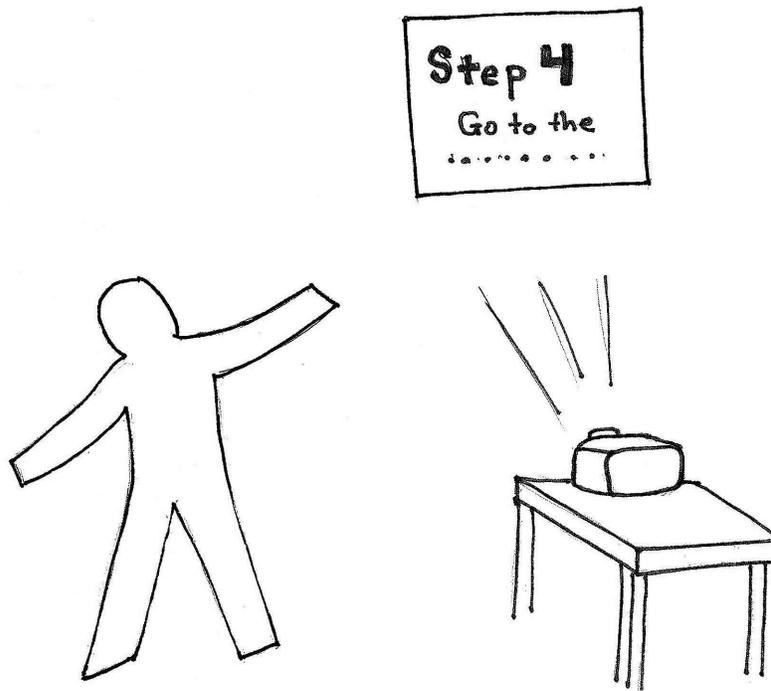


The Assistive Technology Trainer's Handbook

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We offer this handbook to the members of the National Assistive Technology in Education (NATE) Network and to the assistive technology community of professionals, families and consumers. As we continue to share our understanding and insights in print, during training and within our community, we help to create an educational environment where all children are more active participants in their own lives and learning.

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Assistive Technology Trainer's Handbook

Table of Contents

Introduction.....	i
--------------------------	----------

Chapter 1: Before You Start.....	1
---	----------

Thinking about Training and Professional Development	2
Understanding Adult Learners	4
Reflection	7
Learning Styles and Their Impact.....	8
Learner's Experience with Technology	11
Reflection	14
Engaging Participants	15
Strategies for Engagement	16
Get People Talking	16
Support Information Processing	19
Help Participants Stay Alert and Involved.....	21
Make Lectures More Interactive	21
Reflection	23
Participant Learning.....	24
Brainstorming	25
Learning Checks	26
Increasing Retention	27
Increasing Retention of Technology-Related Skills	30
Reflection	33

Chapter 2: Identifying the Content of Your Training	35
--	-----------

Identifying Content	36
Relating to the "Big Picture"	36
Identifying Outcomes and Objectives.....	40
Reflection	42
Planning How You Will Present Your Content	43
Thinking About Timing	44
Planning the Room Arrangement.....	44
Designing Materials to Support the Content.....	45
Addressing the Needs of Participants with Disabilities	47
Strategies for Closing.....	48
Encourage Implementation	48
Evaluate Participant's Reaction to Training	51
Reflection	53

Chapter 3: Getting Ready for Hands-on Technology Training.....55

Assistive Technology Training	56
Preparing for Hands-on Training for Multiple Users	56
Preparing the Room	57
Preparing the Technology for Group Training	59
During the Training.....	61
Digital Natives and Digital Immigrants	62
Reflection	63

Chapter 4: Publicizing Your Training.....65

Publicizing Your Training	66
Timeline for Publicity	66
Identifying Appropriate Outlets for Your Publicity.....	66
Content of Publicity	67
Including Technology Information in Your Publicity	68
Addressing the Needs of Participants with Disabilities	69
Reflection	71

Chapter 5: The Day of the Training.....73

Get Off to a Great Start.....	74
The Training Environment.....	74
As Participants Arrive.....	76
Beginning the Training	76
The Body of Your Presentation	79
Encourage Questions	80
Follow Your Schedule	81
Closing and Evaluations	81
Handling Difficult Situations	82
Presenter Mistakes	84
Dealing with Difficult Individuals	84
Reflection	87

Chapter 6: After the Training89

After the Training	90
Immediately Following Training	90
Follow Up After Training	91
Connecting Participants with Ongoing Resources.....	93
Planning Future Training	94
Reflection	95

References.....	97
------------------------	-----------

Appendices.....	101
------------------------	------------

Tech Training Preferences Probe	103
Using the Tech Training Preferences Probe to Accommodate for the Learning Needs of Participants	104
Action Planning Worksheet	105
Supervisor Notification Worksheet.....	106
Evaluating With Power – Sample Workshop Evaluation Sheet	107

List of Figures

1. Tech Training Preferences Probe	9
2. Using the Tech Training Preferences Probe	10
3. Digital Native and Digital Immigrant Learning Styles.....	12
4. Ideas for Icebreakers	17
5. Ideas for Technology-Based Icebreakers	18
6. Bright Ideas Worksheet.....	28
7. Retention of Information.....	29
8. Sample AT Tip Sheet.....	30
9. Classroom Technology Walkthrough Tip Sheet.....	32
10. Technology Foundation Standards for Students	39
11. Room Arrangements for Large Groups	45
12. Action Planning Worksheet	49
13. Supervisor Notification Worksheet.....	50
14. Evaluating with Power	52
15. Computer Labs: Room Arrangements	59
16. Evaluation Strategies	81
17. Difficult Participant Behaviors	85

List of Reflections

Think about your own experiences	7
Think about your own learning style	14
Think about a training where you were engaged and excited.....	23
Think about grouping and brainstorming	33
Think about the goals of your participants	42
Think about the best way to present your content	53
Think about the technology	63
Think about how you will let people know what you are offering	71
Think about how you want the day to go.....	87
Think about how your training went.....	95



Introduction

Training others to understand and use technology tools is an essential part of the provision of assistive technology services. Assistive Technology specialists and others who are charged with the responsibility of helping people to understand how assistive technology works, generally offer many training sessions to a variety of people. This training may or may not be a part of a larger professional development plan. Some training sessions are offered to large groups of people. Others are designed for a single person or the members of a team for an individual who uses assistive technology. Regardless of the size and purpose of the group, there are basic principles that can be applied to the provision of assistive technology training. This manual offers an overview of effective training strategies and describes specific ways that these strategies can be used to improve training about assistive technology.

There may be many different goals when teaching people about the use of assistive technology. One goal is to help people understand how the technology operates and what it can do. There is also training on how and when to use technology to increase the independence and productivity of students with disabilities. Finally, there is training about how adults in the educational environment and parents can use technology for personal productivity and information gathering. Even when people plan to use tools that are easy to understand, they may require training to help them plan for appropriate times and places to use the technology and strategies to increase its usefulness. Whether training an individual or a group of people, there are many effective strategies to make training more meaningful and more easily understood and applied.

This handbook contains ideas and strategies that are applicable to a wide variety of training situations. It primarily targets the training of adults in groups but the strategies identified are also applicable to training individuals. The handbook addresses training for service providers (e.g. teachers, therapists, paraprofessionals, and administrators) and parents or other caregivers who support an infant, toddler, child, or youth with disabilities. It begins with things that need to be considered during the planning stage, moves to strategies and techniques to use during the training and concludes with strategies for follow-up after the training is over. Each section addresses general strategies for effective training and then applies those strategies to technology-specific training environments.

Throughout the handbook those responsible for presenting and sharing knowledge are referred to as **trainers**. It is here used to mean a person who has been asked to facilitate the adult learning process by providing some type of learning activity. The terms **adult learner** and **participants** are used to refer to recipients of the training.

Chapter 1: Before You Start

This section of the manual contains research-based information about professional development and training, how adults learn and the various needs you may encounter in your audience. It offers ideas about how you might address individual learning styles and the needs of your participants by planning for the use of research-based training strategies.

Thinking about Training and Professional Development

This section of the manual addresses the need for professional development in the area of assistive technology and critical characteristics of effective professional development.

Increasing teacher knowledge and skills is the most powerful, and effective way to increase student performance. That is because the knowledge and skills of the teacher constitute 44% of the impact on student learning (National Staff Development Center (NSDC), 2006). The ultimate goal of all professional development is improved student performance. Killian and NSDC (2002) states that this is accomplished in three ways; (1) increasing teacher content knowledge, (2) changing teachers' attitudes about the content areas, and (3) expanding the teachers' repertoire of instructional practices. Applying this research to assistive technology might include: (1) increasing the teacher's knowledge about assistive technology tools needed by his/her students and how to operate them, (2) changing the teacher's attitude about the importance of using assistive technology to overcome barriers to learning, and (3) expanding the teacher's repertoire of instructional practices to include strategies to include the use of assistive technology in meaningful ways throughout daily tasks and assignments.

This is often more easily accomplished with teachers who are effectively integrating instructional technology into their classroom on a daily basis. Unfortunately Sparks (2006) reports that only 7% of schools have teachers who are skilled enough in the use of technology to effectively integrate it into their lessons. In spite of this obvious need, Lawless and Pellegrino (2007) report that 36% of schools provide no professional development for technology and another 29% provided only 1-14 hours of training per year.

Other studies indicate that the positive effects of good professional development are reason enough to provide training whenever possible. A study by Schacter (1999) showed that schools in which teachers received training in the use of technology and subsequently used technology to teach higher order thinking skills enjoyed a lower rate of student absences and higher teacher morale. The study also showed that students of teachers who had received any kind of training about using computers in the last five years outperformed students of teacher who had not received training.

While any training may have a positive impact, obviously "good" training will have the most impact. So what constitutes "good" technology training and what is the difference between training and professional development? Harris (2007) identified the following critical factors of good professional development. Good professional development is:

- Conducted in school settings;
- Linked to school-wide change efforts;
- Teacher-planned and teacher-assisted;
- Developed with differentiated learning activities;
- Focused around teacher-chosen goals and activities;
- Provided using a pattern of demonstration/practice/feedback;

- Concrete;
- Ongoing over time; and
- Characterized by ongoing assistance and on-call support.

For the purposes of this handbook professional development is defined as *the process of changing and improving the performance of educators through a planned series of training and technical assistance activities*. Training is defined as *a specific instructional session for an adult learner*. As an Assistive Technology Service Provider in a school district you may work with an individual educator or a group of educators to plan professional development about AT. You may then provide some or all of the training sessions and technical assistance activities that are part of that plan. Or you may identify other individuals to provide some or all of those training or technical assistance activities. When you are providing training that is part of an ongoing series of professional development sessions that you planned, it is easy for you to incorporate the factors that Harris identified. However, if you are in a situation where you are asked to provide training to individuals in a setting where you do not know their professional development needs or plans, it can be much more challenging. In that case, during your training session it is critical to help individual adult learners reflect on their training needs, their interests and how their participation in your training can help them improve their student's performance.

Studies have shown that there is a high level of anxiety about learning to use technology and that the anxiety detracts from the participants' ability to learn, and may even create a resistance to learning (Sam, Othman, & Nordin, 2005). Overcoming that anxiety and becoming confident may take several successful experiences that may need to be based on very small steps. Meier (2000) suggests that it is critical to create a comfortable and pleasant learning environment, perhaps with pretty or motivational posters, pictures, or student work samples, and to put participants at ease by offering food and beverages and an opportunity for pleasant interaction. Opportunities to learn outside of formal training sessions can also be key components of effective professional development. These include:

- Opportunities to attend a conference together (Rhine & Bailey, 2005);
- Reading and discussing an article or book (Joyce & Showers, 2002);
- Participating in a teacher support network or community of practice (Killion, 2007; Niesz, 2007); and
- Regularly accessing online social networking sites such as blogs, wikis, nings, and email discussion lists (Borthwick & Pierson, 2008).

Overall, in addition to providing high quality training, an effective professional development program provides opportunities for a group to bond and lasts long enough for the group members to support each other in a meaningful way (McPherson, Wizer, & Pierrel, 2006).

Understanding Adult Learners

This section of the manual contains research-based information about how adults learn and the various learning styles you may encounter in your audience.

We know a great deal about the characteristics of adults as learners. In 1973 Malcolm Knowles first described adult learners as autonomous, self-directed, practical, and goal oriented. He also found that they wanted to be shown respect for their knowledge, abilities, and experiences (Knowles, 1993). Since that time nearly every publication on adult learning cites this profound work by Knowles. More current resources (Knowles, Holton, & Swanson (1998; Knowles, Swanson, & Holton, 2005) further describe the characteristics of adult learners. They come to training with specific interests and goals. They bring a wealth of life experiences and knowledge that they can apply to the content of the training to make it more valuable. Adult learners are relevancy-oriented and practical. They want to see the connection between the content of the training and what they need to do. They find little use for isolated facts or information for its own sake. They need the trainer to tell them explicitly how the information to be learned will be applicable by them in their job. Adult learners may require longer time in the performance of some tasks because they have more background information and experience against which they must evaluate the new information. Finally, some adult learners may be less flexible and tolerant than children if they feel the training is not relevant to their needs.

Because adult learners are goal oriented, self-directed and have a wealth of experience, they value training that is immediately applicable in their real life context. As learners, it is easier for them to acquire and integrate new information when they can relate it to a previous experience. As a trainer, you want your audience to walk away with the greatest possible amount of information that they can use. Application to a real life context allows adult learners to take in the new information, apply it to a familiar event and ultimately attach more meaning and usefulness to the knowledge.

Given these characteristics, your training will be more valuable and effective if you can build on your audience members' life experiences and knowledge by helping them recognize how the training applies to their students and to curricular goals. The list of adult learning characteristics is a reminder to be very practical in your planning, your examples, and your assignments and whenever possible allow participants choices that are relevant and interesting to them.

Wolfe (2004) suggests a number of ways to enhance adult learning through the application of principles of adult learning. These principles may be helpful when preparing technology training that will be effective.

- Learning is enhanced when it is immediately applicable to real life contexts. This is facilitated by having samples available that show how the technology tool has been used in other classrooms. Also critical is building time into your schedule for practicing new skills during the training and for participants to share their ideas and

experiences. Self reflection and discussion with others about how to incorporate the new technology into their practice is powerful (Hughes, Kerr, & Ooms, 2005). Having participants bring at least one topic-related question to the training can be an effective way to focus on real life contexts. If possible, end the training with a finished product that they can take back to their setting and use immediately.

- Learning is enhanced when adults have control or influence over the educational experience. Conducting a needs assessment beforehand or asking at the start of the training “What do you hope to gain from this training?” or “What are your questions about the use of this technology?” can help ensure that you give them some influence over the content and/or schedule. Within the training, offer opportunities to ask questions, to choose between two activities, to set time lines or volunteer to help out. Invite them to form their own groups for discussions. Begin the training with a self-assessment to help them identify their own strengths and needs on which to focus.
- Learning depends upon past and current experiences. Include brainstorming activities, case study discussions, and self-reflective questioning. These activities can give insight into each participant’s stage of concern about use of the technology tool (Hall & Hord, 2001; Sandholtz, Ringstaff & Dwyer, 1997). You might ask them to think about and share their major concern. Then discuss those concerns. Doing demonstrations or teaching sample lessons followed by discussion can also help them draw upon their own experiences.
- Learning depends upon active involvement of the learner. Set the pace by having them contribute something at the beginning of the session, such as their reason for being there. Keep them energized and involved by providing a change of pace activity every 20-30 minutes. This could be a small group discussion, a large group problem solving, or moving around the room to experiment with sample tools, write on flip charts, or create a poster about a key fact.
- Learning depends upon a climate of respect and comfort (Meier, 2000). Make the room bright and inviting. Offer healthy food and beverages. Greet people as they arrive. Invite their contributions and affirm their input by repeating it, restating it, expanding upon it, responding to it, or referring back to it later in the training. Offer the opportunity to not participate in an activity that might make someone uncomfortable, such as role-playing. Focus on making personal connections with participants by smiling, making eye contact, using their names, being warm and enthusiastic and being available during breaks.
- Learning is enhanced when learners achieve self-direction. Have participants self assess their strengths and needs. Encourage them to make connections with other participants to act as “buddies” or a “study group” following the training. Connect them with resources that they can later access such as professional organizations, networks, journals, websites, books and articles. Give choices of relevant “on the job” assignments. Do “back home” planning at the end of your training. And finally, if at all possible, build in follow up activities such as a follow up training session, an online discussion, or a meeting at an up-coming conference.

- Learning is enhanced when connections are made. Use icebreakers and warm up activities that encourage participants to meet each other and discover common interests. Arrange seating in rounds and include some small group activities that have them talk to each other. Provide a list of participant names and email addresses for later networking. Regroup people throughout the training session so that they meet and talk with several others.
- Learning is enhanced when learners are successful. Break topics into small chunks or key points. Provide written guidelines of the steps to follow when learning to operate new software. Have a signaling system such as red, green, and yellow cups on top of the computer monitor so that if someone is stuck they can get immediate help when needed. Stop frequently to see where you've been and to celebrate progress. Honor questions from participants and the answers to the questions you pose. Use small groups or pairs so that participants can answer questions to each other rather than being put on the spot in front of the whole group.



AT Training Snapshot

Mitch is a college instructor. He has always found that his students who have returned for a second career or have chosen to complete college after raising a family have demonstrated application of knowledge with more engagement and logic than those students who have gone straight through school. Applying new and novel information to life experiences has given those students an advantage in understanding and integrating the information. Mitch makes a point to encourage them to use their life experiences in interpreting the information he is teaching, especially when talking about how they would apply the content to the use of technology.



REFLECTION

**Think about your own experiences.
(Think back on a course taken or a workshop attended)**

What was good or bad about it?

Was anything specific done to enhance your learning?

As the presenter was offering new information, how and where did you mentally file it?

Was the information somehow related to a life or career experience? Was it new and novel and not related to prior knowledge?

How did the presenter's style affect your reaction and ability to process and integrate the information?

► Learning Styles and Their Impact

Many authors have studied adults as learners and suggested ways to consider and address their learning styles and communication styles as well as interests. The work of Kolb (1984) offers several insights into learning styles that can be helpful. He identified four types of learners. He identified them as those who prefer: Concrete Experiences, Reflective Observation, Abstract Conceptualization, and Active Experimentation.

- *Concrete Experience* learners need practical ideas and illustrative stories to help them get the central focus of the training. They don't listen well until they have that sense of understanding about how they might use this new tool with their students. They like case studies, site visits, journals, videos of examples of appropriate use and the chance to talk with others about practical ideas and applications.
- *Reflective Observation* learners like to think about what is being presented. They prefer to listen and watch. They need a lot of information before acting on anything. In order to process information, they need specific times to reflect. Discussing key points in small groups can be very effective for them.
- *Abstract Conceptualization* learners like to think, analyze and organize information. They are the people who have done well in "traditional" learning situations. They like lectures and facts and dates. They often create flow charts or an outline to help them clearly define what they think is important. They do not explore well and may be lost in software training if they do not have specific directions.
- *Active Experimentation* learners are the ones who like to practice and do. They do not hesitate to start "playing" with new software or take apart something and "fiddle" with it. They like hands-on learning and do not like to sit and listen to lectures.

