Training the trainer: A manual for Kaiser Permanente educators who teach employees to use computer systems

Gary Ray Ward

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TRAINING THE TRAINER:
A MANUAL FOR KAISER PERMANENTE EDUCATORS
WHO TEACH EMPLOYEES TO USE COMPUTER SYSTEMS

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Interdisciplinary Studies

by
Gary Ray Ward

July 1991
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ABSTRACT

This project sought to provide Kaiser Permanente Hospital, Fontana, with a manual (appendix A) that would enable their trainers to instruct employees in the usage of unfamiliar computers. Although this project was specifically designed for Kaiser Hospital, it can easily be adapted to other industries.

Kaiser Permanente Hospital, Fontana (KFH) is a health maintenance organization (HMO) with 3000 employees. I focused primarily upon teaching the Kaiser Patient Data System (KPDS) to nurses and unit secretaries. The population of this study is 85% female with varying degrees of computer knowledge; their ages ranged from 20 to 60 and their English speaking ability ranged from poor to very good. The classes were seven students or less to one instructor. To evaluate the instruction method, the instructor gave each student an evaluation to be completed and returned anonymously at the end of the class period.

The teaching method employed was lecture, demonstration, return demonstration, review of handout material, coaching, and a multiple-choice questionnaire. Classes of 7 or less were held from January 1989, to October of 1989 and evaluations were collected from each of these classes. A statistical analysis of the evaluations yielded the information in
A range was taken from 1 (best) to 6 (worst). This statistical analysis is based upon the feedback from 207 class participants who took the classes in the time period mentioned above.

Evaluations of the inservice yielded high scores in all areas when the mean, mode, and median, were statistically analyzed. A further study using a control group is necessary, but even without that study, we can see the high scores from the class participants. Based on this experience, I recommend that the critical elements of this project be employed in computer training. By following these elements organizational benefits will be seen:

* higher participant comprehension,
* higher employee efficiency when back on the job,
* less employee resistance to change,
* lower training costs.
PURPOSE OF THIS PAPER

It is my purpose to design the most efficient computer class available at this time for Kaiser Permanente Hospital, Fontana. In order to do this, I reviewed the literature, and designed/taught numerous classes from 1/89 to 10/89. To evaluate the success of my instruction, I gave the participants an evaluation form (see page 65 and 66 of appendix A) immediately after class which they completed anonymously. I continued to do this until I received a minimum of 200 responses.
DESCRIPTION OF THE ISSUES

For the last three years I have been following the trends in instructing novices to use a computer in a business setting. I have attended numerous inservices and read innumerable articles that promised to make me a highly professional computer instructor. It has been my belief that these inservices were incomplete, and/or approaching the inservice format from the wrong perspective. After reading "Unfit for Service", I was confident that I had found the skeleton upon which I could hang the skin and muscle of my computer instructing program. Kaiser Hospital, Fontana, became the testing ground for my ideas. I began to experiment with my style of dress, handouts, tests, and platform skills. I trained nurses and unit secretaries to use the computer in a class of seven or less participants. Kaiser Hospital, Fontana has 900 nurses, so I had no lack of participants. The participants all worked in Fontana but resided in all of the surrounding communities reaching from Victorville to Running Springs and from Los Angeles to Moreno Valley. Attendance in these classes was mandatory and may have influenced their attitudes in coming to the class.
INTRODUCTION

This booklet is specifically written for Southern California Kaiser Permanente educators who need to organize and conduct a computer class for Kaiser employees. However, generally speaking, this information is applicable to a computer inservice for any type of business. I have included a lengthy bibliography because most of the educators with whom I have spoken agreed that they need an extensive list of additional resources.

To ease the process of extracting pertinent information from this booklet, I have included "Gary's Rules of Thumb" sections which summarize the preceding pages, pulling out the main ideas. These "Rules of Thumb" sections are set off from the rest of the text in bold type to make them easy to find.
ADULT LEARNING THEORY APPLIED TO COMPUTER TRAINING
IN BUSINESS ORGANIZATIONS

Do We Need To Review Theory?

As you, the educator, begin to prepare your computer class, reams of adult educational theory dating from Socrates to modern theorists are available to you. In this chapter I will narrow this material to a few pertinent theorists. But first, you might reasonably ask: "Do we need to look at adult learning theory?"

Beder and Darkenualk, after surveying 173 school and college teachers on differences between pre-adult and adult learners, concluded that, "they do not warrant the inference that classroom practices differ sharply as a function of age." Dubin and Okun state that adult individual learning styles are so idiosyncratic that there is considerable doubt that general assertions about adult learners can be made. They note that adult learning theories have very low predictive power.

If there is doubt that adult learning theories are useful to us, why spend time learning about them? The main reasons are: (1) because we can glean some applicable information from many of the theories to build a solid educational design; and (2) many of the theories, when summarized, are similar and support the model we will be using
to develop computer instruction. This will not only be helpful to you, it will also add credibility to the method of instructing described in this manual.

