Development Process

To recap, the training development steps are:
1. Determine the audience/functional areas and prerequisite knowledge.
2. Determine the learning objectives.
3. Determine the system tasks to support the learning objectives.
4. Determine the topics and activities that support the tasks.
5. Chunk or group the topics and activities.
6. Develop the instructional content: presentation, demos, exercises and instructor guide.
7. Determine how to evaluate the learning.
8. Review the materials and edit, edit, edit.
9. Test the materials and make appropriate changes.

All of these steps support the goal of task training:
1. **P**repare the learner to practice the task.
2. **P**ractice the task.
3. **E**valuate the learning and give feedback.

Appendix 1

The Instructor Guide

The instructor guide (IG) provides the instructor with information to help present the concepts, demos, activities, and exercises. You should think of it as the glue that binds together the different components of the course that you developed.

Only instructors use this document so the style should be informal, easy to follow and read. The instructors will add their own notes as they review and practice the course materials.

Contents of an Instructor Guide

The instructor guide should give the instructor the complete information needed to present a class including:

1. Housekeeping information: how many coffee and lunch breaks, when the course will finish on the last day, other logistics (if necessary).
2. Conducting introductions as required for the group. The instructor at least needs to know the participants' names and expectations of the training session.
3. General information on how to present each slide in the PPT. If there is a well know anecdote relating the to slide content, you should include it here so that a new instructor can show credibility.
4. Information to include when performing a demo such as pointing out aspects of the screen, showing additional tools, comparing or contrasting different transactions or processes, applying the demo to real business scenarios or past experience. For example, "When I was learning this transaction, I did this…."
5. Specific information relating to the exercises. For example, things that can go wrong during an exercise. This alerts the instructor to any problems that might occur when participants do the exercises. Hopefully you can include resolutions to the problems!
6. Suggestions as to when to use the whiteboard or flip chart during the lecture (and what to write on them) to explain concepts, processes, or build on previous information.
7. Additional, optional demos that will help the learners to understand how the process works.
8. Open ended questions to ask learners throughout the course, not just at the end of a section. For example:
   - What part was a challenge? What was easy?
   - Were there any surprises?
   - What do you think is the next step in the process?

- How would you review what you have done?
- How would you correct an error?

9. Suggestions for learner activities, when, and how to conduct them.

10. What to say as a summary at the end of each topic, and how to transition from one topic to the next.

11. Troubleshooting steps to take if unexpected results or actions occur based on experience. For example, If xxx happens, check these settings: or Verify xx.

12. Contact information for system support and other support, including your contact information!.

13. Technical background that may not directly apply to the course but will help the instructor understand why a task works the way it does. For example, include information about security considerations, master data setup, or organizational structures.

14. Any other information that will help the instructor, such as on-line resources.

What an Instructor Guide is Not

1. It is **not** a duplicate of the text on the slide and the associated slide notes. That will add no value. The instructor should review the slide notes as part of their preparation to conduct the class.

2. It does not use the phrase "Explain the slide" as an instruction. A new instructor needs to know what the slide means. An IG can give the instructor the exact words to say about a slide.

3. An IG is not a stand-alone document. The instructor uses the IG plus the slides plus the demos plus the exercises and activities to run the course. This is Instructor Led Training. If the instructor cannot add to the process, you may as well just give the information to the participants and go home.

4. Not every slide must have associated information in the IG. This is especially true of transitional slides or end slides.

5. It does not include basic business theory that supports the class. We assume that the instructor has the basic system and business knowledge. For example, an HR supervisor would not be expected to teach an accounting class.

If you cannot create an instructor guide before the first pilot, have someone attend the pilot session and take extensive notes about what the instructor does and says. This person should also record the **actual** start and end times for each topic, and each exercise. You can use these notes to create the instructor guide.

You may not have all the information you need to create an instructor guide until you have either held a pilot course or run the first course session.

Appendix 2

Conducting a Pilot Course

A pilot course is the first teach of a new course. The instructor will present the slides, perform the demos, and the participants in the pilot course will do the exercises, and then give you feedback.

The audience for the pilot course might be internal people from your company, but a preferred option is to invite the actual end users. This will test the logical flow, the validity of the topics and tasks, the timing, the exercises, and the related data. (You want the exercises to work!)

You can offer the participants a discount for attending the pilot course, to encourage attendance. Of course you should ensure that the course materials are in a good state before the pilot!