Considering the individual learning styles of the participants in your training can help you to understand how important learner's individual differences really are. As you read these descriptions you probably saw yourself in one or more of them. Kolb believes that we tend to teach in our preferred learning style. So, if you are an Abstract Conceptualizer, you will tend to lecture and present a lot of facts and figures. That works fine if you have an audience of all Abstract Conceptualizers, but you may totally lose the Concrete Experience learners who are wondering what all the facts have to do with how you would actually use this information.

As you begin to plan your training, building in a number of different types of activities aimed at these different learning styles can make it much more effective. Figures 1 and 2 contain the Tech Training Preferences Probe based on the learning styles identified by Kolb. It is a quick and easy way to identify how participants might prefer to learn about technology. Please note that the probe itself has not been researched or validated.



Tech Training Preferences Probe

For each question put a 1 in front of the answer that is most like you, a 2 in front of the answer that is next most like you, a 3 in front of the answer that is next most like you and a 4 in the one that is least like you.

1. If you were going to learn to operate a new piece of software, what would you want to do first?
 - a. See a step-by-step demonstration
 - b. Read the manual
 - c. Use a tip sheet to get started
 - d. Get your hands on it and 'play' with it

2. When you get 'stuck' and can't get a piece of software or hardware to work, what do you do?
 - a. Ask a colleague for help
 - b. Read the manual
 - c. Call for technical support
 - d. Play with it trying many different features

3. In a class or workshop, what are your favorite tasks/activities?
 - a. Watching a video or demonstration
 - b. Working in groups to share experiences and ideas
 - c. Clear, easy to follow lectures with facts and charts
 - d. Hands on time with materials or equipment

4. When you are learning something especially challenging, do you?
 - a. Trust your intuition
 - b. Sit back for awhile and watch how others are approaching it
 - c. Try to organize the information logically
 - d. Explore and experiment with different ways to do it

5. When consulting on a new student, do you?
 - a. Offer staff members an opportunity to observe programs in use
 - b. Create materials or set up technology for them
 - c. Provide them with reference and resource material
 - d. Invite them to a preview center to explore instructional materials and equipment

Figure 1: Tech Training Preferences Probe



Using the Tech Training Preferences Probe To Accommodate for the Learning Needs of Participants

Participants who put most of their 1's in "a" benefit from:

- Stories and case studies to illustrate points
- An example of a concrete application of what they are learning
- A chance to see someone else using it either in person or through a video

Participants who put most of their 1's in "b" benefit from:

- Time to think and reflect
- Time to watch a demonstration
- Time to talk to another participant one-on-one or in a small group
- A chance to process information

Participants who put most of their 1's in "c" benefit from:

- Hearing the theory or directions for a task before trying it
- A chance to organize all of the details to make sense of them
- An opportunity to analyze
- "Tip Sheet" with the specific step to follow

Participants who put most of their 1's in "d" benefit from:

- A chance to explore
- Actively working on something rather than listening to a lecture
- Projects or discussions
- "Playing" with the software or other materials

You may find that these four categories correlate with the following learning styles identified by Kolb (1984).

"a" relates to Concrete Experience

"b" relates to Reflective Observation

"c" relates to Abstract Conceptualization

"d" relates to Active Experimentation

However, please note that the questions in the Tech Training Preferences Probe have not been researched or validated.

Reference: Kolb, D.A., (1984). *Experiential Learning*. Englewood Cliffs, NJ:
Prentice Hall

Figure 2: Using the Tech Training Preferences Probe



AT Training Snapshot

Sharon was extremely knowledgeable about computers and software and was regarded by her technology peers as an outstanding trainer. However, she was frustrated and concerned that many participants rated her as spending either too little or too much time on training topics. In nearly every training someone reported being “lost” and not understanding. Some stated the training didn’t seem relevant. After reading about learning styles, Sharon realized that she was an Active Experimenter who loved to explore software and expected that others would love it too. Sharon began to always start with an example of how the software would be used for the Concrete Experience learners in her audience. She also built in short discussion and reflection times throughout the training to meet the needs of the Reflective Observers. Finally, she provided written tip sheets that participants could use as needed. These were primarily for the Abstract Conceptualizers. Her feedback changed dramatically and she feels much better about her ability to train others.

► **Learner’s Experience with Technology**

Kolb’s discussion of learning styles applies to learning of any kind about any topic. While the research was done over twenty years ago, Kolb’s information is still very pertinent to the training you do today. There is, however, one other factor that affects how the participants in your assistive technology workshops learn. That is their familiarity with technology in general and their willingness to experiment with the technology that you are discussing. Participants who are confident in their ability to operate and use technology will persist at computer related tasks longer than those who are not (Sam, Othman, & Nordin, 2005). Prensky (2001) coined the terms “Digital Native” and “Digital Immigrant” to describe the differences in learning styles of people who grew up with technology and those who did not.

Digital Natives are used to receiving information really fast. They like to parallel process and multi-task. They prefer their graphics before their text rather than the opposite. They prefer random access (like hypertext). They function best when networked. They thrive on instant gratification and frequent rewards. They prefer games to “serious” work. (Does any of this sound familiar?) They are used to the instantaneity of hypertext, downloaded music, phones in their pockets, a library on their laptops, beamed messages and instant messaging. They have been networked most or all of their lives. They have little patience for lectures, step-by-step logic, and “tell-test” instruction. (Prensky, 2001, p.1)

Digital Immigrants, on the other hand, prefer to learn slowly, step-by-step, one thing at a time, individually, and above all, seriously. Figure 3 offers some examples of the differences between learning styles of Digital Natives and Digital Immigrants.

Digital Native and Digital Immigrant Learning Styles		
Task	Digital Native's Approach	Digital Immigrant's Approach
Look for an Indian restaurant	Search the Internet	Look in the phone book
Learn new software	Explore the program	Read the manual
Read email	Read on the computer	Print and read from paper
Edit a document	Use software editing features	Print and read from paper
Read a book	Download and read electronically	Check out a paper copy from the library
Listen to a book	MP3 file on a digital player	Books on tape or CD
Write a paper	Start writing then go back and clean it up later	Make an outline then write from the outline

Figure 3: Digital Native and Digital Immigrant Learning Styles

One of the challenges of offering training about assistive technology is that we need to consider the technology learning styles of both technology natives and immigrants as we plan for the involvement of workshop participants. People who grew up with technology from a very early age have recently entered the workforce and will be participants in the assistive technology training opportunities you offer. Their learning needs may require you to take a second look at your teaching methods.

Just as the use of a variety of activities can help you accommodate for the needs of different learning styles, it can also help you better meet the learning needs of Digital Natives and Digital Immigrants. Some Digital Native participants will want to go faster, have less step-by-step instruction, or search for information themselves and then report back to the class. Digital Immigrant participants will want just the opposite approach. They may need step-by-step instruction with clear written guidelines printed on paper handouts. Offering choices can help all of them be more engaged in the learning process.

As you plan for technology training activities and learning practice, consider having two options. One option might be an experiential learning activity or a search for information that can accommodate the needs of a Digital Native, while the other might be a guided step-by-step practice that can result in a product similar to or identical to a model that you provide.



AT Training Snapshot

Rebecca had been teaching a class on how to create talking books with PowerPoint for several years and the participants had always found it very helpful. Recently, however, she noticed that some of the teachers in her class were not learning as much as she had hoped. If the computers were on the network, they tended to read their email during the workshop and search the internet for samples when she was describing the step-by-step process for creating a talking book. She also noticed that they often sent her questions by email after the class was over. While she was sure that she had covered the content, they didn't seem to have even heard it. She was frustrated that these participants were not paying attention during the workshop until she realized that it was primarily the younger Digital Natives who seemed to be struggling with the content. In order to accommodate their learning needs, Rebecca developed a template for a talking PowerPoint book that included the instructions for inserting sound files and pictures on the slides themselves. During her next class, she offered to walk through the file in a step-by-step manner with those who wanted to follow along with her but also gave teachers the option of working at their own pace if they wanted to. She was amazed at the quality and creativity of the products that were developed using this new training strategy and found that the Digital Natives in the group left the class with products that they could use immediately.



REFLECTION
Think about your own learning style.

Which of the descriptions of learning styles best fits you?

How does your learning style influence your teaching style?

What might you do to plan for teaching people with learning styles other than your own?

Are you a Digital Native or a Digital Immigrant?

How does your status as a Digital Native or a Digital Immigrant affect your technology training style?

What might you do to plan for both the Digital Immigrants and the Digital Natives who participate in your training?

Engaging Participants

This section of the manual offers ideas about how you might use your knowledge of learning styles to address the learning needs of your participants by planning for the use of research-based training strategies.

Engagement is a critical aspect of learning (Jones, Valdez, Nowakowski, & Rasmussen; 1994). What does engaged learning look like? Successful, engaged learners are responsible for their own learning. They are self-directed. Once they understand the relevance, they are able to define their own learning goals and evaluate their own achievement. They are also energized by their learning and eager to apply it. Thinking about your participant's needs as adult learners and the individual learning styles they may bring to your training can help ensure that you engage them as active participants in the training. In addition, throughout your training it is important to impact each participant's perception of the benefit they are receiving. To do that, try these suggestions.

Answer: “What’s in it for me?” Before you took time to read this handbook, you probably asked yourself whether this would be time well spent. Our time is valuable. We must ensure that the things we choose to do will offer us some benefit. Help your participants recognize what is in it for them by asking for their questions, relating your information to their situations and allowing time for small group discussions focused on how they will implement what they are learning.

A word of caution: If you are offering training on a particular piece of technology, it's a good idea to check ahead of time to find out if the learners actually have access to that technology. Offering training to use a system that the learner *can't* use is frustrating for both the trainer and the participants. If you are asked to do such a training, find out what the person requesting the training intends as the outcomes for that session. If at all possible work to make sure that the technology will be available after the workshop so that learners can answer the question “What’s in it for me?”

Focus on their needs. One way to do this is to ask early on what they hope to get out of the day. One effective way is to ask participants to talk in groups of two or three and identify what they hope to learn. Then ask them to briefly share with the whole group while you write what they say on a white board or sheet of chart paper so that everyone can see it. Following this activity, give them quick feedback about your desire to meet their needs. During the training refer to their requests and try to address as many as possible.

Offer opportunities to reflect. Discussing and reflecting are both critical to learning and a powerful tool for engagement. Provide opportunities to reflect throughout the day. Some learners need a quiet time to reflect and others need to talk to someone to help them reflect. Try to offer both opportunities throughout the training time.

You might do this by posing a question about how participants will use the technique they just learned in their own setting. Instruct them to write down two things they will do

differently because of what they just learned. Request three minutes of quiet time. At the end of the three minutes ask them to take three more minutes and share what they wrote with the person next to them. According to Wheatly (1997) this type of shared reflection amplifies the learning and actually creates new information. Silent and shared reflections shape what participants have learned so that it is more usable in their own setting. When they listen to others, they change it slightly and connect it with other ideas they already have, producing something more than you provided. This type of insight builds in significance with each new perception or interpretation. Here are some simple and effective information-processing techniques.

- Ask participants to turn to a neighbor and summarize what has just been said.
- Ask participants to make eye contact with someone at a different table and stand and discuss with that person the main ideas of the content just presented.
- Work in trios to discuss applications of the content just covered.
- Direct participants to use a highlighter (that you have provided) to highlight in their notes the two (or three or four) most important points they have heard during this segment of the training.
- Ask participants to write the two to three most important things they just heard.
- Ask participants to create a table of the key points.
- Have participants blog about their experience and what they found most useful.

Strategies for Engagement

There are a variety of ways to increase the likelihood that your participants will be engaged in the training that you are providing. These start right at the beginning of your training with a way to get them talking and continue with strategies to help them process information and helping them to stay alert and involved.

► Get People Talking

It is important to engage participants in an activity that requires them to talk early in your training. Having them talk indicates to participants that they will be participating in an interactive training where they will have opportunities to talk with each other and the group. These activities are often called *Icebreakers* and are simple activities that can be used at the beginning of a session to help participants learn each other's names or backgrounds, share an experience, or introduce the topic. Choosing the right icebreaker can help set the stage for a positive, enjoyable learning experience. Planning the icebreakers is easier when you have a general idea of how much time you have available. The number of people also impacts your choice of a warm-up activity. Find out in advance, if possible, how many participants you will have at the training.

Icebreakers should connect participants with at least one other person. They should be low risk and related to the topic. The length of the icebreaker should be short and related to the overall length of the training. For example if the training is two hours it does not make sense to spend 20-30 minutes having each participant introduce themselves to the whole group. Figure 4 includes some ideas for icebreakers to help people get involved.

 Ideas for Icebreakers	
Icebreaker	Description
Partner Experience	Ask participants to turn to a person near them and tell each other what their experience has been with the topic that you are going to be teaching.
Introductions	Have each person learn enough about another person near them to introduce that person to the large group.
Name Tents	Give out materials for name tents (markers and 5x8" cards folded in half the long way). Ask participants to print their name on both sides in large print to be easily seen and to decorate them in a way that represents interests or hobbies, etc. Then have them explain their decorations.
Group Expectations	Ask participants to think about what they hope to learn from today's training. Instruct them to write down the one thing that could make this day a success for them, if they learned it. Observe them. When it looks like most people have written something, have them turn to a neighbor and tell each other what they wrote. Ask everyone to then share with the whole group or if that would take too long, ask for three or four volunteers to share what they wrote. Write what they share on a flip chart so that everyone can see it. Ask if anyone has anything very different that they would like to have added. Let participants know if you will, in fact, be covering the things that they have identified. If there is something that you will definitely not be covering, offer to talk with that person at break.
Personal Memento	Ask participants to find one or two things in their purse, wallet, bag or pockets that they feel represent who they are. Share these with everyone or with a small group, explaining why they chose them and how these items reflect their personality or interests. (Wolfe, 2004)
M & Ms	Pass around a dish of M & Ms and ask participants to take as many as they would like, but to save them for later consumption. After everyone has M & Ms, tell them to introduce themselves and share one piece of information for each M & M that he/she took. (Wolfe, 2004)
Alike and Different	Break into small groups and have participants find three things they all have in common and three ways in which they are different. Have groups report back to the large groups by telling the most interesting similarities and differences for their group. (Wolfe, 2004)
Adjective Introductions	Ask participants to introduce themselves by using an adjective that starts with the same letter as their first name. The adjective should describe something about them. The authors might say, "Persevering Penny" or "Marvelous Marsye". This will help participants remember the names of the other participants. (Wolfe, 2004)
Analogies	Break into small groups. Have the participants introduce themselves to one another in their group. Give everyone a topic related analogy to complete, such as, "A presentation is like a lawn sprinkler because....." Have them discuss their ideas and share verbally or make a poster and explain it to the large group. (Wolfe, 2004)

Figure 4: *Ideas for Icebreakers*

Icebreakers are a little different when the training you are offering includes hands-on instruction in the use of technology. A good technology icebreaker can also give you a great deal of information about participants' skills and comfort level in using technology. If you are offering a class about a particular computer software application and one or two of your participants is unfamiliar with the kind of computer or does not use a computer at all, you'll need to take steps to address that learner's needs so that the class is not disrupted. A technology-based icebreaker such as those in Figure 5 can alert you at the beginning of the class to people who may need additional support and attention during the training.

 Ideas for Technology-Based Icebreakers	
Icebreaker	Description
Novice/Expert	<p>Show participants a five point rating scale that describes their experience and skill with the technology that you will be discussing during your training.</p> <ol style="list-style-type: none"> 1.) I don't even know what this technology is and don't understand what it does. 2.) I know what it does, but I can't use it. 3.) I can use it a little with some help. 4.) I can use it independently. 5.) I could teach others about this technology. <p>Ask them to privately rate themselves on the scale. Then ask them to turn to another person and discuss the self-rating and the reasons that they chose their score.</p>
Tutor/Learner	<p>If you think that you will have a very diverse group of learners, one way to address this problem and help create lasting mentoring relationships is to ask experienced technology users to act as supporters and tutors to the novices in the group. Tutors and learners can pair up near the beginning of the training session and work together throughout the time. You can use the five point rating scale mentioned in the previous icebreaker to help people rate themselves. Ask tutor and learner pairs to discuss their learning goals for the training session early so that they can support each other. It is generally also a good idea to provide the option of working alone to those who want it. During discussion time, individuals who work alone should also partner with someone to discuss what they are learning and accomplishing during your training.</p>
Name Tents	<p>Give out materials for name tents (markers and 5x8" cards folded in half the long way). Ask participants to print their name on both sides in large print to be easily seen and to decorate them in a way that represents interests or hobbies, etc. Then have them explain their</p>

	decorations. When they are finished, ask them to attach the name tent to the computer they are using during the training.
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Tell Me a Story	Ask participants to tell you a story about a person they know who might use the assistive technology tools and strategies that you will be discussing during the day. Give guidelines for the description that include how long the story should be and what information will be important for the group to hear. Invite participants to notice the people in the group who have like interests and encourage them to find opportunities to work together during the course of the training.
Assistive Technology Device	Ask participants to answer the following question: <i>"If you were an assistive technology device, what would you be?"</i> Break into small groups according to the devices identified and ask people to discuss the reasons they chose the device they did.
Technology Adjectives	Ask participants to identify an adjective that describes how they are feeling about the technology that you will be discussing during the workshop. Ask them to tell why they chose the adjective they did.
AT Interests	Place pictures of several different types of assistive technology on the table and have each person select one that means the most to them and explain why they chose it.
Email the Instructor	Post your email address so that everyone can see it. Ask each participant to send you an email telling you what they hope to learn from the class. While participants are completing an activity independently, create a summary list of learner goals and project it so that everyone can see. At the end of the class, review the goals to determine whether participants' needs were addressed.
Internet Scavenger Hunt	Ask participants to work in groups of two or three. Give them an assignment to find something on the Internet that relates to the content of the class. It may be a web resource or a specific piece of information. Have each small group describe what they found and how it might be useful to everyone in the class.
Device Investigation	If the technology you will be teaching about is not software-based, place sample devices on each table. Ask participants to create a list of things they hope to learn about the device and select the three most important items on their list to share with the group. Create a list of these features that can be reviewed later.

Figure 5. Ideas for Technology-Based Icebreakers

► Support Information Processing

Technology training can include a great deal of complex information. You may find that participants sometimes get lost or fail to grasp key points. Garmston and Wellman (1992) suggest a number of specific techniques you can use to help participants anticipate, understand and process the information you are providing.

Foreshadow - Telling people what is coming not only helps them know where the presentation is going, but also excites them about the journey. In a few brief phrases, tell

people what the main focus of the training will be. For example:

“Today we are going to learn about Word Q and Co:Writer, two word prediction programs. Word prediction is the process of predicting what word a student may be attempting to type based on the first few keystrokes.