Are We Educating or Changing Our Class Participants?

When you, as an educator, ask employees to learn and apply something new, you are asking them to change. J.R. Kidd wrote, "learning means change." Crow & Crow noted that "...learning involves change." This seems to be a point on which the majority of educators can agree. Whether we consider Maslow and his theory that the goal of learning is to be self-actualized; Jourard who sees learning as a way to be in the world; or Kidd, and Crow & Crow, each of whom speaks of change. So, keep in mind, that as we speak about instructing an employee we are doing more than imparting knowledge, we are changing that person. And because of this change, there is the potential that they will do some things differently, either for the better or for the worse, for their employer.

What do most people think about change? Do they love it? In his book Quality Is Free, Philip Crosby writes "...some people are just plain not interested in learning anything that will make them have to change." If you feel resistance to the training you conduct, remember your participants may not be
resisting your instruction as much as resisting the need for personal change.

When dealing with computer training, this statement may be even more true. In her article "Teaching Nurses to Use Computers," Linda Edmunds reflected "although nurses who join our staff are aware they will be expected to learn to use computer terminals...most approach the task with trepidation." Edmunds explained that this attitude reflects a perception that computers are exceedingly complicated. From personal experience, I can confirm that many people fear the personal change that accompanies a new computerized system. From participant feedback, I have received objections to computer training based upon religious beliefs, the perception that the old way of doing the job was better and faster, language barriers, a lack of typing skills, that the employee was too old to learn about computers, fear that the cathode ray tube would injure eyes or interfere with pregnancy, a belief that the employees would never use the new skills on their job, concern about high expectations on the part of the employees' administration; and fear that the administration might use the system to evaluate employee performance or to discipline them.
Rogers and Shoemaker describe a process by which individuals decide to adopt or reject an innovation. Their Innovation-Decision Process Model has four stages:

1. Knowledge: The individual is exposed to the innovation’s existence and gains some understanding of how it functions.

2. Persuasion: The individual forms a favorable or unfavorable attitude toward the innovation.

3. Decision: The individual engages in activities which lead to a choice to adopt or reject the innovation.

4. Confirmation: The individual seeks reinforcement for the decision he has made. Step 3 decisions may be reversed if the individual is exposed to conflicting messages about the innovation.

You, as an educator, have the responsibility to not only introduce an innovation (a request for personal change) to the participants and to teach them how to make use of it; but also to strive to reduce the possibility of conflicting messages being sent to your participants. Carlley agrees in spirit with Rogers & Shoemaker when
he states that employers and nurses need to communicate more prior to the nurse's participation in continuing nursing education, and that more administrative support needs to be provided during the subsequent stages for trial and adoption of behavioral changes. For this reason, it must be understood by employees that management wants them to begin changing some part of their work life; in the present situation they will start using a computer or terminal. So your first step is to make sure that management is really behind your project and that employees understand this. As Carlley implies in the above paragraph, educators must make sure that communication is open between management, themselves, and the participants, so that conflicting messages do not arise at a later date.

How do you get this understanding with management? Very simply:

a. talk with the management personnel who are impacted by your program to discover any potential problems from their viewpoint, and
b. get input into your program by allowing management to preview it.
"Gary's Rules of Thumb"

1. Learning something new means change. Normally employees do not like changes.

2. The first step is to get management buy-in and approval for your new project.

A Review of Relevant Educational Theorists

After you have management approval and support for your computer education program where do you turn to design your lesson? No one educational theory is appropriate for computer training in total. But by reviewing certain educational theorists we can determine what parts of their theories are appropriate for training people to use computers.

Josephine Flaherty

Josephine Flaherty brings together two concepts, fluid intelligence and crystallized intelligence, which provides us with some insight into the learning process.

a. Fluid intelligence is the influence of biological factors on intellectual development.
b. Crystallized intelligence is the result of experience, education, and cultural background.

Flaherty believes that a person uses fluid intelligence for reasoning, concept formation, perception, and the discovery of relationships. A person brings crystallized intelligence to bear for problem solving. She provides us with a generalized theory of adult learning. Applying this to the computer, the participant would use a combination of both fluid and crystalline intelligence; first using fluid intelligence, and then crystallized intelligence, going back and forth between these two intelligences until the participant solved the computer problem as economically as possible. Viewing the learning process in this fashion, we can be more tolerant of our participants as they strive to comprehend what they are learning.

Another person who espouses the fluid and crystallized intelligence theory is A.B. Knox, one of the first persons to produce a widely referenced study of adult learning. Knox states that adults continue to learn continually and informally as they adjust to role change and that fluid intelligence decreases, and crystallized intelligence increases in adulthood. Studies show that adults are able to learn into their 40s and 50s, as well as they did when in their 20s, except that practice is more important with adults.
What did he say? He said that practice is more important for adults. Remember this when planning your lessons. This is a critical concept because it shows those of us in the business world that we can continue to train and expect results from our employees no matter what their age, if we give them sufficient time to practice their new skills. So, expect that people can learn and change, no matter what their age. And when you think about it, aren’t these ideas about fluid and crystalline intelligence just another way of stating the common sense concepts that we believe about adults and the way they learn?