When you conduct the pilot session, tell the participants that even though it is a pilot, you want them to participate as if it were a regular class, ask questions, and complete the exercises.

Before you conduct the pilot session, you must decide if you want to stop as you go through the course to request participants' feedback. For example, you may want to stop after each exercise or after each topic.

If you do pause throughout the course, assign a time keeper to track the time of the feedback session so you can subtract that time from the overall running time to determine the actual time it takes to complete the course.

To guide the participants' feedback, provide a worksheet they can complete as they go through the course. That way they can capture their thoughts as they occur. If you have multiple exercises, include a block of questions for each exercise so you can receive specific feedback.

Items to discuss include:

- What worked well
- What could have been better
- Was the quantity of lecture time to activity time appropriate?
- The exercises – were they realistic? Was the quantity of exercises appropriate? Did they cover the correct items/tasks? Was time allotted time appropriate?
- Was the course flow reasonable?

Sample Feedback Form for Pilot Course
Here is an example of a form you can use to gather feedback during a pilot course.

(i) You would include this table for each Exercise. You could also ask these questions of the group rather than having each participant complete the questionnaire.

Pilot Course Feedback

Thank you for participating in this pilot course. Your feedback will help us to improve the course.

Please choose the answers that most closely match your experience.

Exercise name	Your comments
Was there a demo for this exercise?	Yes ☐ The demo was useful to me. Yes ☐ The demo was not useful. No ☐ I would like to have seen a demo. No ☐ I do not think a demo would have been useful.
Was the business scenario valid and reasonable? If no, what is your suggestion for a different scenario?	Yes ☐ The scenario was appropriate for the exercise. No ☐ The scenario was not appropriate for the exercise. No ☐ The scenario was trivial. No ☐ I did not understand the usefulness of the scenario.
Was the data reasonable? If no, what is your suggestion for different data?	Yes ☐ The data was reasonable. No ☐ The data was not reasonable.
Did you use the solution to complete the exercise?	Yes ☐ I used the solution. No ☐ I used the exercise. No ☐ I used the both the exercise and the solution. No ☐ There was no solution provided.

Exercise name	Your comments
Were you able to complete the exercise with the given data and procedures?	Yes ☐ All the data was provided. Yes ☐ All the procedures were provided. No ☐ Procedures were missing was missing. No ☐ Data was missing.
Were you able to complete the exercise in the allotted time?	Yes ☐ It was the right amount of time. No ☐ I finished with time to spare. No ☐ I did not finish the exercise.
Did you know if you completed the exercise correctly?	Yes ☐ It was clear that I completed the exercise correctly. No ☐ I was unsure if I completed the exercise correctly.
Was there an evaluation or assessment for the exercise? This includes questions embedded in the exercise. Do you have any suggestions for an assessment?	Yes ☐ The assessment tested the exercise. Yes ☐ The assessment did not apply to the exercise. Yes ☐ The assessment was trivial and did not apply to the exercise. No ☐ There was no assessment.
Will you be able to complete the task later?	Yes ☐ I will be able to complete this task on my own. Yes ☐ I will be able to complete this task using the exercise or notes. No ☐ I do not have enough information to be able to complete this task.
Do you have any other comments about this exercise?	

Here are **sample** questions you can ask and discuss with students in the pilot course. If they say did not like something, ask why and what are their suggestions for improvement. Stress that you really want their feedback so you can improve the course.

In General	Your comments
Were the course objectives clear to you?	Yes ☐ I knew what the objectives were. No ☐ I did not know what the objectives were.
Did the course meet the course objectives? If no, why do you think the objectives were not met?	Yes ☐ The objectives were met. No ☐ The objectives were not met.
Did you think there a good balance between lecture and hands on activities?	Yes ☐ The balance was good. No ☐ I would have like more exercises. No ☐ There was too much lecture. No ☐ I would have liked more lecture.
Were you able to participate in the class through discussion or questions?	Yes ☐ I had opportunity to join in discussions. No ☐ I did not have to opportunity to join in discussions. No ☐ There were no discussions.
Did you feel free to ask questions?	Yes ☐ The instructor encouraged questions. No ☐ I had the impression the instructor did not want us to ask questions. No ☐ I had the impression there was not enough time to ask questions.
Did the instructor ask open-ended questions to solicit your feedback? These are How, Why, When questions that do not have a simple Yes or No answer.	Yes ☐ The instructor asked these types of questions. No ☐ The instructor asked yes and no questions. No ☐ The instructor did not ask questions.