It is especially useful for

First we will be....

And then.....”

Bridge - A bridge provides a transition between one content chunk and the next. For example:

“We just talked about strategies for using a Smart Board in the classroom...now we are going to watch a video about a teacher using one in a classroom.”

Backtrack - To backtrack is to review what has occurred in a presentation. Backtrack two or three times in a 2-3 hour session. Each backtracking opportunity helps people to review and mentally organize important information. You can provide this review or ask participants to do so, either in small groups or as a large group. If you do it as a large group activity, you might want to write the key points where everyone can see them such as on a flip chart, dry erase board, or on a computer with the words projected on a screen. Backtracking can be done more often if the people you are training seem to be having difficulty with the concepts. For example:

“We just talked about selecting vocabulary. The three key points were:...”

Review the content of the lesson to make sure that new vocabulary words are included. Observe the class to determine what type of questions and comments come from other students, then add needed words and phrases.

Give Clear Directions - Unclear directions make people feel inadequate and frustrated. Write down the directions, as you want to present them, and be very clear. Provide a presentation slide, tip sheet or other written directions whenever possible. Check to see that everyone understands what to do before telling them to start on a task. For example:

If the directions are the same for everyone, project them on a screen using PowerPoint™. If groups need individual directions, you might use a set of Cue Cards to explain the directions. You can create them in PowerPoint. Each page has the detailed directions for a step or technology feature. The cards can be reproduced on color-coded cardstock, cut up, laminated and secured with a ring. They are easy to use in locating specific directions quickly.

Encourage Movement - The research on learning shows that many people learn best when they are moving. Imagine sitting absolutely still during a lecture. How successful a learner would you be? Movement can take many forms along a continuum from fidgeting with a pencil to standing instead of sitting. Planning for movement during training has been shown to enhance learning (Sweeney, 2002). Movement is more important to some people than to others. Many learners do significantly better when they are engaged in

some type of movement. The movement can be writing, typing, moving a mouse or using a calculator. For many people using fidgets that they can handle while listening addresses their need for movement. Fidgets are small items with different textures and shapes such as a Koosh™ ball. Whether you use fidgets or engage participants in hands-on activities, remember to plan for movement throughout your training.

► **Help Participants Stay Alert and Involved**

Many assistive technology training sessions take place at the end of a busy day. Participants may be tired, distracted, or drained. It is important to help them stay alert and engaged. There are a variety of things you can do to increase participant's engagement. These include:

- Break up a lecture with small group activities where participants talk to each other or solve a problem.
- Alternate the need to look at a projected image with the need to look at a chart or diagram from their handouts.
- Pause after key points and ask for questions or comments.
- Provide markers and small sticky note pads to doodle on.
- Provide alerting snacks such as lemon drops or peppermints.
- If people begin to look like they need it, take a quick stretch break between scheduled breaks.
- Tell a story to get everyone laughing, for example some incredible experience where everything went wrong, or ask a few participants to share their worst technology experience. (Of course, follow that with a positive story to keep the mood positive.)
- Use an appropriate picture, cartoon or comic strip to change the pace and make people laugh or at least smile.
- Encourage movement by having people stand to discuss a topic with their neighbor.

► **Make Lectures More Interactive**

Lectures are often used to convey necessary information because they are quick and efficient. They can also be effective, but to be so, the participants need to be interested and engaged. Keeping lectures interactive can help make this happen. Here are some ideas:

- **Ask questions periodically to invite participation.**
- **Break up lectures with small group activities related to the topic.** These may be short, lasting only 5-6 minutes or longer activities that last 15-20 minutes.
- **Use case studies and have participants problem solve** by applying the information that has just been presented. Case studies may be done in small groups or by the whole group.
- **Use Quicktime™ movies, cartoons, or comics to illustrate a point just made.** Be sure it relates to the topic and allow a minute to discuss or just enjoy.

- **Use role-playing.** Role-playing can be a quick way to allow people to process and apply information. It can be made humorous by having them demonstrate the wrong way to do something. Be aware that some people don't like role-playing, so have a "job" for someone in each group to be the observer who identifies key points that were made during the skit.
- **Think-pair-share** (Kagan, 1994). Pose a lecture related question that requires analysis, evaluation or synthesis. Participants think and write possible responses for a minute or two, then work with a partner, each presenting his/her ideas. If time permits they can then share key ideas with the whole group.

You can also use one or more of these interactive suggestions from Wolfe (2004; 2006):

- **Note-taking Handouts** - Provide a handout that contains a skeleton outline or key points to be covered. Leave plenty of space for participants to fill in key words, explanations, or examples.
- **Flip Chart Fill Up** - A flip chart and markers are placed on each table. Groups are asked to fill the flip chart with words and/or pictures related to the assigned topic. Suggestions might be: make a poster, draw a picture illustrating a key concept or theory, or create a definition.
- **Pop Up** - To introduce a topic and find out what participants already know or to review something just taught, ask participants to "pop up" out of their seats and share one thing they know about the topic. Be sure to allow a minute of wait time after posing the question or topic so that participants can gather their thoughts before beginning.
- **Write question** - Ask participants to each write down one or two questions they have about the topic. Then have a volunteer read a question and let another volunteer answer it. This can be done by the large group or in smaller groups.
- **Buzz groups** - Break participants into groups and give them an assignment such as completing a statement, prioritizing or organizing a list of key elements, completing a quiz, solving a problem or responding to a case study.



REFLECTION

Think about a training where you were engaged and excited.

How did the presenter break the ice and get participants talking?

List two or three icebreakers that you would be comfortable using.

What else will you do to increase the likelihood that your participants will be engaged and excited about the training you provide?

What techniques have helped you process information to make it more useful?

What can you do in training to make sure that participants have the opportunity to use their best method to process the information that you present?

Which of the strategies for helping participants stay alert and involved and for making a lecture more interactive seem comfortable to you? Choose two from each group to use in future training.

Participant Learning

This section of the manual offers ideas about how you might quickly and easily divide participants into groups and use training strategies to increase participation and maximize their learning.

In some training workshops, participants attend in teams or groups that work together. If this is the case, when you break into small groups you may want these natural groups to work together. In other situations participants do not know each other, so you will need to group them in some way. You may want to be able to quickly change the groups throughout the day. Here are some ideas for quickly grouping people.

- Seat people at round tables and have them work in groups by table.
- Have people work in pairs by simply turning to the person next to them.
- Use pictures of various assistive technology tools that have been cut apart to form a puzzle. Distribute the cut up sections around the room on the tables and when you want to use them have each participant select one and find the matching pieces. You can cut the pictures in 2, 3, 4, or more pieces depending upon how many people you want in a group. The more pieces there are, the longer it will take to find all the matching ones.
- Use several colors of nametags and have people form groups who are wearing the same color nametag.
- Buy a selection of stickers and place them on the tables so that there is one per person or if not seated at tables, distribute them as participants enter the room. The stickers can be seasonal or relate to the topic, but buy enough so that you have two, three or four of the same sticker, then have people with the same stickers form a group.

Try one of these handy ideas from Wolfe (2004) that can help you quickly and easily group people.

- **Playing Cards:** The use of playing cards provides a great deal of flexibility. Distribute playing cards, one to each participant. If you need two groups, divide by color; if you need four groups, divide by suit; if you need five groups put everyone with a face card together and divide the rest by suits; if you need four in a group, divide by number.
- **Nuts and bolts:** Buy sets of differently sized pairs of nuts and bolts. Have each person take a nut or a bolt when they come in. When it is time to get into groups have participants stand up and find the person with the nut or bolt that matches theirs.
- **Candy divide:** Place a bowl of various kinds of candy on each table and ask participants to take one. Have as many types of candy as the number of groups you want. After everyone has chosen, ask participants to divide into groups according to the type of candy they chose.

► **Brainstorming**

Brainstorming can be a very effective technique to get participants involved and engaged in the training. You can have them brainstorm what they think solutions might be to a problem or generate ideas on any topic. The “rules” for brainstorming are (1) everything that is said is written down where everyone can see it, (2) there is no discussion during brainstorming, and (3) no one can say, “That won’t work” or “We already tried that” or “Someone already said that”. Brainstorming honors the experience that participants bring to the training and because of its rapid-fire nature it taps into the creative right side of the brain. Brainstorming works best when it has a short timeline and when the responses are written where all the participants can see them on a board, flip chart or computer screen that is being projected for all to see.

If your goal is to generate as many answers as possible, you are done when the brainstorming tapers off. If you want to discuss or prioritize the ideas that were suggested, now is the time to do so.

Brainstorming can also energize your participants. Lipton & Wellman (1998) suggest:

Carousel Brainstorming. This strategy gives a boost of energy to the training session. Place pages of chart paper, each with a different question or topic related to the subject, on each table or with each small group. Give each group a marker and have them choose someone to be a recorder. Have the groups brainstorm ideas and record them for four to five minutes then pass the paper to another group. You can continue until all groups have addressed each question or limit it to three or four groups as time permits. Teams then receive their original charts to review.

Gallery Walk (Francek, 2004). The Gallery Walk gives all participants a chance to read the response of other teams and benefit from their ideas. Posters are placed around the room and each team reads each one. After reading them, participants can use stickers or markers to respond to the information by placing one of three comments by an item:

- A heart shape to show agreement with a point and, if desired, to add a comment to build on the point.
- A lightning flash to indicate disagreement with a point and add a reason for the disagreement.
- A question mark to say, “I don’t understand this point”. You can then lead a discussion to clarify points, if needed.

When done with every poster, they return to their own, read the additional comments and choose five of the additional comments to share with everyone. There are many variations on the Gallery Walk, including the Gallery Run, which is quicker, and the Computer Tour where the information and responses are on a series of computers.

Wolfe (2004) suggests this variation on the standard brainstorming format:

- **Round Robin:** Select several questions or problems to be solved, choosing one topic for each small group that you want to have. Write the questions or problems on individual pieces of chart paper, one issue per page. Place the chart paper around the room. Divide the participants into groups and give each group a marker. Instruct the

groups to choose someone to be recorder and then to brainstorm and record their ideas. Allow four to five minutes and then have them move on to another poster. Have the groups go clockwise around the room, reading what has been written on each poster page and adding any ideas they have. Continue until each group has been to each poster.

- **The Slip Method:** On chart paper write several topic-related practical problems that are being faced by participants, one problem per sheet. Using post-it notes or self-stick index cards have participants work individually or in pairs to suggest solutions to the problems. Have them write one solution per post-it note and place them on the chart papers as they finish each one. Allow a little more time for this brainstorming activity, as participants need to read and reflect on each item as it is added. At least 15 minutes will be needed. At the end of this activity make sure all suggestions have been posted then assign each chart to pairs of volunteers to organize and cull ideas, making a master list for each chart. The information can then be posted for a gallery walk or presented orally to the whole group.

► Learning Checks

Learning checks are techniques to help participants briefly review the key points that have been covered. It helps them think about what they are learning and lets you monitor their progress. These checks help to reinforce and clarify content. They can be used throughout the training to increase learning. They also provide an opportunity for the trainer to monitor progress and understanding. A learning check can be as simple as asking the participants to turn to a neighbor and restate what they have just learned or discuss what they felt was most important to them. Here are some specific ideas to provide variety in your Learning Checks.

- **Highlighting Key Points:** Plan for this ahead of time by putting stickers, sticky dots or highlighting pens on the tables. Then tell the whole group to review their notes for the last segment of the training and mark three key points or four main ideas, etc. Give them five to ten minutes depending upon the amount of material they need to review. When they are finished have them talk about their choices at their table.
- **Paired Reflection:** This strategy can be used to energize participants and activate learning. Have participants stand and find a partner. Then within each pair have them decide who will be Partner A and who will be Partner B. Once that is decided give them instructions, including the fact that Partner A will talk first while B listens and then B will talk while A listens. Tell them they will each have one minute and assign a topic such as the two most important things they have heard since lunch or one thing they will do differently based on the information just presented, etc. They are to each present their own thoughts, not repeat or respond to each other during this first stage. Tell them when to start. Then time them while they carry this out, telling them when to switch and when to stop. When they have finished, inform them that they will now each have thirty seconds to respond and give feedback to their partner. Again tell them when to start, switch, and stop.

- **Poster Review:** This strategy takes a little longer. It works for complex ideas that may need to be interpreted. Have the participants work in small groups of 3-5. Give them each a sheet of chart paper and markers. Instruct them to create a poster about the things they have just learned or how they plan to put what they learned into practice. Allow them 10-15 minutes so they have time to discuss and plan their poster as a group before they start drawing.
- **Walk Around Survey** (Lipton & Wellman, 2004): This is a great strategy for multi-day trainings when you want to provide a bridge to previous learning at the beginning of the second day. It can also be useful during a long day of training where participants may be getting tired and need a chance to move around the room. Have participants divide a paper into six equal sections. Each of the six sections will be filled with a name and an idea. Tell them when to start and have them move around the room talking with six different people about important ideas, new insights, or recalled items. As they interview each person write that person's name and one of their ideas in a section of the form. At the end of the allotted time, probably 15-20 minutes, have them return to their table and compare notes with their table mates.
- **One Minute Papers** (Cross & Angelo, 1988): At the end of a section of the training, ask participants to free write for one minute in response to a question that you pose. The question can be "What were the most important points in this portion of the training?", "How do you see yourself applying what we have just learned?" or "What questions or concerns do you have about this information?" Questions of this type can give you important feedback about participant learning.
- **Four Key Words** (Wolfe, 2004): Each participant is asked to write four key words from the last section of the training. Then call on them to share one word as you write them on chart paper. Tell them not to repeat any words and continue until there are no new words.
- **Mind Maps** (Buzan & Buzan, 1994): This is a good way to activate prior knowledge as they review content. It is also known as webbing. Have participants work in small groups. Give each group a piece of poster paper and have them write a key word in the middle. Then ask them to place related words around the key word and organize their web as they develop it. Or have them work in groups on a computer using one of the many free mind mapping software programs that are available on-line.

► Increasing Retention

No matter what your training topic, it is usually safe to say that you are hoping that your participants will be able to do something differently or better or faster after attending your training. Some of the keys to achieving this goal are to limit what you teach, include reflection time and learning checks, and keep participants actively engaged. Here are a couple more ideas for increasing retention.

Idea sheet - Providing a worksheet that helps participants think about the key ideas that they want to remember and apply can be a great tool for retention. The bright idea worksheet in Figure 6 is an example. Simple boxes on the page can also work.

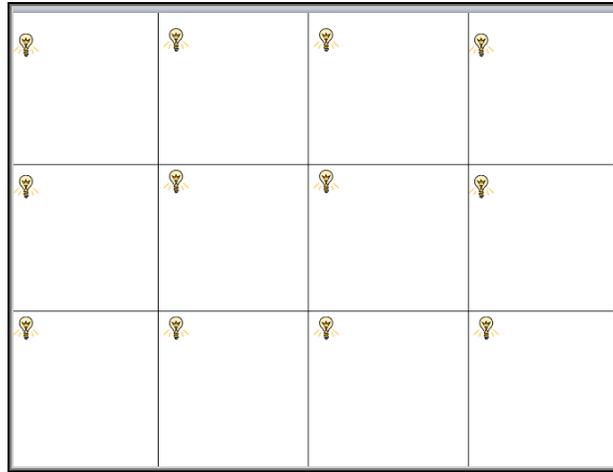


Figure 6. Bright Ideas Worksheet

Allow down time - Individuals need approximately 6-8 hours of down time to process new information. This is especially critical if they are learning complex information such as how to operate software that is completely new to them.

Limit content - The content is not as important as the audience's interaction with the content. Decide on two to three main points and stick to them. Telling a novice too much about a technology tool can mean that person will be too overwhelmed to try using it.

Break up information with opportunities to process - The limit of working memory is about seven items of information. To be safe, no more than five important facts should be presented before participants have a chance to process the information using one or more of the strategies described earlier. The content/process ratio cannot be static. Even though you haven't planned an interactive activity for five more minutes, if facial expressions, the questions being asked, or other factors alert you to the fact that your audience is becoming overwhelmed, stop and give them an opportunity to ask questions, reflect, or process.

Don't overwhelm - The very worst thing you can do is to impress your participants so totally that they leave your training thinking, "She knows so much. I could never do that!" Perception shapes reality. If a participant leaves the training believing that he can, in fact immediately apply what he learned, there is a greater likelihood that he will do so. You may know every feature of a piece of software, but that doesn't mean you want to demonstrate them all to an audience of novice users. Carefully select the words you use. Moore (1999) pointed out that people who are pioneers in the use of technology have different interests and goals than later adopters of technology. The pioneers and early adopters are very self-directed and explore software and hardware fearlessly. They talk excitedly about new features, speed, amount of memory, and so

forth. Most people doing training in technology use are likely to be either *pioneers* or *early adopters*. At the same time, most participants in the training are likely to be *early* or *late majority*, who may have mixed feelings about using a new tool, or even *laggards* in relation to technology adoption and really not want to be there. To be sure that you are encouraging and not intimidating your audience, limit the information you provide and choose your terminology carefully to relate to their concerns, which are almost certainly about it being simple and easy to use and effective in meeting the needs of their students, rather than having a myriad of features.

You can influence the amount of information that participants will remember and be able to use by carefully planning your training activities. Sweeney (2002) suggests that retention rates may vary significantly based on how information is gained with the least information gained from simply listening to a lecture and the most gained from teaching the information to someone else or otherwise immediately putting it to use (Figure 7). To increase retention, include activities that require the participants to act upon and utilize the facts and knowledge that you are imparting. While no research has ever determined exactly how much more effective it is to have hands-on practice as part of a training experience (Thalheimer, 2006), research on brain activity that is now available through the use of PET scans shows that cells in different parts of the brain are activated by hearing information, seeing information, speaking, and generating new ideas. So activities that involve more parts of the brain will cause learners to be more engaged and more likely to retain the information. In addition, when you need to recall information, you must reconstruct it. The more ways information has been received and stored, the more pathways that are available for reconstructing and forming a richer, more usable memory (Wolfe, 2003).

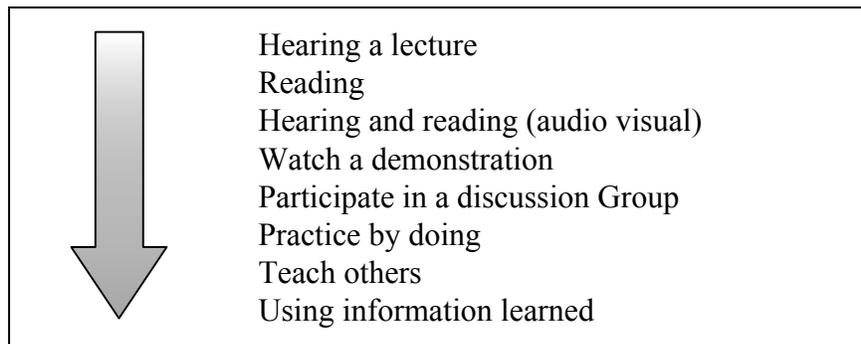


Figure 7. *Retention of Information Increases with Involvement*

Another key aspect of being empowered is to experience a sense of success and efficacy. In order to achieve this, participants must have time to practice the things they are learning, especially if it involves the operation of hardware or software. So plan plenty of hands-on time with enough assistance to allow success.