Brundage & Mackeracher

Brundage and Mackeracher\textsuperscript{16} were very ambitious in their attempt to identify the major principles of adult learning. They identified thirty-six adult learning principles. A few of these principles that are important to us are:

a. Adults are able to learn throughout their lifetime.
b. Environments that reinforce self-concepts, are supportive of change, and value the status of the learner will be most effective.
c. Adults are highly motivated to learn in areas relevant to their present task.
d. Adults need a strong idea of the expected criteria.
While designing and conducting computer training, it will increase the effectiveness of your efforts if you keep these principles in mind.

W.B. James

W.B. James' study has done an excellent study that was validated by a jury of national adult education leaders. His nine principals are:

1. Adults maintain the ability to learn.
2. Adults are a highly diversified group of individuals with widely differing preferences, needs, backgrounds, and skills.
3. Adults experience a gradual decline in physical/sensory capabilities.
4. Experience of the learner is a major resource in learning situations.
5. Self-concept moves from dependency to independency as individuals grow in responsibilities, experience, and confidence.
6. Adults tend to be life-centered in their orientation to learning.
7. Adults are motivated to learn by a variety of factors.
8. Active learner participation in the learning process contributes to learning.
9. A comfortable supportive environment is a key to successful learning.

As you can see, these different theories have much in common.

Malcolm Knowles

Of course, no review of the theorists of adult learning would be complete without considering Malcolm Knowles. As the first English speaking person to use the term "andragogy" as opposed to "pedagogy" to describe adult learning, what does he say to us? First and foremost, it is important to realize that he does not suggest that there is one way to teach children (pedagogy), and another way to teach adults (andragogy). Think of this as a continuum over which your teaching style moves. We do begin to teach children, but we gradually move into teaching adults. And because an individual is considered an adult doesn’t mean you can’t teach him or her the same way that you teach children. Knowles distinguishes between andragogy and pedagogy in four major ways:

1. As individuals grow and mature their self-concept moves from one of total dependency to one of increasing self-directedness. The point at which a
person becomes self-directed is the point at which he or she becomes an adult.

2. Because adults exist and survive for a period of time, they accumulate experience which give them a wider base to which to relate new learning situations.

3. Adults become increasingly ready to learn because of their need to perform tasks required by their evolving social roles.

4. Adults tend to have a problem-centered orientation to learning.

Knowles postulates that, because adults have a problem-centered approach to learning, discovery learning is the most effective technique to use when designing instruction. Again, please note that striking similarities exist between Knowles’ theory and the previous theories I have described.

Frederic H. Margolis

Frederic H. Margolis is a noted independent consultant and frequent presenter at the American Society for Training and Development (ASTD). Six years of working with organizations developing technology courses led him to believe that discovery learning (andragogy) is the best way for adults to learn. Margolis feels that andragogy is a revolution.
taking place in such areas as computer science, accounting, insurance, real estate, law, and medical science. He contrasts andragogy (student directed discovery learning) with pedagogy (teacher-directed learning) and describes them as being at the opposite ends of a spectrum. Think of this as a continuum—not as an either/or proposition:

1. Concept of the Learner:
   - Pedagogy: Dependent personality.
   - Andragogy: Increasingly self-directed.

2. Role of Learner’s Experience:
   - Pedagogy: Built on more than used.
   - Andragogy: A rich resource of learning.

3. Readiness to Learn:
   - Pedagogy: Varies with maturation.
   - Andragogy: Develops from life tasks and problems.

4. Orientation to Learning:
   - Pedagogy: Subject centered.
   - Andragogy: Task or problem centered.

5. Motivation:
   - Pedagogy: External rewards and punishments.
   - Andragogy: Internal incentives, curiosity.

Margolis\(^2^0\) uses a test to determine the degree to which a program is pedagogical or andragogical. This is important
because you may find that you need a more pedagogical approach with your adult learners in instructing the computer system. A discovery learning approach is not always well suited for teaching about computers. And remember, it is not a rule that you must use andragogical instruction with adults. So, here is a test to determine which of these two approaches you are using in your class:

1. Are participants given presentations, films, or readings, followed by series of problems or cases to which they apply that information?
2. Are participants given problems or situations to analyze or solve, followed by the information needed to analyze or solve the problems?
3. Are problems or cases designed primarily to help participants understand the concepts.
4. Are problems or cases designed primarily to help participants do their work more effectively?
5. Is 50 percent or more of the training time used by participants to actively engage in problem solving, analysis, or decision-making usually with the help of other students?
6. Is the primary job of the instructor to present information, discuss questions, or pose reinforcing questions to the class?
7. Is the primary job of the instructor to help, consult, advise, and pose problems to be analyzed (both individual and small group), and then manage an interactive discussion?