In General	Your comments
Did the course progress in a way that supported the tasks? If no, please specify what was not useful.	Yes ☐ The flow of the course supported the tasks. No ☐ The flow did not support the tasks. No ☐ I was confused some of the time about why come of the topics were included.
Was the overall time appropriate for the course?	Yes ☐ It was the right amount of time. No ☐ Too much time. No ☐ To little time.
What was your favorite part of the course? (Besides the breaks…)	
What was your least favorite part of the course?	
Did the course meet your expectations? If no, why not?	Yes ☐ No ☐
In general, what suggestions do you have for improvement or changes?	

Sample Feedback Form for Course (Smilesheet ☺)

It is customary to hand out a course feedback form at the end of an instructor-led class. The feedback form acts as a "pulse check" since it gathers the immediate impression of the participants.

It is often called a "smilesheet" because many participants will provide subjective comments depending on their relationship with the instructor during the class.

However, feedback forms can provide useful and insightful comments on the course that can help you as the course developer improve the course for the future.

Course Feedback Form

This feedback form is designed to measure your satisfaction with the training course you have just experienced as well as provide us with information to continually improve our courses.

Name:

Company:

Email Address:

Instructor:

Class:

Date(s):

Evaluation Key
5 – Outstanding
4 – Exceeded Expectations
3 – Met Expectations
2 – Needs Improvement
1 – Completely Unsatisfactory

Process/Environment	High				Low	Comments
Enrollment process	5	4	3	2	1	
Classroom	5	4	3	2	1	
Facilities	5	4	3	2	1	

Materials	High				Low	Comments
Organization/layout	5	4	3	2	1	
Ease of Understanding	5	4	3	2	1	
Usefulness as Future Reference	5	4	3	2	1	

Instructor	High				Low	Comments
Enthusiasm	5	4	3	2	1	
Professionalism	5	4	3	2	1	
Demonstrated knowledge of content	5	4	3	2	1	

Communicated clear explanations	5	4	3	2	1	
Handled questions well	5	4	3	2	1	
Organization	5	4	3	2	1	
Objectives clearly stated	5	4	3	2	1	
Offered help when necessary	5	4	3	2	1	
Set a pace that was easy to follow	5	4	3	2	1	

You, the Participant *High* *Low*						Comments
I was fully present and actively participated	5	4	3	2	1	
I completed all of the exercises	5	4	3	2	1	

Overall Class *High* *Low*						Comments
Course expectations met	5	4	3	2	1	
Value for $/time spent	5	4	3	2	1	

The information I found most useable was:

_____

_____

_____

Suggestions for improving this course (or areas of weakness):

_____

_____

_____

I would like to take more training in these areas:

_____

_____

_____

General Comments:

Thank You for Attending!

Appendix 3

Additional Resources

There are hundreds of books on the instructional design and development process. Use *Instructional design* as your search term when looking for additional books.

Training Books

Telling Ain't Training, Harold Stolovitch and Erica Keeps, 2002. An excellent blend of training theory and training application written in a fun, easy to read format. It will definitely help you develop your training sessions and apply solid adult learning principles.

Making Instruction Work, Robert Mager, 1997. Step-by-step guide to designing and developing instruction. Easy to follow and fun to read.

Training for Dummies, Elaine Biech, 2005. Covers design through presentation. Well written, fun, easy to read and very informative.

The Ten-Minute Trainer, Sharon L Bowman, 2005. 150 ways to teach it and make it stick! Adaptable training activities to engage the learner and increase learning.

The First-Time Trainer, Tom W Goad, 1997. Covers the design and development process, preparing to teach and delivering the actual training.

Writing That Works, a Practical Guide for Business and Creative People, Richard Andersen, 1989. The section on Clustering (also called mindmapping) will help you through writer's block in any type of writing.

Accelerated Learning, Colin Rose, 1987. An oldie but a goodie. How to involve all the senses to facilitate learning and retention.

All of these books are available from Amazon.com.