► Increasing Retention of Technology-Related Skills

In the previous section, strategies were provided that you can use to help participants retain information that they learn in any training environment. Because this handbook specifically addresses training for assistive technology use, the following will suggest how each of these strategies can be applied to training about the uses of AT.

Tip (Idea) Sheets - It is common for software and hardware manufacturers to provide quick-start guides for their products these days. These guides offer only the basic steps to getting up and running with a particular piece of technology. If the content of your workshop is about a specific product, find out if there is a quick-start guide for it. If there is no quick-start guide for your particular product, search the Internet for tutorials or step-by-step instructions that have been developed by others about the specific tasks you want your learners to know. There are many websites that provide tutorials and templates for teachers that can be very useful in providing references and ideas for your participants. For example, Baltimore County Public Schools offers several tip sheets for their staff (www.bcps.org/offices/assistechnology/quick_guides.htm). A sample about finding definitions of words using Kurzweil 3000 is provided in Figure 8. Finally, if you are unable to locate an already written tutorial or tip sheet that meets your needs, take the time to create one. Participants will be able to refer to it over and over again as they practice the new skills you have shared with them.

Kurzweil 3000 Tip Sheet

Reference Tools: Finding Definitions of Words in Documents

To find the meaning of a word:

1. Click in the word to look up.
2. Click the **Definition** button on the toolbar.

or

Open the **Reference** menu, point to **Selected Word**, and then click **Definition**. The Definition window appears on top of the current document. You can hear Kurzweil 3000 read the definition out loud by clicking the **Read** button in the toolbar, or by choosing **Start Reading** from the **Read** menu. You can select any word in the **Definition** window and find its definition, syllables, or synonyms.

Notes:
If you have chosen an English-to-European language dictionary (for example, English-to-Spanish), the definition is read in the European language.

Other ways to find the meaning of the current word:
Press **CTRL+D** on the keyboard.
On the right mouse button menu, choose **Look Up Word**

Figure 8. Sample AT Tip Sheet

If your training is about the use of technology in daily routines and functional activities rather than about its operation, the use of tip sheets can still be very valuable. Tip sheets for technology assessment or integration often look a little like worksheets for team planning. They help participants follow a set of specific steps in planning. It is often possible to create a worksheet that is a summary of all of the essential concepts offered in your training. Figure 9 is an example of a worksheet that was offered in a workshop about technology and classroom management. It summarizes all of the basic concepts that were covered in the workshop and acts as a “tip sheet” for participants so that they can remember the things they might want to do when they return to their classrooms.

Allow down time - If it is at all possible, training for assistive technology use should be provided in short segments over a period of weeks so that participants have time to practice the skills they learn in one training session and apply them to their own needs and the needs of their students. Three short training sessions about the use of a particular piece of software with homework assigned between each session will result in more skill retention than if the same content is offered within a single day with no follow-up activities.

Limit content - When software or hardware has the capability of doing many exciting things, it's tempting to discuss all the features. But when too much information is offered at once, participants can become confused and frustrated. In planning your workshop, make a list of the key points that participants must have when they leave your training and stick to that list. If you feel that you will not have enough content to fill your time period, create opportunities for people to practice the skills you have identified rather than adding content. If you feel you cannot cover all the essential features of an assistive technology device or application in a single session, plan for additional sessions or limit the features you do cover so that the information that participants learn is immediately useful to them in their own environments.

Break up information with opportunities to practice - The best way to learn to operate technology devices and software is to actually do it. People retain key information when they are able to practice by doing. When software and hardware are part of training, this is even more critical to the quality of participant learning. A very useful sequence is: (1) present specific steps, (2) direct them to complete those steps, (3) ask a key question to help them reflect on what they just did. Then repeat that sequence for additional steps.

It's even easier to overwhelm participants during a technology workshop. As you plan to offer technology-based training, think one more time about learner styles. One skill that is important to learn is to demonstrate what you are doing and also to talk through each step as you do it. This will address the needs of both visual and auditory learners. Once your demonstration is finished, the kinesthetic learners can have a chance to actually do the work and practice the skills they have seen and heard you demonstrate. It is especially true when you are offering hands-on technology training, that learners whose styles are not addressed will be overwhelmed and frustrated.

Classroom Technology Walkthrough				
Classroom Organization	Yes	No	NA	What specific skills does this student need to learn in each area of technology use? Operational Skills: Making technology work Functional Skills: Using technology to increase function Social Skills: Using Technology with other people Strategic Skills: Choosing the right tool for the task
Can the teacher see the student?				
Can the student see the teacher?				
Can the student interact with peers?				
Can the student move about the classroom freely?				
Is the student's movement a distraction?				
Are materials easily accessible?				
Rules, Procedures & Goals	Yes	No	NA	Technology What is the expected level of participation for this student in the area(s) where technology is used? <input type="checkbox"/> Competitive Participation <input type="checkbox"/> Active Participation <input type="checkbox"/> Involved Participation <input type="checkbox"/> None Rules, Procedures and Goals Is it necessary to modify classroom procedures so that the student can participate at his/her expected level? Does the student need additional procedures for using assistive technology as part of instruction?
Are classroom rules posted?				
Is there evidence that classroom procedures are taught?				
Are classroom procedures followed by the student?				
Are students using technology?				
Is there evidence that classroom procedures for technology use are taught?				
Are classroom procedures for technology use followed by the students?				
Are transitions smooth and timely?				
Planning for the Student What are the distractions for the student in the classroom? (e.g. lots of movement, noisy environment, visual distracters)				
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Figure 9. Classroom Technology Walkthrough Tip Sheet for Technology Management



REFLECTION
Think about grouping and brainstorming.

Select two grouping strategies that you feel comfortable using.

Grouping may be planned well in advance or may be needed unexpectedly because of the needs of the participants for small group discussion and interaction. What strategy can you always be prepared to use on the spur of the moment?

Review the suggested learning checks and think about how they might fit into your training. Select one to use in your next training.

How has brainstorming helped you when you participated in training? How do you think you might use brainstorming in training?

What might you use in your technology-based training sessions to increase retention?

Which of the suggested learning checks might you use in a technology-based training that you provide?

Chapter 2: Identifying the Content of Your Training

In this chapter you will learn about things you should consider as you plan the content of your training. You will identify ways to find out about your participants' learning goals and to relate the content of your training to current educational initiatives.

Identifying Content

This section of the manual contains research-based training techniques and strategies that can make your training more effective.

Advanced planning is the key to successful training. The first time you provide training on a topic, expect preparation to take three to five times the length of the planned training.

► Relating to the “Big Picture”

The first step in planning is to think about the desired outcome of the training. What is it that you hope recipients of your training will be able to do after the training that they could not do prior to the training? For example if you just want them to have a better idea about what a software can do, you will plan differently than if you want them to be able to use the software to accomplish a specific instructional task.

Awareness of the needs of the participants’ learning goals is key to planning a successful training opportunity. No one wants to or has time to sit through a training that is meaningless to their situation. Know your audience’s needs and plan to meet them!



AT Training Snapshot

Meg and Sher were asked, by the special education director to offer training for the teachers of students with Autism in their school district. The topic the director identified was adapting the curriculum by using visual strategies. The program was planned, materials were purchased and the participants arrived. Unfortunately, the materials focused on visual strategies for students with significant developmental and cognitive delays. Those teachers who had higher functioning and cognitively intact students felt that their time was wasted. The materials, although appropriate for some, were far from appropriate for all.

Meg and Sher discovered that they were missing important information during their workshop planning. They needed to know more about their audience. Because they assumed that the group of teachers they would be working with had similar interests, they also made an assumption that teachers would use the visual strategies to help students communicate their wants and needs. Because they did not have enough information about the nature of their learners, they provided training that was not of interest to half of their audience. Knowing more about the teachers who were assigned to attend the class and adapting the workshop outcomes and objectives would have helped the instructors to meet the needs of all participants.

Figure out and explain how your training will support the overall goals of the school, the district or the agency for which you will be providing training. If what you want participants to learn is not clear or is not related to their issues and concerns, it won't

change their behavior, no matter how well organized your training. For example, if the school has a goal to improve student's math skills, then a workshop on utilizing the outline features of Microsoft Word may not be well attended, well received, or widely applied. At the same time, if the school has a focus on improving student's writing skills and you are providing training on those same electronic outlining features, then you must plan effectively so that you are able to both identify and communicate to participants how the use of the software can help them meet school goals.

Technology training specifically for special educators should also relate to overall school goals. It should help special education teachers and other service providers visualize the ways that the technology that you are discussing can be used to increase their students' levels of participation and levels of achievement. Because special educators tend to focus on individual students rather than on groups, the focus of your instruction might change from a specific subject area to a focus on a particular student's needs and the barriers posed by that student's disabilities. But you need to make the connection to the larger context for them.

Whatever the focus of your instruction, it is important that you plan to give participants a chance to apply the information you offer to their own situation and their own instructional needs. Teachers use technology when they can understand the clear and immediate benefit of using the technology and how it fits into established classroom routines and procedures (Woodward & Cuban, 2001) and when they believe the use of it will result in increased student performance (Borthwick & Pierson, 2008).

Another factor that causes staff members to seek out training and implement the use of technology is the perception that the principal or some other immediate supervisor wants them to apply that technology in their classroom. O'Dwyer, Russell, and Bebell, (2004) in a study of elementary school teachers in Massachusetts found that this perceived pressure was more likely to lead to use of technology than any other single factor. Therefore knowing what software or hardware the administrators want their staff to use is critical. Simply talking with administrators about how important their leadership is can have a big impact on attendance at voluntary training opportunities and on the use of newly learned skills following the training.



AT Training Snapshot

As an Instructional Technology Specialist for a large high school, Peggy had offered numerous training sessions on using PowerPoint™. She was frustrated that very few of the staff attended these sessions and even fewer seemed to be implementing the use of PowerPoint™ in their classrooms. Peggy had a chance to talk with Marty, the high school principal, about her concerns. He had noted all of the sessions that were offered and was surprised to learn how little impact they were having. After thinking about it a few weeks, Marty announced at a staff meeting that during the next round of observations, he expected to see every teacher using PowerPoint™ and would also be looking for example of students (including those with disabilities) using it. He would highlight them on the school website. Suddenly Peggy had more people requesting

training than she had space for and teachers who had previously attended training were asking relevant questions about its operation and use.

Finally as you think about the big picture of technology use in your setting, think about how your topic relates to technology standards that have been adopted by your school district or your state. There are many lists of technology standards for teachers, students and administrators that you can refer to, if your agency has not adopted a specific set of standards. One example is the list developed for students by the International Society for Technology in Education (ISTE, 2005). The standards include basic operations and concepts about technology tools, social, ethical and human issues related to technology use, use of technology productivity tools, use of technology research tools, and use of technology problem-solving and decision-making tools. (See Figure 10.) The Technology Foundation Standards for Students apply to all students including those with disabilities. They have been adopted by many states as state technology goals. It is important for your participants to make the connection between the things they are learning and the technology learning standards that apply to their students. The use of all assistive technology tools relate to these standards in one or more ways.



Technology Foundation Standards for Students

1. Basic operations and concepts
 - Students demonstrate a sound understanding of the nature and operation of technology systems.
 - Students are proficient in the use of technology.
2. Social, ethical, and human issues
 - Students understand the ethical, cultural, and societal issues related to technology.
 - Students practice responsible use of technology systems, information, and software.
 - Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
3. Technology productivity tools
 - Students use technology tools to enhance learning, increase productivity, and promote creativity.
 - Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.
4. Technology communications tools
 - Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
 - Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.
5. Technology research tools
 - Students use technology to locate, evaluate, and collect information from a variety of sources.
 - Students use technology tools to process data and report results.
 - Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.
6. Technology problem-solving and decision-making tools
 - Students use technology resources for solving problems and making informed decisions.
 - Students employ technology in the development of strategies for solving problems in the real world.

Figure 10: *Technology Foundation Standards for Students*



AT Training Snapshot

Because his school had adopted the ISTE Technology Foundation Standards for Students, Scott decided to use them as a framework to structure his introductory training about assistive technology. From the Profile for Technology Literate Students In Grades K-2, Scott chose the following three Performance Indicators.

Prior to completion of Grade 2 students will:

- 1. Use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer) to successfully operate computers, VCRs, audiotapes, and other technologies. (1)*
- 2. Use a variety of media and technology resources for directed and independent learning activities. (1, 3)*
- 3. Communicate about technology using developmentally appropriate and accurate terminology. (1)*

During his workshop he discussed a variety of alternative input and output devices and software applications that could help students with disabilities to achieve proficiency in these three indicator areas. He showed an alternative mouse, a head pointer, an alternative keyboard, and a small portable video camera. Once he had discussed the basics of each of these devices, he related their use to a sample term paper assignment where students were asked to write about their favorite animal. He showed websites about animals that were appropriate for a wide variety of student abilities and some that had voice output capabilities. Finally he discussed the importance of making sure that everyone on a student's team, including the student, understand how the assistive technology use will be integrated into the student's daily program. Then he allowed time for participants to discuss how these tools might be used by their students.

► Identifying Outcomes and Objectives

Once you have learned something about your audience and their goals and interests, it's time to think about the specific outcomes of the training. What new things do you hope the recipients of your training will be able to do? Here's a sample list of possible outcomes for an assistive technology training event.

1. Become aware of a specific device or software.
2. Learn the basic operation of a specific device or software.
3. Learn advanced operation of a specific device or software.
4. Be able to apply a specific device or software for personal productivity.
5. Be able to apply a specific device or software for student learning.
6. Be able to apply a specific device or software for student productivity.
7. Be able to apply a specific device or software as assistive technology so a student can do something they cannot do without the tool.

It's possible that you might have more than one desired outcome for your training. For example, it might be that you hope your participants will acquire a beginning knowledge of a particular software application and be able to use it with a student to help overcome a reading disability. If that is the case, you will need to spend some time on each of your primary objectives during the training you offer.

Objectives are different than outcomes. Objectives describe the scope of the training for your workshop. They identify the specific things that people will be able to do after they complete your training. The following are examples of objectives for a workshop about student use of a portable word processor for writing.

Participants will be able to:

1. Identify the specific characteristics of a student who might need to use the portable word processor.
2. Operate the portable word processor, create files, enter text, send text to a computer, edit text and print text.
3. Create a lesson sequence for teaching a student to use the portable word processor.
4. Plan for integration of the use of the portable word processor in a general education setting.

There are many more things that your participants could learn about this device. By setting objectives, you limit the scope of the things you will teach and identify a sequence for teaching those things in a way that will make sense to your adult learners.



REFLECTION

Think about the goals of your participants.

What do you know about the goals of the school in which your participants work?

If you do not know the goals of that school, how would you find out?

How do the goals for your training relate to school and participant goals? What strategies will you use to help participants make direct connections between your training and their own goals?

How do the Technology Foundation Standards for Students relate to your training and how can you use that information to motivate and inform your participants?

Planning How You Will Present Your Content

This section of the manual will help you to identify goals and objectives and make sure that you have addressed them fully in your training.

Identifying goals and objectives for your training helps you to define your specific content and how you want to organize it. After you have decided those things, you can then plug in many strategies that you want to use to enhance and support your presentation. There are a variety of ways to organize information to have more impact. Garmston (2005) suggests these.

Question-Answer - Beginning with a question can help participants focus. For example ask participants what their biggest problem is in getting teachers to implement the use of software in their classrooms. Have them talk about it in small groups or respond to you as a large group. Write their concerns on chart paper, a board or projected from your computer. Then tell them that you are going to address those concerns

Three Ideas - One strategy is to define immediately what you intend to do. In Three Ideas you focus the participants on the main ideas right from the beginning. This is especially useful when you have important concepts or issues to communicate.

- Opening: Three goals for the use of this AT are:
- Body: Let's start by defining what we mean by....
- Closing: So today we identified three.....

Startling Statement/Reasons – Solutions - Using this technique causes the audience to be alert and focused. You open with something startling and follow with approaches or solutions. "In California, to plan the number of prison cells they will need in the future, they count the number of fourth grade students who cannot read." This type of surprising (and true) information will provide increased focus and concern.

Topical Grouping - If you have a very big or complex topic, try dividing information into logical groups. For example:

AT for Struggling Writers can be grouped into three categories:

- Mechanics of Writing
- Computer Access
- Composing Written Material

Then go on to explain or demonstrate each of the three groups, expanding as much as your time allows.

► Thinking About Timing

As you begin to plan the framework of your training think about the timing of activities. New material or complex information with many steps or details will require more time than less difficult content. The amount of information your participants can absorb is also important. If your training is after school, participants may be tired and less able to grasp complex information than they would be earlier in the day. This doesn't mean you shouldn't do training after school, only that you should keep this in mind when you plan and provide more opportunities for them to talk and reflect.

Sweeney (2002) suggests that using time well can be effective in maintaining attention and facilitating learning. She also points out that literal meaning (rote learning) is best in the morning, while inferential information is best in the afternoon. She suggests:

- Totally change the activity after no more than 90-100 minutes.
- Break complex information into 20 minute teaching segments or no more than 5-7 main points.
- Allow a 5-10 minute break for every 1-2 hours of activity.
- Provide some type of movement after mental tasks. For example, rather than distributing all handouts at the beginning of a training, have participants get up to get a new handout from the front of the room after receiving complex information. This movement will help them process that information.
- Follow the presentation of information with a reflection and focus period.
- Allow 6-8 hours of down time to process information and be ready to apply it.
- Schedule 2-5 minutes for new material processing time for every 10-50 minutes of instruction.

In Chapter 1, learning styles and the preferred types of activities that are associated with each person's learning style were discussed. As you plan your content and the related activities, remember to think about how you will address the learning styles of your participants. Review your plans and make sure that you have selected specific activities for each learning style.

This is also a good time to review your plans for handling the variety of skill levels you are likely to encounter among your participants. No matter how clearly you describe the content of your training, it is likely that at least one or two participants will be exceptionally skilled in your content or exceptionally new to it. How will you address the needs of these people? How will you address the needs of the digital natives in the group as well as the needs of the digital immigrants? At what points in your presentation will you be able to offer options to your participants that will allow them to choose the type of activity that will address their preferred learning style?

► Planning the Room Arrangement

The room arrangement that you choose for your training environment will be partly determined by the facility itself. Some rooms have specific characteristics that require that tables and chairs be placed in a particular location or arrangement. Whenever

possible, get in contact with the person in charge of the facility prior to your training and find out what kinds of room arrangements are available to you. Then, once you have chosen your best option, plan activities and technology practice sessions that will be easy to do in that environment. Figure 11 shows some common room arrangements along with the names that are used for them. Knowing the name for the type of seating arrangement you prefer can be especially helpful when you are offering your presentation in a hotel or conference facility.