The even-numbered questions tend to be answered "yes" when the program is more andragogical. The odd-numbered questions tend to be answered "yes" when the program is more pedagogical. If your answers are mixed then you have a little of both in your program.

Evaluate your participants; are they teacher-directed or self-directed? Then look at your program; does your program meet the participant's needs? Are you giving them enough practice time? Above all, the important question is not "Have I put together a good program?" but rather "Have I met my student's needs?".

E.L. Simpson

These are the characteristics most frequently advanced by adult theorists, according to E.L. Simpson²¹:

1. Adults have autonomy of direction in the act of learning.

2. Adults use personal experience as a learning resource.
Now What?

Again, we must ask the question "Where do we begin?" That is, at what point do we begin designing our educational program for teaching about computers? After this review of educational theorists we need to pick out some common points that form a solid base for computer instruction:

1. An adult participant’s motivational process is affected by their interests, attitudes, and needs.²² (This seems obvious, doesn’t it? But how often do we take this into account when planning our programs?)

2. An adult’s readiness to learn in continuing education is related to the problems they are encountering in their everyday life situations.²³

3. Sometimes a performance discrepancy continues to exist because it makes no difference to the person whether they perform it or not.²⁴ In other words, what will happen to the employee if he/she does or does not do it your way?

Before we continue, I wish to make a point about making it matter to the participant if he performs the task requested or not (point number three above.) Before training ever begins the employees need to know that a change is taking place and it is supported by management; but also that this
change will be part of their performance expectations. Once we have established with the employee that he must change, we have created a need within that person. The question then becomes how do they change and where do they get the information that will help them meet the performance expectation.

It is your responsibility, as an educator, to provide them with answers to these questions. You design and conduct the class that will help employees comply with a pending change. As Ron and Susan Zemke\textsuperscript{2} wrote, "Once convinced that the change is a certainty, adults will engage in any learning that promises to help them cope with the transition." Once we have created a need within the individual we have created a teachable situation.

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"Gary's Rules of Thumb"

1. It is not enough to ask your participants to change, make it matter to them in some way so they will embrace the change.

2. Tell your participants what you expect of them.


4. Remember adults learn best with practice, practice, and more practice.
5. Adults in their 40s and 50s learn as well as they did in their 20s.
6. Adults tend to learn so they can solve a problem or face a real-life situation.
7. Intelligence based on biological factors decreases with age, and intelligence based on experience, education, and culture increases with age.

The Learning Model I am Following in This Booklet

You are probably wondering what educational model I am teaching in this manual. I am patterning my instruction on a fascinating educational achievement which was developed during World War II. Because of the demand upon human resources to help in the war, the Army began looking at adult illiterates as an untouched human resource. Up until this time illiterate adults were not accepted in the armed services. The army set up a program to teach adults to read, write, and do math at a fourth grade level in a short period of time. Using this program, illiterate adults seldom took more than sixteen weeks to learn to read at a fourth grade level. And only 15% of the adults failed to reach this criterion out of an estimated 200,000 people who took the course. This project was done to increase our armed services manpower, and the Army made no
pretense of its intentions. This was not education for the sake of education, nor was it to be a stepping-stone that would lead to more advanced education. This program was specifically designed to raise the reading, writing, and math level of illiterate persons in order that they would be better soldiers. I will reference this program throughout this manual.

So, how does the Army project relate to our purposes here? First, the soldiers knew that higher authorities wanted, or should I say demanded, that they succeed in the program. In other words, a change was coming that would affect their life-styles. Second, the soldiers knew that the expectation existed and that the higher authorities supported it. This is what I initially stress in my computer classes. I want the participants to understand that the change is here and that they must learn to operate within the context of that change. The illiterate soldiers were also motivated to learn to read and write in order to write to their relatives and to read the letters from their families. In my computer class I help participants keep their jobs and improve their skills, which is very motivating. As a side benefit, many of my participants also seem pleased to improve their computer knowledge in order to communicate better with their children, who are fast becoming computer literate in their schools.
The Army literacy project followed twelve guidelines:

2. Clear formulation of the objectives of the program.
3. Development of appropriate instructional materials and training aids.
4. An all-inclusive curriculum.
5. Establishment of standards of performance at each grade level.
6. Small teaching groups.
7. Diversified methods of instruction.
10. Careful selection of instructor and supervisor personnel.
11. Provision for pre-service and continuous in-service training of instructor and supervisor.
12. Continuous appraisal of the results of training.27

When designing and conducting computer training programs, I implement as many of these twelve points as it is possible in my current educational setting.
Careful selection of men for training

At Kaiser, participants must pass through intensive interviews and tests prior to being hired. This assures that employees have the prerequisite skills necessary to succeed in their jobs. Such qualifications serve as a strong indicator that they will be able to succeed in on-the-job computer training as well. Like the army, we carefully select our participants.