Characteristics of Good and Bad Training from a Learner Perspective

Good Training
It responded to my needs.
I could see how it applied to my job or me.
There was a lot of participation.
I was involved quickly.
The learning environment was safe. I could learn from my mistakes.
The explanations were clear, concise, and valid.
I could ask questions at any time.
The session was interactive.
The content was appropriate to my level.
I was able to practice.
I received feedback on what I was doing.
I learned from the other participants.
The instructor asked questions to encourage participant contribution.
There was follow up on questions the instructor could not answer.
The activities directly applied to the topics.
The materials were clear and useful.
There were take away materials that I could use later. (Not necessarily just the presentation)
I felt the time was well spent.
I was physically comfortable. (Appropriate breaks, room temperature, seating etc.)

Poor Training
I couldn't see how I would use the information.
I was soon in a state of information overload.
There was little or to no discussion.
There was little or to no practice.
There was little to no feedback to me personally on what I did.
The materials were poorly designed and difficult to follow.
I could not use any of the materials on my own.
It was a waste of my time.
I was a passive listener most of the time.
The instructor did not respond to the participants.
The materials included too much jargon.
The materials were above or below my level.
The examples were not valid or were trivial.
It was dull, monotonous, and boring.
There was little or no class interaction with other participants.
I didn't learn much.
I couldn't ask questions when I wanted.
The instructor ignored questions or did not answer them fully.
I was physically uncomfortable. (Few breaks, uncomfortable chairs, too cold or too hot)

A Quick Look at Learning Styles – Visual, Auditory and Kinesthetic (VAK) [1]

Why is this important to you as a course developer? Just be aware that the participants have different learning styles and try to make your course content caters to all three styles. The majority of learners are visual, but you also need to cater for auditory and kinesthetic learners.

Learning Styles	What they say	Percent of learners
Visual	• I see your point • That looks right to me	**60%**
Auditory	• I hear what you say • That sounds right	**15%**
Kinesthetic	• I can do that • That feels right to me	**25%**

Characteristics by Learning Style

Visual	Auditory	Kinesthetic
Form mind pictures	Say syllables	Write with finger
Take notes	Use mnemonics	Write lists
Use color codes	Listen to tapes	Pace or walk as working
Watch TV	Watch TV	Physically "do it"
Read	Listen to music	Breathe slowly
Use charts & graphs	Listen to speakers	Role-play
Use maps	Read aloud	Exercise
Demonstrate	Make up poems	Dance
Use mnemonics	Have discussions	Take notes

---

[1] Sources: *The Accelerated Learning Fieldbook*, 1999, Lou Russell; *Accelerated Learning*, 1987, Colin Rose

Learning Behavior and Learning Styles

Learning Preference or Style			
Situation	**Visual**	**Auditory**	**Kinesthetic**
Note taking	Lots of notes. Use them again. May use diagrams and pictures	Few notes. Prefers to listen unencumbered and jots notes quickly if absolutely necessary	Lots of notes. Some about the meeting. May not look at notes again
Seating	Sits in the middle to see everything	Sits in the front to hear well	Sits in the back to fidget & move
Remembering passwords or numbers	Sees the numbers in head and reads them as enters them.	Says the numbers in head or aloud as enters them. If on the phone, recognizes the sound of the keys as they are pushed	Remembers the location and movement of the keys. Can only recall the number while typing
Music	Likes to work to music	Music may jam up ability to listen if too close or loud	Music affects emotions and energy levels
Receiving feedback from others	Wants to see pictures, charts, graphs, and lists.	Wants you to just tell him what's going on with minimal elaboration	Wants to get the data fast and then wants to debate the finer emotional points
Business contact	Personal meeting face to face	Telephone	Talk it out while walking or during other activity

Visual (about 60% of learners) learn by seeing – remember what they **see**
Eyes drift up for visual recall (remember specific scene).
May be distracted by movement.
Statements: I can see that. I see what you mean. That looks right to me.
Use PowerPoint slides with graphics to explain concepts, supplemented with demos.

Auditory (about 15%) learns by hearing – remembers what they **hear**
Eyes drift sideways or down to the right for auditory recall (may hold internal dialog).
May talk to self when learning. May appear to be introverted in class.
Statements: Sounds good. I hear what you're saying. It's music to my ears.
Use summary slides and recall slides to repeat concepts audibly.

Kinesthetic (about 25%) learns by doing – remembers what they physically **do**
Eyes drift down to left for kinesthetic recall (relive actual experience).
Sitting still is difficult, May interrupt – especially others who are auditory
Statements: I can do that. That feels right. It is an intense problem.
Use exercises, activities, and discussions.