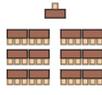
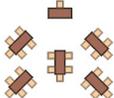
Room Arrangements for Large Groups	
<p>Theater</p>  <ul style="list-style-type: none"> • Best used for short lectures to large groups • Communication tends to be one way • Trainer cannot see the learners in the back 	<p>Classroom</p>  <ul style="list-style-type: none"> • Supports note taking and use of materials • Efficient for many people • Students have easy access to their seats
<p>Chevron</p>  <ul style="list-style-type: none"> • Provides place for beverages and elbows • Most interactive of large group setups • Promotes a sense of participation • Can be setup with or without tables 	<p>Modified Chevron</p>  <ul style="list-style-type: none"> • Improves visibility of speaker and visuals from side sections • More interactive than Theater or Classroom.
<p>Herringbone</p>  <ul style="list-style-type: none"> • Enable people to easily see • Encourages interaction with others at the tables around them 	<p>Cluster</p>  <ul style="list-style-type: none"> • Learners can work in small groups • Communication between trainer and learners is more difficult • Trainer must move between groups during lectures and activities

Figure 11: Room Arrangements for Large Groups

Whenever possible, choose a room arrangement that allows participants to make eye contact with each other. This facilitates the interaction between and among participants. An arrangement designed for participants to talk to each other increases their opportunity to learn by sharing ideas and questions. It generates real learning through the reflection on and application of ideas that you present (Borthwick & Peirson, 2008).

► Designing Materials to Support the Content

Most technology trainers use PowerPoint™ to support the content of their training. Presentation software, no matter what the title of the program, is generally easy to use and can be helpful in organizing your thoughts in its outline mode. However, there are some pitfalls to avoid. Your primary concern must be readability. Presentation software is

designed to be a visual support for both you and your audience. Slides that are difficult to see or difficult to read can add confusion instead of clarity. When preparing presentation slides, think about the following critical points.

Make the slide title a complete sentence - A study by Wolfe, Alley, & Sheridan (2006) showed that slides created with a sentence title supported by visual evidence, as opposed to the traditional design of a phrase title supported by a bulleted list and sometimes an image, resulted in increased knowledge. When the title sentence communicates the full meaning rather than just a few key words, it seems to be more easily remembered.

Words on each slide - Limit the number of words on each slide so that larger fonts will fit. 6 x 6 is a key for bulleted slides. Strive to use no more than six lines of text per slide with no more than six words in each line (except in the title). You can achieve this by limiting your words on the slides to key talking points. If you need to write down more than that for your own memory, use the notes feature of PowerPoint™. Type out everything that you need to say on the Notes section and print out your own copy with those in the Notes Page View. It is also possible to view your presenter notes pages on the computer while your audience sees only the presentation slides. Being able to see your notes either on paper or on your presentation computer will make it easier for you to put only key words on the slides.

Background - Background and images should not detract from the content. Select a white background or a color background in midrange colors such as green or blue and choose a soft intensity. Avoid backgrounds with complex designs and bright colors. Poor contrast between print and background or print and lines in a background design can make it very difficult for participants to see the information you want them to read.

Animation - Limit or eliminate animation. It is distracting to many people. Use it only when it truly illustrates something that enhances the information you are presenting.

Font - Strive for 40- or 44-point font for titles and 32-point font or larger for the information in the body of the slide. Anything smaller may be too hard to read. Remember to just put key words and talking points on slides.

Spacing - If possible double space between words to create more visual separation. Stand back and make sure everything can be read from the back of the room

Text - To be legible the text must contrast with the background. Use black, green, blue, or red text against a lighter background. Be careful when using white text on dark background, it may be difficult to see depending upon the lighting in the room. Avoid blue on yellow or yellow on blue, as they are difficult for some people to discern.

There are a number of resources available if you are concerned with improving your PowerPoint™ presentations. Here are three:

- <http://www.squarewheels.com/articles2/powerpoint.html> which has a number of tips on PowerPoint™ presentations as well as general presentation and facilitation.

- http://www.ellenfinkelstein.com/powerpoint_tip.html provides a wealth of helpful information on using PowerPoint™ to do training.
- <http://www.presentersuniversity.com> is frequently updated and has free templates to download as well as links to other resources

Visual Supports During Hands-on Technology Training - If your training is a hands-on training or a demonstration of a particular software or hardware application, it is probably a good idea to create handouts or presentation slides with “static” visuals (screen shots) so that people can actually read the text on the screen and see the things you want them to learn about. If you try to depend on the actual size of the text in software instructions or on the Internet page, participants may not be able to view it adequately because of the small size. This is particularly important when you are demonstrating something that the participants do not also have access to on their own computer or hardware device.

► Addressing the Needs of Participants with Disabilities

Because assistive technology is concerned with the functional skills of people with disabilities, it is possible that someone in your training may have a disability. As you think about room arrangement, consider what you would do if a person with a physical disability that requires the use of a wheelchair was one of your participants. Where is the best place for a wheelchair so that the learner can see and have easy access to all classroom activities? What changes to tables, computer stations and other room facilities will be needed?

As you develop materials, be prepared to provide them in large print or digital format if requested. To provide large print you can either increase the font size and print on 11” x 17” paper or take a standard 8 ½” x 11” handout to a copier that can enlarge it and print on larger paper. Most individuals who have difficulty seeing print now have the technology to have the content read on their computer using a screen reader or text-to-speech software. So providing them with your handouts on a CD or a USB drive can be the easiest way to make the text available.

As you plan for your presentation, plan to have a microphone available. It is one of the easiest accommodations to provide and is very helpful to all participants, especially if they need to try to hear you speak over the sound of computers running. Inexpensive, portable microphone systems can be a useful tool to have available. The Voice Saver by Califone is an example of a small amplifier that works for groups up to 25 people. If you asked in advance and no one indicated a need for amplification, and the room is small enough and quiet enough that you know from experience that everyone can easily hear, then you may speak without a microphone. However, if you have not asked in advance, just use one. A microphone is not that hard to use and it makes it easier for everyone to hear. This may be especially important after school when they are already fatigued.

Strategies for Closing

This section of the manual will help you to identify ways to end your training that will encourage people to use the information they learned in their work with assistive technology.

Closings, like openings, should be as powerful and as magical as you can make them because people remember their first impressions and last impressions most vividly. How you close will strongly influence the audience's memories of your presentation. A successful closing communicates a sense that something was accomplished and that it is complete for now. It will need to include an opportunity for reflection and for planning at least one action that each participant will take after the training. Other key factors:

- **Accomplishment:** Leave participants with a sense that they have come a long way toward developing a skill. A brief summary supported by graphic organizers helps convey this message.
- **Worthiness:** Elicit some of the perceptions from the audience by asking for reports of their personal learning, insights, or benefits.
- **Completion:** Suggest potential next steps and foreshadow what they may experience. Then let them discuss in small groups the specific step each wants to take.

Plan your closings in detail. Memorize them, if necessary. Provide a cognitive summary with a visual because a visual may be remembered longer. Acknowledge the important work and contribution of the audience and include encouragement for next steps. Limit your closing to only a few minutes but don't rush it. The closing is critical. Whenever possible, end early, if the announced adjournment time is 3:30, end at 3:25. Getting out a few minutes early provides an uplifting feeling for most people who face a drive home in traffic and every few minutes count.

► Encourage Implementation

Closing activities can encourage participants to implement new information if they help the participant to visualize specific steps that will need to be undertaken. At the end of the training, the closing activities must focus on both reviewing what has been learned and planning for implementation if they are to encourage implementation.

Action Planning Worksheet - One of the most effective closing activities is creating an Action Plan that causes the participant to think about what it will take to implement the new information back in the real world. Figure 12 has an action planning form that participants use to plan several actions that they might take when they go back to work. The first part of each section is completed at the training and the last part is completed after implementation.

 <h2 style="margin: 0;">Action Planning Worksheet</h2>
Idea/Concept:
Intended Implementation:
What I will need:
Follow-Up: What I did, when I did it and how it worked:
Idea/Concept:
Intended Implementation:
What I will need:
Follow-Up: What I did, when I did it and how it worked:

Figure 12. Action Planning Worksheet

Supervisor Notification Worksheet - Supervisors play a key role in helping educators apply new information. Whether it is the building principal or a special education supervisor, informing the immediate supervisor of what has been learned and what kind of supports may be needed increases the likelihood that participants will follow through. The Supervisor Notification Worksheet is in Figure 13. It asks participants to list three things they will do as a result of the training and three or more things they may need to support their efforts. These might include time to learn a new software program, time to meet with other staff, simple encouragement or follow-up from the supervisor.

 <h2 style="margin: 0;">Supervisor Notification Worksheet</h2>
<p>Dear _____,</p> <p>I recently completed a workshop called _____.</p> <p>Overall, it was a great training. Specifically, I have resolved to make the time and expense of sending me to this training pay off for our school by committing to introduce the following new ideas and/or changing my performance in the following ways:</p> <ol style="list-style-type: none"> 1. 2. 3. <p>I would like to schedule a brief conversation with you to explain these and seek your input. Then, assuming that we agree that these are desirable, appropriate, and high-priority changes, I will be asking for your direct support in helping me successfully implement these ideas by:</p> <ol style="list-style-type: none"> 1. 2. 3. <p>Signed: _____ Date: _____</p>

Figure 13. Supervisor Notification Worksheet

Buddy Up - Working together with another participant in the training can also increase the likelihood that participants will follow through. Creating Buddy Pairs who then exchange email addresses and phone numbers is a good way to end the training. They should also have a few minutes to establish joint goals for what they will do and a simple timeline. Participants who came to the training together are natural pairs. Other participants can be paired with someone they sat by, a teacher from the same building or district, or someone from the same geographical area. All remaining participants can randomly pick someone with whom to work in the coming months. If there are no natural connections between participants, you might try the *Airplane Toss* (Wolfe, 2004)

as a way to create buddies. Half the group makes paper airplanes writing their name and contact information on them. They launch their planes toward the other side of the room all at the same time. Participants each catch one and find their new buddy.

Wolfe (2004) also suggests *The Envelope Please* as an excellent way to have participants work with the information they have heard and apply it. Divide the participants into groups of four or five. Have each person write a question or concern that they still have on the outside of the envelope. Then pass the envelope around the small group asking each person to write a suggested solution on an index card and place it in the envelope. When the envelope gets back to the one who wrote it there will be an idea from each of the others in his/her group. Each person will have been challenged to put their learning to work.

► Evaluate Participant's Reaction to Training

The only way to find out what participants think about the training you have provided is to ask them. There are many standard evaluation forms. Your school may have one they regularly use. If you have a choice of an evaluation form, you may want to consider one that does much more than simply ask for feedback, such as the one in Figure 14. Many evaluation forms ask only about the participant's reaction to the training. Guskey (2000) points out that this is an important opportunity to have participants draw on the new information while it is fresh in their minds. The training evaluation form in Figure 14 includes the following five areas based on Guskey's research.

1. Participants' Reactions
2. Participants' Learning
3. Organization Support and Change
4. Participants' Use of New Knowledge & Skills
5. Expected Results: Student Learning Outcomes.



Evaluating with Power

Topic: _____

Presenter(s): _____ Date(s): _____

Based on: Evaluating Professional Development (Guskey, 2000).

1. Participants' Reactions, 2. Participants' Learning, 3. Organization Support and Change, 4. Participants' Use of New Knowledge & Skills, 5. Results: Student Learning Outcomes

- | | Negative | | Positive | |
|---|----------|---|----------|---|
| 1. <i>My reaction to the training:</i> | | | | |
| Selection of content | 1 | 2 | 3 | 4 |
| Knowledge/Skill of Presenter | 1 | 2 | 3 | 4 |
| Time allotted/Schedule | 1 | 2 | 3 | 4 |
| Activities | 1 | 2 | 3 | 4 |
| Overall session | 1 | 2 | 3 | 4 |
| 2. I experienced the following "key" learning (knowledge/skills/understanding): | | | | |
| 3. One new action I will take because of this training: | | | | |
| 4. Support/resources I will need in order to implement this learning in my setting: | | | | |
| 5. Ways in which my supervisor will be able to tell that I am implementing this change: | | | | |
| 6. I believe that my use of this new knowledge/skill will impact student achievement in the following ways: | | | | |

Please feel free to include additional comments on the back of this sheet.

Figure 14. *Evaluating with Power*



REFLECTION

Think about the best way to present your content.

How will your schedule allow participants to experience a variety of activities, opportunities to move and interact and time for reflection and personal application?

What room arrangement is most likely to help you and your participants meet the learning goals you set for your training?

What form will your materials take? How will the materials you develop enhance the training experience for participants as well as help them apply what they learn in their own environment?

Which of the closing activities discussed will be most memorable and effective for your training?

Chapter 3: Getting Ready for Hands-on Technology Training

In this chapter you will learn about various types of technology training and ways that you can prepare devices and software ahead of time to maximize your hands-on training time.

Assistive Technology Training

Although not all AT training is hands-on, when it is, there are additional concerns about equipment, network access, room arrangement, and meeting the needs of the learners. This chapter will address the specific things that you need to consider when the training you provide is hands-on.

When people think of assistive technology training, it's common for them to assume that the training will involve hands-on practice with devices or computers. There are actually many possible ways to offer training about assistive technology. You might offer:

- An overview demonstration of what is available;
- An introduction to one kind of technology;
- Hands-on software/hardware training;
- A class about the assessment of the need for assistive technology or;
- Instruction about integrating the use of technology into classroom, home or community settings.

So far, you have considered the learning styles of participants, the environment where the training will be held and the content and visual supports that you will provide to support your training. This chapter addresses the specific things that you need to consider when the training you will offer really does involve hands-on assistive technology or computer use. It is still important to consider things like the needs of your audience and the content you will cover first, but when the technology training is a hands-on training opportunity, there are additional areas to be addressed.

► Preparing for Hands-on Training for Multiple Users

Some agencies that offer technology training on a regular basis have multiple copies of software applications that can be installed in a computer lab and later removed. This allows trainers to offer hands-on training to multiple users without violating copyright laws. The best situation is to have the software installed on a set of laptop computers that can be made ready before the day of the training and simply brought into the room and plugged in. This makes things easier for the trainer on the day of the training and ensures that all the hardware and software is working properly.

If you don't have the luxury of your own training lab (either stationary or portable) and the software to install on it, another way to get access to multiple copies of software, peripherals and assistive technology is to borrow them from the vendor. If this is your best option, it's important to make contact with the company as early as possible. Many companies maintain sets of their software and/or devices to loan for the purposes of demonstration and training. But few of these companies have so much inventory that they have multiple sets available on short notice. Getting on the list for loans as soon as possible will increase the likelihood that the needed items will be available for loan when you need them. If at all possible, contact the company before you publicize the dates for your training so that you can be sure the people and the equipment will all be there together.

One other option for acquiring technology for training purposes is to get permission from the company to install software on multiple computers during your training with the condition that you will uninstall it as soon as the training is over. Most companies have protected their software from multiple, illegal installations by including a code or password in the software that indicates that it has been installed. Software companies are generally willing to tell you how to bypass this barrier and install the software on multiple computers for training purposes if you agree to respect the software copyright by uninstalling after you complete your workshop.

► **Preparing the Room**

If you are working in an already established computer lab with desktop computers and larger monitors, it helps to get an idea of the physical setup of the room before you complete your planning for the training. Figure 15 shows a variety of types of room arrangements that can be found in established computer labs. Each type of arrangement has both benefits and drawbacks. If you know the room set-up you can plan to take advantage of the benefits and to minimize the effects of the drawbacks. For instance, if you know that the computer lab is set up in a traditional straight row design with all students facing the teacher, you may want to plan to bring a helper to your training. This person can be assigned to walk around the room and observe the participants as you provide instruction. An assistant in a straight row technology lab can identify the people who are having difficulty with their technology and provide additional support so that they do not become frustrated.

If you are using a portable technology lab you have much more flexibility in the ways that you can set up the room. A U-shaped arrangement has the advantage of allowing you to see all the participants and their computer screens and to easily move from one person to another when they are working on activities. For training that involves dedicated devices such as augmentative communication devices or portable word processors as well as computers, the most effective room arrangement is often the modified U-shaped arrangement with table space. Participants can face you as you provide them with information and then turn their chairs to their computers as needed to complete assigned activities. This arrangement also offers participants a place to spread out and to work with their alternative keyboards, augmentative communication device or other type of dedicated technology or peripheral. Both cluster seating and pod seating encourage more communication between participants which will increase sharing of ideas, questions and concerns. The opportunity for self reflection and idea exchange are critical in effective training and staff development (Borthwick & Pierson, 2008).

For assistive technology training that involves technology that is not computer-based, it can be very helpful to have a document camera available. A document camera is a device, similar to a CCTV, which projects what is on the presenter's table so that all participants can see it. When you are teaching people how to add vocabulary to a communication device, use a personal digital assistant (PDA) or portable word processor, it's important that participants can see what you are doing. Since the devices are small,

you need the document camera to project a larger picture of what you are doing. (Note: There are some software applications that can be acquired from the Internet which will allow you to project the things you are doing on your PDA through your computer and data projector to a large screen.)

While it can add one more complication, it is sometimes necessary to ask participants to bring their own devices to a training session. This is particularly true when your training is designed to teach people to use their own devices or the devices that their children will be using. When you find that you have a need to do this, it is critical to find out as much information about the individual's technology as you can. Include some questions about the device on your workshop registration flyer and ask people to answer questions that will help you plan your content. Some examples of this type of question are:

Choose the best response: ___ I use this device every day.
 ___ I have tried this device a few times.
 ___ I have never used this device.