Clear formulation of the objectives of the program

Our computer training programs have clearly defined objectives related to student performance. We regularly measure our success in achieving these objectives, making use of student hands-on demonstrations and written tests.

Development of appropriate instructional materials and training aids

We make specific training aids within our typical four-hour training program, and use the aides to support a presentation that builds and adds to participants' knowledge in a methodical, step-by-step manner.
An all-inclusive curriculum

This I cannot do because of the nature of the field and the limited time that we have with our participants. But I keep our program focused on what participants need to know. Participants' working environment supports their training, and their training supports their job situation.

Establishment of standards of performance at each grade level

We have clearly defined performance objectives for each of our classes. Students must meet these objectives before they enroll in the next course in the sequence.

Small teaching groups

We try to limit our instructional groups to no more than six students at a time. This is especially important when working with students who are using a computer and may need a lot of individual help.

Diversified methods of instruction

In my classes, the participants use sound, visual stimulus, and tactile experiences to learn. We address our
participants' affective abilities, as well as cognitive, making special use of humor in support of instruction.

Provision for differential rates of progress

Although my program is only four hours long, I maintain criteria for each level of information and allow participants to progress through the materials at their own pace.

Careful selection of instructor and supervisor personnel

To be a Kaiser educator requires the education and ability to do the job.

Continuous psychological study of the men

Although we do not conduct psychological studies of our participants, or employ staff psychologists to assist them in our courses, Kaiser Fontana has added to its staff a department called Employee Assistance. If participants are experiencing problems which interfere with their ability to work or attend training sessions, help is available to them.
Provision for pre-service and continuous in-service training of educator and supervisor

Kaiser educators are expected to keep up with their field, and are given educational leave days to do this. Most take advantage of additional college course-work, or specialized training sessions offered by vendors, or other sources to upgrade their skills and understanding within their field.

Continuous appraisal of the results of training

Our class results are measured by the participants' ability to do what we educate them to do. This pragmatic approach is in keeping with the general philosophy of business which is "bottom-line" oriented.

Brian Stecher and Ronald Solorzano published a research report in 1987 entitled "Characteristics of Effective Computer In-Service Programs." According to the authors, these techniques made computer classes more effective:

1. Extensive practice with computers.
2. Comfortable and relaxed atmosphere.
3. Appropriate balance between lecture and guided practice.
4. Individualized attention.
5. Knowledgeable trainers.
6. Detailed curriculum guides and lesson plans.
7. Clear and relevant objectives.
8. Lesson-related materials and handouts.
9. Inservice lessons linked to instruction.
11. Voluntary participation.
12. Strategies that allow instructors to teach students with differing amounts of ability.
13. Follow-up support.

Comparing this study with the Army project, and what I do in my classes, we can see there is much overlapping. This last study has aided me in adding some relevant strategies to my teaching. For instance, although Kaiser requires students to attend our training, and it is not on a voluntary basis, we have started a group of volunteer participants called the "KPDS Specialists." These are individuals who feel comfortable with the computer system and want to join a group that provides more in-depth information about our computer system. The "KPDS Specialists" meet periodically to exchange information about new developments. They also serve as information resources to other employees within their work areas.

To this point, I have provided you with many references of relevant adult learning theorists that can aid you in
establishing a program for computer instruction. I believe the following points to be the most important: as you design your lessons, draw upon those theorists who fit closely with your own teaching style and situation. We will now examine other aspects of computer instruction.

"Gary's Rules of Thumb"

1. Provide as much individualized attention as possible for the participants.
2. The educators need to establish credibility with the participants.
3. Provide different learning options for the participants who may be faster or slower than the rest of the class.

TEACHING TECHNICAL SKILLS TO ADULTS

Is computer instruction considered learning a technical skill? In a survey, 63% of the respondents from 160 companies listed computer instruction as learning a technical skill. As you are preparing to instruct your class in computer usage,
you need to remember that you are preparing to teach participants how to make use of a technical skill.

What should this technical skill do for your participants to be considered important by them? As Jerome Bruner states: it should serve them in the future. With this in mind, plan to incorporate these five points in your class:

**Give Your Participants "The Big Picture"**

Give your participants the big picture before launching into details. In other words, where do your details fit in the scheme of things? So, if you are going to teach a person about the computer terminal they will be using on their job, first give them a brief outline of the location of the mainframe, what path the information follows to get to the mainframe, and how it returns to them. This will help them understand the role of the terminal.

**Give Adults A Reason To Learn**

Give your students a reason to learn what you wish to teach them. Do not be threatening or condescending as they will not relate well to this. Instead, show them how your information will help them cope with a life-changing event. For instance, you need to inform them that management has
decided on a change and you are going to help them prepare for this change.