My device was purchased on (insert date here): _____

My device's operating system version is: _____

My primary goal for learning during this workshop is: _____

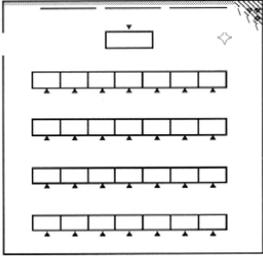
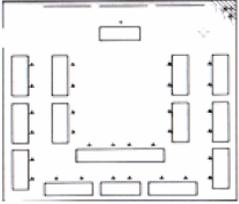
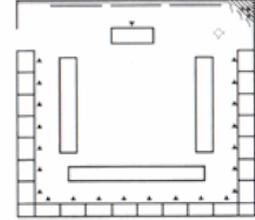
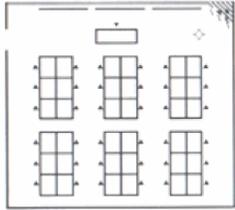
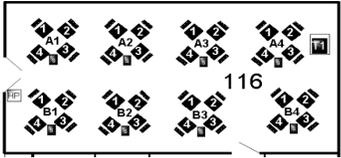
Computer Labs: Room Arrangements	
Room Set-up/Characteristics	Diagram
<p>Traditional Straight Rows</p> <ul style="list-style-type: none"> • Allows for collaboration among students • Good for typical lecture/training method • Instructor cannot see the students' computers • Can work well with a front and rear lectern 	
<p>U-Shape Room Arrangement</p> <ul style="list-style-type: none"> • Beneficial for computer-based independent work with lecture, group discussion, and presentation • Best for small spaces 	
<p>Modified U Shape with Table Space</p> <ul style="list-style-type: none"> • Allows for work with devices as well as note-taking during lecture • Beneficial to independent work • Facilitates lecture, group discussion, and group presentation 	
<p>Cluster Seating</p> <ul style="list-style-type: none"> • Good for small groups and collaboration • Teacher cannot see all students' screens 	
<p>Pod Seating</p> <ul style="list-style-type: none"> • Supports collaborative computer-based work • Teacher cannot see all students' screens 	

Figure 15: Computer Labs: Room Arrangements (Adapted from Callahan, 2004)

► Preparing the Technology for Group Training

If you don't have the luxury of having your own training set of the technology applications you are teaching, you'll probably be using technology that belongs to another agency or school. There are some things that you'll need to check on ahead of

time before you come to the workshop location to install new software or add hardware and peripherals to the training environment.

- **Compatibility** - If you are using a computer lab that is unfamiliar to you, find out the operating system, memory and processing speed of the computers in the lab. Find out if all of the computers have an identical configuration and if some are older than others. If the computers are not all the same, find out the differences. Find out if all of the computers have the same platform and operating system and if the operating system is compatible with the hardware and software you need to install.
- **Peripheral requirements** - Determine if the computers you will be using have all the features you will need to provide your training. If you need a CD drive, a USB port, a scanner, microphone or headphones find out if they are there. If you need some of these items for your training and they are not available in the lab, determine where you can get the things you need for the participants. Some items, like headphones and microphones, can be easily and inexpensively purchased if you will be offering multiple trainings. This helps you make sure that the items you need are available and of a consistent quality to meet the needs of your participants. (Before you purchase, check the quality to ensure that they are what you need.)
- **Internet Access** - Does the computer lab have access to the Internet? If you need Internet access for your training and it is not readily available, find out if there are wireless networks that you might be able to use with the computers in the lab.
- **Prior approval from the network administrator** - Most computer labs in schools have a security system that keeps people from installing new software without a pass code and special permissions. It is critical to know whether the lab you will be using has this kind of security before you arrive at the training site. If at all possible, meet the network administrator ahead of time if you will be installing software on his or her system. Work together with that person to make sure that there are no firewalls or security limits that will interfere with your ability to provide the training. In some cases, network administrators prefer to do the software installations themselves. If this happens to you, it can save you a lot of time and effort, but be sure to check the computers after the installation to make sure that all the features you need are working properly.

Because the assistive technology that you will be teaching is probably not on the computers in the training lab, it's important to check every computer before the class begins. Make a list of the most important features you'll need for your training and make sure that each feature is working properly on each computer. Check to make sure that participants don't need passwords and/or access codes to use their software (or provide the password or access code as part of the training). Make sure that speech engines are working and try more than one voice to make sure that all voices are installed properly.

It's also a good idea to check your peripherals and make sure that they are also functioning properly. Try your headphones in the headphone jacks where they will be used and make sure that each participant will be able to hear what they should hear.

► During the Training

Kolb's (1984) learning styles apply as well to technology-based training as they do to any other type of training activity. As you plan for the activities and content of your training, it is important to think again about those styles and identify the ways that the needs of each type of learner can be accommodated during your hands-on training.

- **Concrete Experience learners** will want to know how they can use the technology in real life situations before they can really get excited about learning to use it. They need a vision of the end result of using the technology. One way to engage Concrete Experience learners early in your training is to tell them a story about how the technology can be used to make a big difference for someone or show them a video clip of it being used in a real life setting.
- **Abstract Conceptualizing learners** need to know exactly what they are supposed to do. If you use the Tech Training Preferences Probe (Figures 1 and 2) and find that you have a room full of Abstract Conceptualizers it is a good idea to take time to share the theory and logic behind the technology and its application. They appreciate a lecture and clear directions. Letting them make an outline or flow chart of information can help them organize and process new information.
- **Reflective Observation learners** will need to watch and learn. They are very quiet, have few questions, and need time to process information. They need the big picture and as many of the details as they can get quickly in order to begin to mentally structure their learning. Reflective Observation learners will pay close attention to your initial demonstration and discussion of what will be presented during your training, so it's a good idea to make sure that your initial overview is as comprehensive as possible.
- **Active Experimentation learners** love to "fiddle" with technology. If you find that someone in your class has begun clicking on the computer screen and trying things with the software before you even start the class, you can be pretty sure that that person is an Active Experimentation learner and possibly, a digital native. It's OK to just let them explore as long as they don't disrupt the class by asking questions that are off-topic or interrupting your presentation in some other way. If there is too much active experimentation going on in your class at inappropriate times, you can ask everyone to turn off their computer screens and face the presentation screen in order to minimize the confusion.

Digital Natives and Digital Immigrants

It is especially important to take the needs of digital natives and digital immigrants into account when offering hands-on training with technology. This section offers some initial ideas about how you might accommodate both groups.

From adult learning theory, we know that adults need autonomy and that they resent and resist trainings in which they have no control (Knowles, Swanson, and Holton, 2005). Teaching through technology allows us to offer an avenue that facilitates self-direction. However, because they are digital immigrants, it may be that many of the attendees at your training have not become self-directed technology learners. One simple strategy that can be used to help learners take control over their own learning is to provide them with some sort of signal for the instructor about what they need. Learners can be given three colored “flags” of red, green and yellow. The flags might be actual flags on sticks, post-it notes stuck to the top of the computer monitor, or even colored cups stacked with the appropriate color on top. If the red flag is up that is an indication that the learner is stuck and needs help. If the yellow flag is posted on the monitor, the learner is indicating that things are OK but that the learner would like some attention from the instructor when it is convenient. If the green flag is posted, the learner is indicating that they are moving along and don’t need help at this time. Learners can change flags as they encounter difficulties or have questions during hands-on activities.

Fidishun (2000) discusses other ways to help learners who are still moving into the self-directed mode with technology.

Those learners who are new to adult education or who for some reason have not experienced the ability to be self-directed learners in the past need a structure which will help them to grow... The design of technology-based instruction must include opportunities for learners to use their knowledge and experience. Case studies, reflective activities, group projects that call upon the expertise of group members and lab experiments are examples of the type of learning activities which will facilitate the use of learners’ already acquired expertise.

(Fidishun, D. p. 2)



REFLECTION
Think about the technology.

Will your training involve hands-on practice or rely on demonstration? If you will be demonstrating technology, how will you involve your participants?

What room arrangement for your hands-on technology lab will best support the kind of involvement that you hope to foster?

What specific actions will you need to take in order to ensure that the technology is working and working consistently for all the devices that participants will use?

How will you address Kolb's four learning styles during your hands-on training?

How will you address the needs of digital natives to explore the technology independently while supporting the needs of digital immigrants to have more direct instruction in the use of the technology you are teaching?

Chapter 4: Publicizing Your Training

In this chapter you will learn the basics of publicizing your training including key points to include in any publicity and specific things to address in descriptions of hands-on technology training.

Publicizing Your Training

Providing advanced information about the content and extent of your training will go a long way to ensuring that you have the audience you planned for. This section will offer some ideas about how you can let people know about the training you are offering.

While some training is planned for a specific group and provided in your own school where you simply announce it at a staff meeting or even mention it in the teacher's lounge, others may be planned to attract a broader group of participants. These require publicity.

► Timeline for Publicity

The timeline for publicity will vary depending upon your situation. If you are providing training within your own school district, the timeline can be shorter than if you are hoping to attract attendees from multiple districts or a large geographic area. In general, emails or brochures should probably be sent out three to six weeks in advance for training within your building or district and two to three months in advance for training beyond your district.

For training in your district: Before you can advertise your training event, you will need to decide on a specific site to provide the training and get it on the calendar. This is important to ensure that something else that will address the same target audience is not scheduled for the same time period. Do this as soon as you are thinking about providing a training session, as calendars fill up quickly. It is a good idea to check the calendar before proceeding in any way. At least eight weeks in advance is a good rule of thumb. In very large districts, it may need to be sooner than that. In some large school districts training calendars are set a year in advance.

For training that targets teachers and therapists from multiple districts: Secure a site that will be somewhat centrally located and easy to find. Check calendars in major districts, if that is possible, to try to avoid conflict with other training or events. Six months to a year in advance is not too soon to be thinking about dates and checking their availability.

► Identifying Appropriate Outlets for Your Publicity

Within your school district there should be a favored way to send out information about an upcoming training. That may be a district website, coming events board, bulk email, or newsletter. Check with others who have done training within your district to find out what has been effective for them. Multiple outlets may be the most effective, catching those who favor one but not the others. Even in the digital age, putting flyers in staff lunchrooms or on bulletin boards is still an effective way to generate discussion and interest.

If you are hoping to attract attendees from multiple school districts, you will need to find a way to email or snail mail information to them. You may want to mail a tri-fold brochure to target schools or if the geographic area isn't too large, hand deliver them. The advantage of hand delivering them is to chat briefly with a secretary or someone who can make sure they actually get to your target audience. Often, items that are mailed go into the wastebasket or that stack on someone's desk that just sits there waiting for them to find time to read unsolicited mail.

If there is an organization that might be interested in the content of your training, getting your information in their distribution system can be very effective. A teacher's organization such as the state or local education association, the state or local chapter of the Council for Exceptional Children, the state Occupational Therapy, Physical Therapy or Speech/Language Pathologists associations are all good possibilities. Give them specific, clear information, with a way to contact someone for more information if they need it.

► Content of Publicity

The goal in designing your news release or flyer is to communicate the content of your upcoming training in a clear and appealing way. The content of any publicity should include:

- Title
- Short description
- Learning outcomes
- Time
- Location
- Fee
- Professional Development Credits or University credits, if available
- Who to contact for more information

Title: Make the title as informative and clear as possible and cute or appealing if you can. Cute is nice, but clarity is the goal. For example: *Powering Up with PowerPoint* is catchy, but if you are doing a really basic beginning training, *PowerPoint Boot Camp* or *Getting Started with Power Point* may be clearer. If it will be a hands-on workshop, letting them know in the title can help get that point across, *Making the Most of the Software in Your Classroom* doesn't say as much as *Making the Most of the Software in Your Classroom: A Hands-On Lab*. *Making Microsoft Word Work Harder* suggests what software you will cover, but *Using Microsoft Word to Support Struggling Readers and Writers* gives a clearer idea of the focus of the training.

Short description: Three to five sentences are usually enough to communicate the content you are going to cover. Briefly explain the contents.

Learning outcomes: Developing two or three learner outcomes for your training will help you focus in on the specifics you will cover and will help potential participants

decide if this is something that will be useful to them. Use phrases that can be measured such as: “Participants will identify..., Learners will complete..., Students will demonstrate..., Participants will follow directions to install and...” Many training opportunities offer participants a chance to receive some sort of continuing education credit or university credit for completing the training. Outcome statements like these will allow the people reviewing the class for credit approval to understand exactly what information you will offer and whether your training meets their criteria for continuing education credits.

Time and Location: These are critical points of information and need to be easily located by anyone reading the publicity. If the building or the room inside of the building may be difficult to locate, include a map and/or written directions.

Fee: If you will be charging for the training, include the specific fee in the publicity.

Credits: If you will be providing university or professional development credits, be sure to state what is available and what is required to obtain them. If you are offering optional university credits for a fee, be very clear about the costs and how they are to pay for them. University credits are usually not part of a registration fee for the training and can represent an extra cost for participants, but they also represent an added benefit since most professionals are required to complete a certain number of training hours in order to renew their license or certificate. University credits or continuing education points are often seen as an added incentive to take your classes.

Source of more information: Include an email address or telephone number where they can reach you or a designated contact person to get their questions answered.

Registration deadlines: Be sure to include the specific deadline after which you will no longer accept registrations. If there is to be a registration fee, communicate clearly what it is and whether it changes to a higher fee at a specific date.

► Including Technology Information in Your Publicity

When you are offering training in the use of technology, it’s especially important that potential participants know ahead of time what the content will be. There are several items that you can include in publicity about your workshop which will help avoid problems on the day of the training:

- **Required prior knowledge of the participants** - Is the content of the training for beginning technology users or advanced learners? If people know how to use a computer is that sufficient or will they need to have a basic knowledge of the software or hardware you are discussing? How basic will your instruction be? If someone is unsure of whether they know enough to participate, how can they get more information about the needed skills?
- **Platform/version of software/hardware to be used** - Is the software that you will be teaching available in all platforms (e.g. Macintosh, Vista, Windows XP, Linux, etc.)

or only for some types of computers? If the software is available in multiple platforms, which types of computers will be available during the training? If you are only using one platform for training, how difficult will it be for people who use other platforms to make the switch when they get back to their own computer environment?

- **Materials participants need to bring to training** - Occasionally, you want people to bring things to a training session. One common example is a workshop where you will be creating augmentative communication materials or visual schedules. You might want participants to bring photos of the school environment, magazines to cut up, or even, if they have one, their own laptop computer. Asking for this kind of participation can help learners think about the kinds of things they'll want to do or to create before they even arrive at the training site.

No matter how well you advertise and explain your content and prerequisites, there may be one or two people who come to the training without the skills or the materials you asked them to bring. You should be prepared for such an event and know what you will do to support those people.

► Addressing the Needs of Participants with Disabilities

Any time you offer a training session, it is possible that at least one of the participants will have a disability that could affect participation in the session. Because assistive technology is concerned with the functional skills of people with disabilities, it is even more likely that someone in your training will need accommodations in order to fully participate. If you are offering hands-on training you may even find that parents of students with disabilities want to bring their child so that they can learn from you first-hand.

Special accommodations - In your publicity include a way for those who are enrolling in your class to indicate what special needs they have and what accommodation or special equipment they might need in order to fully participate. The written description and registration form should invite people to indicate any special needs they might have. It is also a good idea to invite individuals who are interested in your training to contact someone who is knowledgeable about the class if they need to discuss any limitations or requirements for their participation.



AT Training Snapshot

Lon was excited about his opportunity to present an advanced workshop for teachers about using spreadsheets to collect data to support the Positive Behavioral Supports (PBS) program in his school district. He had prepared content that was appropriate for people who had a basic knowledge of spreadsheets and calculations and his training was designed to help them learn to create charts, pivot tables and reports for the school district administrative team. Because the content was pretty advanced, he had made sure that the workshop flyer was clear about the content and the skill level he hoped to see in participants.

A few days before the training, Lon got a call from the PBS coordinator at one of the district's elementary schools. She said that she knew how to use Checkbook software and had created a basic spreadsheet for her classroom grades. She wanted to know if this knowledge was enough for the class. Lon told her that it might be a little difficult for her, but that she should come anyway and he'd give her a little extra help.

As the class started on the next morning, Lon began by explaining the content and scope and sequence of the workshop. He was talking about pivot tables and what they are when a man in the back of the room raised his hand. "Before you explain Pivot Tables," he said, "could you please tell me what a spreadsheet is?" Lon's heart sank. He had been prepared for learners with less knowledge than he had required in the training flyer, but this kind of question was unexpected. Lon had to do some very quick thinking to figure out what to do next. His first response was to ask if anyone in the room was willing to explain the important aspects of spreadsheets to the man who asked the question. Several people volunteered information that helped Lon feel better about his audience and confirm that most of the people in the audience had the skill level he was hoping for. After that, he asked the man to wait until a break so that they could talk more. At the break, Lon discussed the level of training for the day and gave his novice participant a choice. He could either leave the training now and come back for one that had more appropriate content at another time or Lon would find him a willing "buddy" who could help him understand the basics of the content. The spreadsheet novice chose to stay for the day and Lon was able to make some accommodations for him without changing the plan for his training and negatively impacting the rest of the workshop participants.



REFLECTION

Think about how you will let people know what you are offering.

What do you know about the goals of the school in which your participants work? If you don't know, how can you find out?

How do the goals for your training relate to school and participant goals? What strategies will you use to help participants make direct connections between your training and their own goals?

How do the Technology Foundation Standards for Students relate to your training and how can you use that information to motivate and inform your participants?

What are your objectives and how will you communicate them in your publicity?

Does your publicity include all of the needed information about date, time, location, how to register, how to get more information, etc.?

If there is a fee, is the process for paying and the deadline for pre-registration clear?

Chapter 5: The Day of the Training

In this chapter you will learn about the things that you can do before participants arrive to help make the day go more smoothly. You will also learn about things to consider as you implement your training plan on the day of the training.

Get Off to a Great Start

This section of the manual will address several things to be done on the day of training.

There are a few things that are absolutely critical before you begin your training. The first is to get there early in order to set up your equipment, check the room arrangement, try out the microphone, etc. If you don't do this you will regret it throughout the entire training. Getting there before the participants allows you to take care of any unexpected things that need your attention and still have time to get focused and ready.

► The Training Environment

Training of staff members often occurs in the school computer lab or a classroom. In other cases it may be at a hotel or conference center. Ensuring that participants are comfortable is important. Physical discomfort from chairs that are too small, computer monitors set at an angle that makes participants constantly crane their necks, or a room that is too crowded, too hot or too cold will interfere with everyone's ability to take in and process new information. Whenever possible, check the facility out ahead of time to request or make any adaptations that are needed to be comfortable.

Research on Brain-based Learning suggests some specifics related to insuring physical and emotional comfort of our audience.

- **Temperature** - Sitting in a room that is either too hot or too cold takes an individual's attention away from content and inhibits the ability to absorb new information. Precious time is taken just trying to get comfortable. Temperatures between 67° and 70° are best.



AT Training Snapshot

Joe has been in many training situations where he had to send someone to the store to buy fans because the air conditioning in the computer lab broke down. At the other extreme, one room was so cold that he had to have the participants stand up and move around every twenty minutes. In one extreme situation, the training room was less than 60° and he actually led the participants in calisthenics and let them go outside (where it was 107°) to warm up for a few minutes every hour. He says that when participants are taking the tablecloths off of the tables and wrapping them around their legs, you have to be creative!

- **Lighting** - Full Spectrum lighting has been shown to assist students experiencing attention and learning issues (Sweeney, 2004). Research has shown that use of full spectrum lighting provides support analogous to natural sunlight. When given the choice, use of lighting tubes or specially designed sleeves provide maximum opportunity for attention and learning. When you have to work with what is there, do

your best to have the room bright enough so that participants can see to write notes, but dim enough to see the screen where you are projecting or their own computer screens without glare.