**Enhance the Adult Learner’s Self-Esteem**

Enhance the adult learner’s self-esteem, do not harm it. When I am in front of a class, I tell them that this class is not to measure their intelligence because that was done when they received their college degrees, or were hired to work in this institution. Sometimes I tell them personal anecdotal stories that show them that I didn’t always use a computer efficiently. I tell them that if they are having a problem it is probably because they do not think like a computer operates, but that will change with practice.

**Determine the Participant’s Computer Experience**

Malcolm Knowles\(^3\) states in the book by "W.B. James, "An Analysis of Perceptions of the Practices of Adult Educators from Five Different Settings", that adults relate their present learning to their accumulated experience. To establish each participant’s experience ask how many people have not had any experience with computers. Assure them that you are a competent instructor used to dealing with this, and
there are resources available for them if the class information is not sufficient.

Tell Them What You Want Them To Know

To lessen the participant's anxiety tell them what you want them to learn. Set learning objectives that they will understand. Make the criteria for passing the class as non-threatening as possible.

It is especially important when teaching adults a new technical skill that you teach to their three areas of knowledge: Benjamin Bloom refers to these three areas as affective, psychomotor, and cognitive domains. It is important if you are not familiar with Bloom's three areas of knowledge that you research them because you will need to teach these three areas of adult knowledge when you are teaching the computer. But no matter what type of system or theory you follow Caplan has the best bit of advice when he states, "that to be effective, a continuing education program should make it easier for learners to become more competent, and to improve their professional performance."

When Gilbert and Gilbert followed the most successful coach in college football, Bear Bryant, through his day to try to understand how he led his players to such successful seasons, they expected to see what they read about him in
action: Bear hugging his boys and being a real father figure to them. Instead, they found a man with a calculated formula for success. Bear practiced observation-based training. He showed his players what he wanted them to do on film, and had them practice until they could repeat what they viewed. Bear was 1% talk, 20% observation of exemplary performers, and the rest of the time he gave feedback and coaching. What about the things that the researchers had read about him and what he had wrote about himself? He stated that he just said what people wanted to hear, but didn’t follow that advice himself.

Let us keep in mind the training that Bear Bryant did, and look at two other types of technical training: the Army literacy training, and James C. Georges interpersonal training. It was proposed that the Army Special Training Units (the name given to the literacy program the Army was using), be organized around four basic ideas:

A. The curriculum materials should relate directly to daily Army life.
B. All subject areas should be integrated; teach "Your Rifle", not "How to Read."
C. The goal should be to raise each student a grade-level each month.
D. "Carry-over" should be developed; or programs that help keep a person literate should be a part of the program.39
Let us now look at one other person who deals in skill training and then we will tie these ideas together. James C. Georges, founder and CEO of Par Training Corporation, has a company that specializes in leadership development. He treats interpersonal relations as skills training. As he states, "Skill is the crucial element that turns knowledge into behaviors that succeed in the real world." And how does James Georges teach this skill? He uses six steps:

1. Find out what the learner needs to accomplish.
2. Show examples of the whole skill and then break it down into steps.
3. Show how to integrate steps.
4. Drill the student until it is obvious he/she can perform it.
5. Move from step to step orderly.
6. Follow up and reinforce the student back on the job.

Let us tie together the three rather different examples that I have presented. What do they have in common? First, in all three examples the objective was first determined. Bear Bryant needed persons who could perform well on the football field; the Army needed individuals who could perform well in the Army; and James Georges needed to turn out individuals who had the appropriate interpersonal skills. So, decide what the person will need to be able to perform when finished with your training. This is true of computer also.
Computers/terminals can service a person in many different ways; from simply retrieving information to utilizing elaborate data bases. I train employees to use a computer that can retrieve simple information or assist in ordering and scheduling complicated patient medications. So, first determine what is important for the participant to learn; and don’t spend time teaching the superfluous at the expense of the need-to-know information. An old saying states, "The more we strive after that which is superfluous, the less strength have we left to grasp that which is truly needed."

Second, our three examples relate what is taught to what is going to be done. For instance, the Army doesn’t have classes entitled, "Reading 1A", they gave classes called "The Rifle" or "The Barracks." The soldier learned to read by studying the rifle which reinforced what he would do in the Army life experience. Also, the Army experience reinforced what would be learned in the classroom. Bear Bryant didn’t give classes in things not pertaining to football. He reinforced what was done on the football field, which in turn reinforced what was done in training.

Third, the lessons are orderly, moving progressively from one step to the next with objectives that the adult learner is aware of. Bear Bryant, the Army, and James Georges each list or imply this step.
Fourth, each of these teachers advocate some form of follow-up. This is in complete agreement with Kiener and Henstschel, when they write that nurse educators need to anticipate the on-going need for additional knowledge and information long after the program is over.