- **Background noise** - Each of us has a preference and tolerance for sound in the environment. Some of us enjoy having soft music playing in the background as we work. Others require complete silence. As you plan your professional development, it is important to take these differences into consideration. Always request a microphone if you are training in a conference center or hotel setting. Then use it. Don't ask if anyone "needs you to use it". Use it because it is better for your vocal cords if you don't have to project too loudly and also easier for everyone to process and understand information if they don't have to strain to hear it. This is a special concern in a computer lab where the sound of the computers may make it difficult for people at the back or side of the lab to hear you. If you are providing training in a computer lab, bring your own portable microphone.
- **Hydration** - An optimal physical state is important for learning and for the brain to take in and process new information. Adequate hydration has been linked to good health. Dehydration can lead to headaches and fatigue that will negatively impact the ability to attend to and comprehend new information (Sousa, 2001). To ensure good hydration make sure water is readily available for all participants. If you notice that water has not been provided for everyone, request it from the facility staff. Drinking only coffee or soda will not be as effective as water. If you are in a computer lab where water is not allowed, plan frequent breaks so that participants can stay hydrated.
- **Visual Stimulation** - It is important to be aware of the visual stimulation you provide during training. Just as with sound, each participant's tolerance and preference will be different. The focus should be on the information presented not the surrounding stimuli. Be careful of displaying too many items in the front of the room that may visually distract some participants or circulating too many items that participants are expected to look at while still attending to what is being presented.
- **Room arrangement** - Earlier you planned your room arrangement. If you are training in your own setting, you should have it set up and ready to go. If you are training somewhere else, get there in time to rearrange the room if necessary. Sometimes even though a specific set up has been clearly requested, it just doesn't get done.
- **Fidgets** - Many people need something to handle or "fiddle with" in order to pay attention to important information. There are a variety of small squishy and textured items such as Koosh™ balls that you can put out on the tables for these learners. Check Trainer's Warehouse (www.trainerswarehouse.com) for a nice selection or check out dollar stores for inexpensive alternatives.

► As Participants Arrive

Greet participants as they come into the room. Simply say hello, introduce yourself, and make them feel welcome. If you already know everyone, then ask how their day is going or thank them for coming. If you know some people, but not others, be sure to make the new participants feel welcome. Don't give too much extra attention to the ones you know or laugh together about things that make the others feel like outsiders. This is your chance to set the tone and let them know that you appreciate each and every one of them.

► Beginning the Training

The second most important thing to do at the beginning of training is to start on time. If you have control of the schedule, always start on time. If you do not have control or a delay is absolutely unavoidable, acknowledge it and reassure the participants that you will cover all of the information that you had originally planned. Do not apologize for the delay. In fact, never apologize for anything that isn't your fault. Acknowledge it, but don't suggest you are to blame by apologizing.

Here are some additional ideas about getting started.

- **Communicate your enthusiasm** - In the first few moments of speaking to your audience you want to create energy and excitement. Strike a positive and enthusiastic note. Choose one of these phrases or another similar enthusiastic opening sentence and complete it by telling them realistically why you are glad to be there and what you hope to help them accomplish.
 - “I am really glad to be here today because.....”
 - “Thank you for taking time away from your busy schedules. I know you have many other ways to spend your time. I believe you will find our time together beneficial because....”
 - “I'm so excited to be part of the exciting changes you are planning and believe that this training will play an important part in it because.....”
 - “Our topic today is an important one and I am looking forward to working together to.....”
- **Use a story** - You can then lead into an anecdote or story as long as it is brief. You do not have to tell a joke. In fact, don't even try unless it is something you naturally do. Demonstrating sincerity and true concern for their learning needs is more important than being funny. It is important that all of the statements you make be true and genuine. Establishing rapport with your audience will be the single most important thing that you do right now to encourage learning. The most powerful catalyst for rapport is your honest concern for your audience. You might use either an anecdote or a probing question to help energize and focus the audience as long as it is brief.



AT Training Snapshot

When Mary starts her “Introduction to Assistive Technology” workshops, she tells a story about the first class she ever taught where she used assistive technology. She talks about the students in that class and the changes she saw in them as they began to use technology tools to overcome barriers to learning and to independence. She talks about the differences that the technology made in her teaching and in her view of the students themselves. Using this kind of story helps her set the stage for some of the key concepts that she hopes her participants will take away from the training session. She describes how assistive technology was used to increase the functional capabilities of her students and discusses both low tech and high tech assistive technology devices that her students used. She then invites participants to think of their own students and the kinds of tasks that they find difficult or impossible because of their disabilities. By using this time to help people begin to think about the role assistive technology can play in people’s lives, she hopes to keep the primary focus of this introductory workshop on the student rather than the features of each technology device.

- **Communicate that you care about their comfort and learning** - Caring can be communicated simply by the way you look at people and the tone of your comments and responses. Caring is also communicated when you invite people to take responsibility for their own comfort by giving them specific permission to do so. You might do that by providing “ground rules” for the session as one of the first five slides in any presentation. Ground rules could include: Contribute actively, Ask questions, Honor contributions of others, Be prompt, Take care of yourself, Turn off your cell phone, Have fun!
- **Think about the words you use** - The way you present information and the words you use can have a big impact on the effectiveness of your training. Jensen (1988) studied the use of specific words and found that some of the most powerful words in the English language are those that affect us most directly. In this case some that apply to AT training include: *You, easy, free, save, discover, success, proven, results, and new*. Some ways you might use these powerful words are:

“You will find this software useful for students who struggle with organizing their thoughts when writing. It has been shown to produce excellent results when used as a brainstorming tool.”

“This device is so easy to use, you should be able to program it today during this training and have it ready for use when you return to your classroom.”

“This new training module is excellent and is absolutely free. It is on your CD. Open it and take 15 minutes to review it. Then we will discuss its use and plan together for success.”

- **Subtly adjust schedule, if needed** - When a delay occurs, quickly determine how you will make up the time. Perhaps you have already built a little flextime in to the agenda and therefore the amount of delay is not critical. If it is critical, then think of one or more places you can shorten an activity or section of the training. Do not skip slides already on their handout or tell them that you will not have time for a section of the presentation, if you can possibly avoid it. Instead shorten the number of minutes of specific sections. For example, it may be easy to change an icebreaker from one that will take 15-20 minutes to one that will take 5 minutes. A quick icebreaker to keep in mind for just such an emergency is The Continuum. Tell the audience to think of the back wall (or side wall, or front wall as the space dictates). Designate the left corner as representing “Having No Knowledge at All” about your topic, e.g., AT, the software you are teaching, augmentative communication, etc. Designate the right corner as representing “Knowing a Great Deal About It”. Then ask the participants to line up along the continuum in a place that represents what they feel their knowledge to be. There will be informal talking and laughing as most of them jockey to get nearest to the bottom of the continuum. Other ways to adjust the schedule are to shorten the time you spend on each slide, cut short an activity, change a small group activity to a large group one that you orchestrate rather than one that gives them more time to talk, or to call on only a few people to “share” rather than asking everyone to state their opinion or experience.

Before launching into the body of your presentation use one of the warm-up activities or icebreakers that were described in this handbook.



AT Training Snapshot

Jason was an experienced trainer and usually had no problem keeping his audience attentive and engaged, but one day about 20 minutes into a full day workshop, he realized that many of the people were turning the pages of their loose leaf notebook looking for something. Others were talking among themselves and seemed distressed. He stopped his content presentation and asked what was wrong. He soon found out that more than a third of the participants had notebooks that were so mixed up that they could not find the pages to which he was referring. He asked all of the participants with mixed up notebooks to hold up their hands and then asked the other participants with good notebooks to pair up with them and go through their notebooks together to try to straighten them out. After only a few minutes, one of the pairs figured out what was wrong with the sequence of pages and led everyone else through a quick rearrangement. It only took about 15 minutes out of the day to get all of the notebooks in order. And it was 15 minutes well spent. Participants had helped each other and formed a bond that created a warm and collaborative environment.

► The Body of Your Presentation

During your presentation, communicate energy and enthusiasm. Emphasize main points with both your voice and the amount of time spent on them.

As you launch into the body of your presentation, remember to engage your audience with eye contact. Smile, look around and ensure your participants are feeling connected to your presentation. Look around to see if there are individuals who look confused or lost. Perhaps they cannot find the handout or something else is wrong. If it is more than one or two isolated individuals, stop and inquire if there is a problem.

Remember to never read the full text of PowerPoint™ slides, rather, use them as a support only. One of the most annoying things that a presenter does is to read slides to the audience. As mentioned earlier, you can prevent this by *not* preparing your presentation with full sentences on each slide. Instead use key words or phrases that you can then elaborate on to make the presentation interesting. If it is too late and you have a lot of text on slides, try to paraphrase it and illustrate it with personal anecdotes and examples. For example if you are teaching about the law related to assistive technology use and feel that you must put the exact words on the slides. Then instead of repeating them word for word, highlight one or more key words on a slide and interpret or discuss them. If every slide is going to be read to the participants, you might as well just give them the handout and let them read it themselves. An effective way to do this is to have participants work in teams to read text of different sections of the law (or other material you feel must be presented verbatim) and discuss its meaning to them. You can then facilitate a large group discussion about what they learned and what questions or concerns they have.

Because adult learners do have past experience, acknowledge it and help them draw on that past experience and apply it to the current learning experience. Ask for suggestions on how they will apply what they are learning and facilitate discussions about how this fits with their beliefs and theories. Use the learning checks and reflection ideas presented earlier in this manual.

Adults as well as children respond best in a climate of respect and comfort, so let them know that you are aware of and value the knowledge and experience they bring to the training activity.

Use pacing effectively. Utilize a variety of pacing during your training to maintain your participants' attention. Change your tone of voice and expressions, use gestures, switch activities. In short, provide some variety. Also pay attention to the body language that you see from your participants. If they are leaning on the table, looking confused or glazed over, or staring at their computer screen in confusion - it is time to ask them some questions or prompt them to ask you some.

Maintain eye contact. If you need to turn around to write or draw on a white board or you need to watch the computer screen as you demonstrate software, be sure to break it up with frequent eye contact. Having your equipment placed so that you can look at it

and still easily look up and make eye contact is critical. Don't turn your back and don't let equipment block your view.

► Encourage Questions

Questions are a good indicator that participants are engaged in the learning process. Encourage them. In fact, worry when there are none. It may mean you have not communicated that questions are appropriate, that they are so lost they don't have any questions, or that you have bored them into a stupor! Pause periodically to give them time to think of a question. If that is not enough, pose a question to them and have them discuss it in pairs so that they begin talking. Then ask what questions they have.

Answering questions. When you get a question, affirm the questioner with a positive comment, such as "That's a great question." Use good listening skills when listening to the question. Give good eye contact, welcoming body language and nonverbal encouragement such as head nodding, "yes", "mmm", etc. If the audience is large or the room noisy, repeat the question so that everyone can hear it. When answering a question try to focus on the entire audience so they feel included. After answering the question, ask the questioner to confirm that the question was answered satisfactorily.

Handling inappropriate questions. There are no "silly" questions, but there may be questions that you have already answered, that are out of context, or pertinent only to the person asking the question. If the question is very similar to a previous one, that person may have not been paying attention or may not have understood the answer and is "trying again". Do your best to answer it with slightly different words that convey the same meaning. Give an example, or use a different example than you did previously. If the question seems pertinent only to the person asking it, ask if you can answer it privately for them during a break or work time. Or try to generalize your answer to a larger audience. If the question is out of context and you will be covering the information later, communicate that, but be sure to be very encouraging or the person asking it may feel that you don't want to answer it.

What if you don't know the answer? You often have to think fast on your feet to answer questions. It can be stimulating and fun, or it can be intimidating and humbling. If someone asks a difficult question, first take a deep breath and give yourself some time to think. Try asking the person to rephrase it. If you still don't know, admit it. It's OK! Then ask if any other participants know the answer. If not, generate a quick brainstorming session or suggest ways the participant can find out, such as a good local resource person or an internet resource that often has such information. You can encourage the participant to join the electronic list available through the website of the Quality Indicators for Assistive Technology (www.qiat.org) where assistive technology questions are asked and answered every day. Or you could offer to research it for them on the QIAT list, but be prepared to follow through after the training.

► Follow Your Schedule

Always provide participants with a schedule or agenda as suggested in the chapter on planning and then stick to it. People are particularly concerned about when they will have a break and/or a meal, if your training includes a typical mealtime. If you have forgotten an agenda or must change it, post the new times in plain sight and refer to it so that everyone knows when these things will take place.

► Closing and Evaluations

There are opportunities before, during, at the end of, and following training. Figure 16 provides a matrix of evaluation strategies. All of these are important and can be used to your advantage. Some things like skill implementation can only be evaluated in the weeks and months following training as your participants have time to implement what they have learned.

	Before Training	During Training	At end of training session	Post-training follow-up
Awareness				
Participant satisfaction			✓	
Attitude surveys	✓		✓	
Information check	✓		✓	
Request for training	✓		✓	
Knowledge				
Pre-post test	✓		✓	
Self evaluation checklist	✓	✓	✓	
Tech Training Pref. Profile	✓	✓	✓	
Technology awareness survey	✓	✓	✓	
Planned implementation			✓	
Skill Implementation				
Observation of participant performance during practice	✓	✓	✓	
Observation in real life setting				✓
Evaluation of products created by participant		✓	✓	✓
Evaluation of products created by participant's students			✓	✓
Measurement of change	✓		✓	✓
Specific skill test (e.g. open doc, save template, etc.)	✓	✓	✓	✓

Figure 16. Evaluation Strategies (adapted from Templeman & Peters, 1998)

During your closing, look for questions that show intention to utilize the information you have presented. Facilitate the exchange of names and contact information. Listen to small group discussion to determine if individuals are making plans to work together.

Allow sufficient time to evaluate the effectiveness of the training, not only for feedback from the participants, but also because completing the evaluation form, if it asks the right questions, will help the participants to reflect on and anticipate using the information they have gained.

At the very end of your training, ask participants to reflect on what they have learned and what they will do with this new knowledge. You can ask them to think quietly about what they will do as a result of the training, write down one or more things they are going to do, or talk in small groups of two or three. Then call on a random selection to share what they plan to do or go around the room and ask each person to share their plan.

Finally end with an encouraging and empowering thought such as: *A journey of 1000 miles begins with one step.*

Handling Difficult Situations

No matter how well you plan, there will be days when something in your training becomes difficult to manage. This section of the handbook offers you some ideas about how you can prepare yourself to handle these situations.

Working with a group of people in a training situation is always intensive work, but sometimes situations arise that may make the training even more challenging. It's important to be aware of the kinds of situations that are difficult for you and may trigger anxiety or make you more nervous. For instance, if you are uncomfortable around conflict, you may have difficulty when someone disagrees with you. Communication barriers can interfere with your training and your relationship with your audience.

If you experience a difficult encounter, your attitude is critical to gain control of the situations. It's important to remember that most difficulties you encounter may not have anything to do with you and the presentation you are offering. A person may be having a bad day, have been required to come to a training that they weren't really interested in, or something else.

If an audience is expecting one thing and getting another, the dissatisfaction will show immediately. Participants may verbally or non-verbally express their disappointment and discontent. Some may even walk out of your presentation. Invite them to do that if they have a choice. Try to focus on the positive aspects of adult learning principals and celebrate the fact that these participants know what they need to learn. You are not the problem, so try not to take it personally. If you did your homework and prepared well for the training, you are not at fault.

Other disappointed participants may remain but act in a passive or passive-aggressive manner. It is best to address their discontent directly and acknowledge it in a one-to-one conversation. You can ask a participant if there is anything that would make the class more useful for them or if there is anything you can do to help without changing the agenda for your well-planned training activity.

There are several strategies that you can use to be proactive about identifying potential problems early and addressing them to the best of your ability. Present and review the agenda immediately following introductions. Ask the audience if your agenda matches what they expected to learn about. If the response indicates that the agenda does not match expectations, have a conversation with the audience about the ways that you are able to adjust the content and the kinds of changes that you are not able to make based on the preparation you have done. Use your warm-up activities to have a short discussion about audience needs. One good way to do this is to ask people to complete the sentence "Today will be a success for me if..." Write the responses and post them so that everyone can see them. This can help the audience to focus on the kinds of content that they will be learning about and also the things that they may need to learn in another venue. If you have the information, you can offer to have a discussion with participants who came to the training with expectations that don't match your content during lunch or a break or after the training session is over.

The following list of uncomfortable audience situations was adapted from *Delivering Quality Staff Development* (Templeman & Peters, 1998).

Heated Discussions - If you are proposing something that is new or difficult for many audience members, you may encounter resistance to change. Change can be difficult and this may incite some intense discussion between audience members or between you and the audience. One way to address this in advance is to set ground rules for participant behaviors such as "Contribute to the best of your ability" and "Share the stage". If heated discussions do happen, the best way to handle them is to model the behavior that you want to see in your participants. Stay calm. Limit the discussion to what is pertinent to everyone and show respect for each participant. If the discussion remains heated, acknowledge before the entire group that you can "agree to disagree" and return to the content that you intended to present.

Lack of Discussion - The opposite of heated discussion is no discussion at all. Silence can be uncomfortable if you have planned for audience participation. To address a situation where participants are very quiet even when invited to comment, make sure that you allow sufficient time for participants to formulate a response when you ask a question. One good strategy is to count to ten before you make another attempt to generate discussion. Some participants (especially the Reflective Observation type) need a few seconds to process the question and formulate an answer.

Some participants may be hesitant to answer questions and discuss in a large group setting. This can be a cause of silence when you ask a question. Be sure to ask questions that are open ended and don't require a specific, factual answer. The best kinds of questions require that participants build on their own experiences or opinions as they

respond. Questions that require one word answers like “yes” or “no” actually may reduce the amount of interaction you experience with your audience.

If you have tried a variety of ways to generate discussion and are not having much success, divide participants into small discussion groups and ask them to share their ideas about the content. Be sure to move around the room and very briefly visit each group during the discussion time and then ask groups to report back to the large group about their discussion.

Discussions that go on too long - Sometimes discussions can go on too long and you may need to intervene in order to stick to your training plan. This may be because the audience is “stuck” on a particular point and cannot come to agreement or because audience members are excited about the things they are discussing. Either way, it may be necessary to end discussion so that you have time to address the entire agenda for your training. If this happens you can politely end the discussion and offer people chances to continue it after the training session is over.

► **Presenter Mistakes**

You will make a mistake at some time during your training experiences. Always acknowledge your mistake but never dwell on it. If possible use a sense of humor to defuse the situation. Especially in technology training, participants often appreciate a trainer who acknowledges that things can go wrong. Your participants will be quick to forgive you if you are quick to admit your error.

In all difficult situations, you will need to use skills to increase your connection with your participants and demonstrate empathy and understanding about the situation. Maintain a positive attitude and be direct, descriptive and non-judgmental. Discuss the problem, not a particular person. Be aware of your body language. Give eye contact and try to maintain an open posture. Keep your voice even and calm. Even though you may be nervous or upset, do your best to keep that fact from your audience. And never apologize for a situation that is beyond your control.

► **Dealing with Difficult Individuals**

Occasionally, every person who does training encounters someone who is unhappy with the presentation or presents some kind of difficulty during the training. The chance of this happening is minimized by providing activity based, interactive and relevant training using the ideas in this handbook. Inviting participants to respond to questions and ask questions and make comments also helps them see the topic as relevant in their own lives and the presenter as responsive to their needs. Of course, it always helps if the audience chose to come to your session rather than being directed to do so! Bransom (1998) describes difficult people as those who have consistent patterns of behavior and communication styles that are disruptive and frustrating within the work environment. Difficult people communicate in ways that work for them but may not work for others

around them. If you encounter a difficult person during a training session, your confidence in your topic, your pre-planning and your own level of knowledge can often help to bring difficult people back into the group.

While it almost never works to ignore someone who is exhibiting a difficult behavior repeatedly during your training, it may be helpful to identify what the behavior is and the possible reasons for it. Swan and Morgan (1993) describe five types of participant behaviors that can be difficult for presenters to deal with. They are 1) the aggressor, 2) the isolate, 3) the negative, 4) the monopolizer and 5) the imposter-expert. Figure 17 gives the characteristics of each difficult participant behavior, possible reasons for the behavior and suggestions for how the leader might address each behavior directly.

Difficult Participant Behaviors		
<i>Behavior</i>	<i>Possible Reasons</i>	<i>Strategies for Presenters</i>
The Aggressor		
<i>Confrontational, challenging, and unpredictable. May include direct confrontation or constant "supportive" criticism of presenter ideas.</i>	<ul style="list-style-type: none"> • <i>Need to win</i> • <i>Desire to be the leader</i> • <i>Need to control the group or the outcome of the training</i> 	<ul style="list-style-type: none"> • <i>Remain calm-do not engage in the confrontation</i> • <i>Ask for explanation and clarification of concerns</i> • <i>Seek feedback from other participants</i> • <i>Redirect the conversation back to content</i> • <i>Model ways to permit differences of opinion to stand</i> • <i>Use humor</i> • <i>Be friendly and relaxed</i> • <i>As a last resort, discuss the behavior in private during a break</i>
The Isolate		
<i>Does not participate or frequently leaves the session for other activities such as phone calls.</i>	<ul style="list-style-type: none"> • <i>Anxious about speaking</i> • <i>Unsure of own knowledge</i> • <i>Unwilling to commit to the work</i> • <i>Insecure about working with others</i> • <i>May not want to be in the workshop</i> • <i>May have more pressing needs than the content of the training.</i> 	<ul style="list-style-type: none"> • <i>Ask questions that require yes, no or very short answers to get things started</i> • <i>Offer activities for pairs or very small groups</i> • <i>Assign each person in the workshop specific tasks to be reviewed by the presenter or other participants</i> • <i>Ask questions that are about the isolate's areas of expertise or strengths</i> • <i>Work with the person one-to-one or ask about the reasons for non-participation</i>
The Negative		

<p><i>Responds negatively to any new idea or task. Refuses to try new ideas or to consider them.</i></p>	<ul style="list-style-type: none"> • <i>Poor self concept</i> • <i>Lack of faith in ability to do the work</i> • <i>Has been required to attend the training.</i> 	<ul style="list-style-type: none"> • <i>Stay positive</i> • <i>State your perceptions of the situation in positive ways</i> • <i>Do not argue</i> • <i>Do not problem solve for the person</i> • <i>Brainstorm with the large group about ways to address the negative aspects that person identifies.</i> <i>“What would it take...”</i> • <i>Ask the group to reserve judgment until the end</i> • <i>Ask what part of the topic could be adopted</i>
The Monopolizer		
<p><i>Talks for long periods. Interrupts others. Repeats concerns frequently. Tries to speak first. Does not listen.</i></p>	<ul style="list-style-type: none"> • <i>Insecure about participation</i> • <i>Insecure about own knowledge base</i> • <i>Need for attention</i> • <i>Need for approval from the presenter or the group</i> • <i>May be naturally talkative</i> • <i>May desire to be “in charge” of the outcome</i> 	<ul style="list-style-type: none"> • <i>Offer activities that require turn taking and multiple speakers</i> • <i>Offer activities that require each person to respond or “pass”</i> • <i>Encourage participants to offer feedback to each other rather than in the large group</i> • <i>Provide a time limit for comments and questions that everyone in the group must abide by</i>
The Imposter/Expert		
<p><i>Says that s/he already knows the content. Talks a lot. Volunteers to “help” the presenter. May offer incorrect facts.</i></p>	<ul style="list-style-type: none"> • <i>Seeking respect and acknowledgement from other participants</i> • <i>Seeking approval or connection with the presenter</i> 	<ul style="list-style-type: none"> • <i>Ensure opportunities for involvement with others</i> • <i>Spend a break or part of a lunch period with the person</i>

Figure 17. *Difficult Participant Behaviors*



REFLECTION
Think about how you want the day to go.

How long will it take you to get to the training and when do you need to get there?

What aspects about the environment are you most concerned about?

If you need to do so, how will you adjust the schedule?

What are you going to say to establish your credibility?

What are you going to do to keep people engaged?

What two things are you going to keep in mind in case you have a difficult situation?

Chapter 6: After the Training

In this chapter you will learn key points that need to be addressed after the training, including follow-up and the importance of the supervisor.

After the Training

This chapter will address things to do after the training, both on the day of training and in the days and weeks that follow.

There are a variety of strategies that you can use after the training that are important for the participants and that will give you information to improve future training sessions on a similar topic.

► Immediately Following Training

Immediately following the end of your training session, be available for 15 to 20 minutes if possible to answer questions. If individuals want to stay longer than that, be clear about whether or not you have the time. If you don't mind being contacted, have your business cards out and available for participants to take. If you do not want to be contacted, perhaps you can suggest other print, digital or human resources for them as part of your closing.

Some participants may request further actions. If handouts or overheads are requested, ask them to send you a SASE or an email, so that the responsibility is not on you, but on them to make the contact. If copies of your PowerPoint™ presentation are requested, decide if you want to share that or not. It is an individual decision. If sharing it will help you meet a goal of training a certain number of people or if you are mentoring someone to be a trainer, then sharing a digital version of your PowerPoint™ slide show may be something you want to do. If not, then sharing a paper copy of your slide show or a pdf version may be all you are comfortable doing.

Take a moment to note things that you might want to change based on the verbal and non-verbal feedback you received during your training, including the questions participants asked. You may feel that there were one or more places that didn't go as well as you had hoped. Everyone makes mistakes. Each time you provide training it is an opportunity to improve on what you have done before. To be most effective, keep a brief journal of what went on so you can learn from your successes and, when they occur, from your mistakes.

Reviewing the Evaluations: Review the evaluations, looking for information that will help you analyze the effectiveness of your presentation. Remember that you cannot please everyone and even when a training session has been excellent, there may be someone who did not find it useful. Often this is because there was not a good match between the needs of the participant and the goal for the training. Don't beat yourself up over comments from one or two people. However, if there is a pattern of responses that question or criticize some aspect of the training, then pay attention to that and look at how you can revise it for the future.

Weigh the comments carefully. If one person felt you did not meet their needs, it may be that it just wasn't possible for anyone to do that, but if several people make comments about something, then use that feedback to reflect on your planning and presentation and make changes in the future. If you have many glowing evaluations and a few that are not so glowing, don't attend to only the negative ones. Think about what you did that met the needs of so many people and plan to do it again in the future.

Review a Video: As difficult as it usually is to watch yourself on video, it can be a very effective way to learn what others see when you present. If possible, have someone video tape your presentation and review it at a later date. Check for these things:

- *Where you look when you are presenting.* It is important to look at the audience and not spend an undue amount of time looking at your notes or your slides. If you are teaching a new software program and must navigate through many screens on your computer, be sure stop frequently and look at your audience.
- *What you do with your eyes, especially when you are trying to remember something.* If trying to recall information causes you to look up to the right or left, it may interfere with your communication. Be sure to be well prepared so that you don't have to spend a lot of time trying to recall information or search for the "right" word.
- *How often you smile.* Pay particular attention to how much you smile and whether or not you nod your head when presenting. Research by Wells and Petty (1980) tells us that these two things are critical in convincing people to accept and use your ideas. Simply smiling and nodding your head makes a difference in attitude and opinion.
- *Whether you look nervous or calm.* If presenting to a group makes you nervous, try to find some ways to relax such as taking deep, calming breaths before you begin. Look for things you do or say that may be distracting or that are counterproductive.

► Follow Up After Training

To increase the likelihood that the training will be effectively implemented, follow up must occur. Without follow up, expect that trainees at three months post-training will remember very little of what you said during your training. If you were able to involve them in hands-on practice, they will remember more, but they still need a combination of support and pressure to move forward with effective implementation.

Here are some things you can do to increase the likelihood that your participants will implement what you trained them to do:

- Make sure it is part of an ongoing plan for staff development in their school. One shot training on something rarely is effective in changing behavior.
- Provide the tools they need to implement back in their own setting. In order to apply information gained in a hands-on training, participants need to begin to use their new skills within a few days of learning them.

- Enlist the aid of their immediate supervisor to ensure that someone is holding them accountable to implement what they have learned. Perceived pressure from their immediate supervisor to apply new skills is critical.
- Help them identify a “buddy” so they can work together. That will double the likelihood that each of them will apply their new skills back in their own setting.
- Provide a source of technical assistance and support. Often simple questions or steps they missed hold a person back from applying new skills.
- Have a plan to measure changes in practice at set intervals. A few weeks or months after training are good times to follow up and find out if participants were able to apply new skills.
- Arrange for a practice session within two weeks following the training. This will help prevent relapse and give all participants a chance to have their questions answered.
- Send a group email to remind them and ask for questions or comments that will indicate if they have begun to apply what they learned.

Good training procedures are important in helping teachers and other educators to acquire new knowledge and skills, but without additional follow-up and support they are unlikely to implement the information in their classrooms. The most effective step you can take is to enlist administrative support for use of new knowledge. Having their immediate supervisor ask them about what they learned and how they are applying it is the single most effective way to increase the likelihood of effective implementation of new information learned in professional development.

Providing Feedback: As a trainer, you may be asked for feedback by your participants. In addition, a principal or other supervisor may ask you to provide feedback about the skills and efforts of the participants. You may also be asked to give that feedback directly to the participants or put on the spot in a staff meeting. Be prepared to give accurate feedback. Here are some tips from Templeman and Peters (1998).

- *Always start with positive feedback.* Find at least two things you can mention.
- *Be specific.* Adults prefer specifics. “The sixth grade teachers are really doing well with the concept mapping software. They are showing me great webs and asking good questions about next steps.”
- *Deliver corrective comments in the same specific manner.* Clearly identify the action/concept to be corrected and offer positive examples for the learner. “The Math teachers are learning to use the new dynamic graphing software that we purchased, but if the students are going to learn more about interpreting graphs in time for it to impact their performance on the achievement tests, they are going to need to learn and teach each of the four graphing styles and use a greater variety of examples so that students can generalize.”
- *Don’t surprise the adult learner with your feedback.* Give supportive, but accurate feedback as you go along, so that a suggestion that they have much more to learn is not a surprise at the end of training.

- *If you are asked to rate participants or to observe them back in their classroom and give feedback, use a rubric so that you have specific criteria on which to base your comments.*

► **Connecting Participants with Ongoing Resources**

In this age of digital resources, one of the things you can do to improve implementation is to introduce participants to resources they can turn to for ongoing information and support. A massive list of resources by itself is unlikely to be useful, but a few resources can be helpful. This can include both identifying existing resources and creating new ones. Here are some examples.

- www.techmatrix.org The Tech Matrix is an excellent resource that has been developed and supported by the National Center for Technology Innovation and the Center for Implementing Technology in Education. It has a dynamic matrix system that analyzes over 200 assistive technology products. Each of the products has been analyzed to identify which of 75 different potential features it offers to support student access and performance. By choosing products for Math, Reading, Writing, Assistive Technologies, or All Products, unique matrices are generated to find out if they have any of the features that are of interest. Once a product is identified, a simple click leads to information on its source and cost. There is also a section on research related to each of the product areas. The use of a resource like this can help individuals find new information they may want about a product you introduced to them or find other products with similar features. It condenses a vast amount of information into a very accessible format.
- www.montgomeryschoolsmd.org/departments/hiat/ This website was created by Denise DeCoste and her colleagues in the High Incidence Assistive Technology (HIAT) Program for Montgomery County Schools in Montgomery County, Maryland. It has a variety of resources designed to support teachers and therapists as they strive to support their students with high incidence disabilities. It features a series of Tech Quick Guides to provide step-by-step guides and tutorials for several AT products. It also serves as a portal to a variety of websites such as math websites that offer supportive features and other education websites grouped by areas such as curriculum, graphics and content area subjects. It is a wonderful example of what can be done to support teachers as they learn about and implement assistive technology use.
- www.qiat.org This website is the home of the Quality Indicators for Assistive Technology Services. It contains the quality indicators, self-assessment matrices about each indicator, and a variety of resource documents to help educators develop or improve the assistive technology services in their school district. It is also the portal for an electronic list that provides an outstanding vehicle for communication and support between assistive technology service providers. By joining the list, anyone can seek information or advice about assistive technology issues or problems. Current membership is over twelve hundred people concerned about assistive technology. Most are knowledgeable about the field of assistive technology and are involved in it. They are generous in their response to requests for help. It is an

excellent place for someone to go for help when they have a question about assistive technology and its use with students with disabilities.

► **Planning Future Training**

Thinking about what you did this time will help you to improve your training in future sessions. You can also compare your training to others that you have attended to identify places where improvements can be made.

Use the reflection at the end of this section to address individual workshops. Think about how it felt as you provided the training, what went well and what didn't. How does that compare to other training sessions that you have provided or attended? Think about what you might want to change in the future based on the timing and the feedback from participants. Don't forget that the comfort of the individuals affects their feelings about the training. There may be things that need to be changed related to time of day, room arrangement, temperature, snacks that are available, etc.

Finally, don't be too hard on yourself. Decide what things are in your power to change and work on changing them, but let go of the things that you cannot change.

	REFLECTION Think about how your training went Presentation: _____
<p>When I was presenting, what felt like the high point?</p> <p>What felt like the low point?</p>	
<p>Did each of the following components work the way I hoped they would? If not, what should be changed?</p> <p>PowerPoint:</p> <p>Handouts:</p> <p>Activities:</p> <p>Closing:</p>	
<p>Did the amount of time feel right? If not, what can be changed?</p>	
<p>Were there any issues with technology that need to be addressed? If so, what should be done?</p> <p>Software:</p> <p>Hardware:</p> <p>Internet:</p>	
<p>Were there any participant's comments in person or on the evaluation form that should be addressed?</p>	

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Appendices

Tech Training Preferences Probe

For each question put a 1 in front of the answer that is most like you, a 2 in front of the answer that is next most like you, a 3 in front of the answer that is next most like you and a 4 in the one that is least like you.

1. If you were going to learn to operate a new piece of software, what would you want to do first?
 - a. See a step-by-step demonstration
 - b. Read the manual
 - c. Use a tip sheet to get started
 - d. Get your hands on it and 'play' with it

2. When you get 'stuck' and can't get a piece of software or hardware to work, what do you do?
 - a. Ask a colleague for help
 - b. Read the manual
 - c. Call for technical support
 - d. Play with it trying many different features

3. In a class or workshop, what are your favorite tasks/activities?
 - a. Watching a video or demonstration
 - b. Working in groups to share experiences and ideas
 - c. Clear, easy to follow lectures with facts and charts
 - d. Hands on time with materials or equipment

4. When you are learning something especially challenging, do you?
 - a. Trust your intuition
 - b. Sit back for awhile and watch how others are approaching it
 - c. Try to organize the information logically
 - d. Explore and experiment with different ways to do it

5. When consulting on a new student, do you?
 - a. Offer staff members an opportunity to observe programs in use
 - b. Create materials or set up technology for them
 - c. Provide them with reference and resource material
 - d. Invite them to a preview center to explore instructional materials and equipment

Using the Tech Training Preferences Probe To Accommodate for the Learning Needs of Participants

Participants who put most of their 1's in "a" benefit from:

- Stories and case studies to illustrate points
- An example of a concrete application of what they are learning
- A chance to see someone else using it either in person or through a video

Participants who put most of their 1's in "b" benefit from:

- Time to think and reflect
- Time to watch a demonstration
- Time to talk to another participant one-on-one or in a small group
- A chance to process information

Participants who put most of their 1's in "c" benefit from:

- Hearing the theory or directions for a task before trying it
- A chance to organize all of the details to make sense of them
- An opportunity to analyze
- "Tip Sheet" with the specific step to follow

Participants who put most of their 1's in "d" benefit from:

- A chance to explore
- Actively working on something rather than listening to a lecture
- Projects or discussions
- "Playing" with the software or other materials

You may find that these four categories correlate with the following learning styles identified by Kolb (1984).

"a" relates to Concrete Experience

"b" relates to Reflective Observation

"c" relates to Abstract Conceptualization

"d" relates to Active Experimentation

However, please note that the questions in the Tech Training Preferences Probe have not been researched or validated.

Reference: Kolb, D.A. (1984). *Experiential Learning*. Englewood Cliffs, NJ: Prentice Hall

Action Planning Worksheet

Idea/Concept:
Intended Implementation:
What I will need:
Follow-Up: What I did, when I did it and how it worked:
Idea/Concept:
Intended Implementation:
What I will need:
Follow-Up: What I did, when I did it and how it worked:

Supervisor Notification Worksheet

Dear _____,

I recently completed a workshop called _____.
Overall, it was a great training. Specifically, I have resolved to make the time and expense of sending me to this training pay off for our school by committing to introduce the following new ideas and/or changing my performance in the following ways:

1.

2.

3.

I would like to schedule a brief conversation with you to explain these and seek your input. Then, assuming that we agree that these are desirable, appropriate, and high-priority changes, I will be asking for your direct support in helping me successfully implement these ideas by:

1.

2.

3.

Signed: _____ *Date:* _____

Evaluating with Power

Topic: _____

Presenter(s): _____ Date(s): _____

Based on: Evaluating Professional Development (Guskey, 2000).

1. Participants' Reactions, 2. Participants' Learning, 3. Organization Support and Change, 4. Participants' Use of New Knowledge & Skills, 5. Results: Student Learning Outcomes

	Negative		Positive	
1. <i>My reaction to the training:</i>				
Selection of content	1	2	3	4
Knowledge/Skill of Presenter	1	2	3	4
Time allotted/Schedule	1	2	3	4
Activities	1	2	3	4
Overall session	1	2	3	4

2. I experienced the following "key" learning (knowledge/skills/understanding):

3. One new action I will take because of this training:

4. Support/resources I will need in order to implement this learning in my setting:

5. Ways in which my supervisor will be able to tell that I am implementing this change:

6. I believe that my use of this new knowledge/skill will impact student achievement in the following ways:

Please feel free to include additional comments on the back of this sheet.