"Gary’s Rules of Thumb"

1. Give your participants the big picture before you give them details.
2. Be sure that you and your participants know your objectives.
3. Don’t teach unnecessary things that will get in the way of their need-to-know information.
4. Make sure you have some sort of follow-up for your participants after the class is completed or at least give them resources in case they have problems.

Since you will probably be using this booklet to develop a computer program for medical people, and more specifically nurses, a relevant question is, "Do nurses consider computer
training important?" In answer to this Zorn and O'Keefe\textsuperscript{43} did a survey of perceived continuing educational needs. Out of 282 nurses surveyed, computer training was identified as the third most requested training need in the top ten requested classes. It was third behind "Legal Issues in Health and Nursing" and "Physical Assessment". And it was prioritized higher than "Pharmacology", "Ethical Issues in Nursing", "Trends in Nursing and Health Care", "Motivating/Influencing Other", "Accountability in Nursing Practice", "Leadership/Management", and "Cardiovascular Nursing."
CLASSROOM ENVIRONMENT

Physical Environment

Ferguson\(^4\) told the story about one workshop where every adult who was asked to recall an important school incident chose a negative or traumatic event. If this is any indication of how adults will enter your learning environment they are going to come in with a negative attitude before you even introduce yourself.

Sommer\(^5\) noted that, "...teachers are hindered by their insensitivity to, and fatalistic acceptance of classroom environment. Teachers must be 'turned on' to their environment lest their pupils develop this same sort of fatalism." So, as you design your classroom environment make sure you feel comfortable with it.

One important point to keep in mind when setting up your room is that it should be attractive. Maslow and Mintz\(^6\) selected three rooms (messy, normal, beautiful) and did experiments on what rooms people desired and how the rooms affected their behavior. The ugly room, which resembled a janitor's closet, produced feelings of monotony, fatigue, headache, discontent, sleep, irritability, and hostility. While the beautiful room produced feelings of pleasure,
comfort, enjoyment, importance, energy, and a desire to continue the activity.  

Don't overlook that the room needs to be physically comfortable. Before your students arrive, consider lighting, temperature, and your participants' ability to see your props. What about chair, table, and terminal arrangements. You must decide upon what you will feel comfortable with. During my teaching I settled upon putting the terminals against the walls. Thus the participants had their backs to me. Since I spent very little time lecturing, and much time having them work on their terminals it worked out very well for me to be behind them, so I could observe their progress or problems. I could offer help when they needed it, and conversely, I did not jump in too quickly before they had a chance to experiment. I spoke with the Kaiser Fontana Facility Coordinator for the KPDS Computer System to see how she set up her rooms when doing computer instruction. She confirmed that she also used this type of a room set up.

One aspect of computer training that participants generally find annoying is the safety rule, that no food or drinks should be around the computer terminals. I designated an area away from the computers where participants could place drinks and food, telling them they could go there whenever they wished. This seemed to satisfy most of the participants.
One other aspect of room arrangement that seemed to annoy the participants was when the room was too small. They did not seem to mind being crowded around terminals but if the room was too small they were uncomfortable. I was forced to use a room that was 17 feet by 10 feet with no windows and I received many complaints from each group of six participants that the room was indeed too small. Avoid this if at all possible.

**Psychological Environment**

J. Crawford\(^4\) has shown that under conditions of uncertainty individuals seek information from others; who will probably be co-workers. Weiss\(^5\) states that new employees enter, what is to them, a fairly undifferentiated psychological environment, and are actively seeking information about appropriate behaviors, attitudes, etc. With this in mind you should put your class together so that you teach, influence, and motivate your participants in the manner you wish. Be aware that you represent the computer system and you can drive your participants away from your influence to other's. If you set up an anxiety-ridden class, a threatening class, or a lackadaisical "I-don't care" class you will not get the results for which you should be striving. Remember, most of your participants are somewhat nervous about the
change you are ushering in with your terminals. I first try
to establish a non-threatening atmosphere. This requires
"platform" skills. Sometimes I am gentle and quiet; other
times I am more jovial and extroverted. Some groups are such
that nothing can relax them. But, my point is, that I strive
to "read" my group and do what is necessary to remove
counterproductive anxiety. Notice I said "remove anxiety",
not motivation or desire. I remind them that they are adults
and tell them that is how I will treat them. I explain to
them that I am not there to test their intelligence because
that was already done when they applied and were accepted to
work at Kaiser. I make sure that they realize that it does
matter if they learn to use the computer terminal. To
minimize anxiety, I start the class by telling my students
about the resources that they will have after the class when
they need help with the computer terminals. As the class
progresses I strive to have them experience as many successes
with the computer terminals as possible. Remember it’s not
your job to catch your participants at mistakes and make a big
deal out of it; but to catch them in successes and make a big
deal out of that.

One way to diffuse tension is pointed out by Mark
McCormick, the author of What They Don’t Teach You At
Harvard Business School, when he writes that next to common
sense, a sense of humor or laughter is the most potent,
constructive force for diffusing tension. Laughter has been proven to have a beneficial effect on the body physiologically as well as psychologically. It's like jogging internally. And this decrease in tension caused by humor can last as long as 45 minutes. Now, maybe you cannot tell jokes and do vaudeville routines comfortably but you can be what Nancy Turner describes as a cheerleader. As a cheerleader you can make positive things happen for your participants; you can help them become more than they would have been if not for you. O.K., so you can't tell jokes, and you can't be a cheerleader, now what? Crush and Miller offer an alternative when they state that individuals are motivated to engage in behaviors to the extent they expect those behaviors to result in positive outcomes. Adding to this, you can also raise the participants' expectations for positive outcomes, and you can increase the weight they place on their expectancies. David Peoples reinforces this comment when he writes, "People are persuaded more by the depth of your conviction than the height of your logic, more by your enthusiasm than any proof you can offer."

Let us get back to our Army model of teaching and see what was involved in their classroom environment. When reading the material I could not find anything specifically written about the classroom physical conditions, however, we can assume that they were adult-like, neat, and tidy. The
focus of the classroom was on the participant and nothing else. The educators were creative, as they did not have a precedent to follow; consequently, they were limited only by their imaginations. An example of an innovative idea was tried at Camp McQuaide, California, where the participants were allowed to create their own newspaper which published their written material. This experiment was highly successful. It was an example of allowing participants to participate in creating some of the goals of the classroom. It was also an example of making the learning experience an enjoyable one, where the participants would continue to learn outside of the classroom environment.

The educational world is rediscovering how important it is for teachers to be creative and innovative. As Henry M. Levin writes, in S. Tobias' book, "Tracked to Fail", "Everyone benefits from esprit de corps and the freedom to experiment with curriculum and technique..." A second point about this Army experience was that teachers were asked to remove themselves as far as possible from the learning process. They were to stay out of the student's way. They participated in the process of discussion and mutual critique, but as much as possible, this experience was to be andragogical in its approach.
Student Participation in Goal Setting

What about this idea of an educator allowing participants to participate in developing their goals? Here we begin to walk a fine line of how much, and even if they should be allowed to help develop those goals. There is an inherent problem with allowing a neophyte to plan what they are to learn. But, as we have read, there is a danger in not allowing an adult to participate in setting goals for themselves. From their study, Locke, Latham, and Erez published a paper in which they stated that first employees decide if the person requesting a goal of them is a legitimate authority figure: Do they have the right to be handing out orders? After this is resolved, the question is do the participants attempt to accomplish the goal better if they participate in the goal setting, or if they are just assigned the goal? There are studies which support both sides, but the evidence seems to indicate that there is a higher probability of the employees putting out a greater effort to accomplish the goals if they have some input into the goal setting process. Miriam Erez and her colleagues have done a lot of study in this area and they support the participative goal setting process (Earley and Kanfer, Erez; Erez, Earley, and Hulin; Erez and Arad). For a good introductory article into this area read Brackhaus, "Needs Assessment in
Adult Education: It’s Problems and Prospects", as he discusses whether an educational need should be determined by the educator, or the student.

GARY’S RULES OF THUMB

1. If possible, allow your students to have input into the goals and objectives of your class.

Is Everybody Happy?

You would think that if you followed the guidelines that we have been studying, your students would be satisfied with your classroom instruction, right? The answer is, not necessarily. I will give you two common reasons why your participants may not be satisfied with your class, even if you make every effort to enhance the physical and psychological environment.

The first reason they may be dissatisfied is they did not get what they expected from the class. When we read about James George’s method of teaching interpersonal skills to managers, in our first chapter, what is he trying to do? He
is trying to make sure that what he is teaching to his participants will be understood by them and used when they get back to their respective jobs. This is why he spends so much time drilling his students and treating his class as though he were teaching a technical skill. You would imagine that every trainer was striving to meet the needs of their class participants. But Ferdinand Fourneis\textsuperscript{66} writes about why managers have difficulty managing even after a training seminar. He states that most training programs tell managers what they should do, but not how to do it. In this same context, if you give a computer training program, and simply tell your participants what they should know and should practice, you will have dissatisfied students. Plan your objectives carefully and be sure your participants can do what you say they will be able to do by the end of the class.

The second reason why people may not be satisfied with your class is because of your misconception of what makes a good class. In his book, \textit{The Motivation To Work}, Frederick Herzberg\textsuperscript{67} writes about things that satisfy and dissatisfy employees. The important implication from his book, for our purpose, is that just because you eliminate things that you feel will dissatisfy your students doesn’t mean that you have created things that will satisfy them. It just means that you got rid of some things that would have probably dissatisfied them. In the classroom you can do everything possible to
eliminate things that may annoy your students but they may still not be satisfied with the learning experience you presented to them. Again, I ask the question, can they do the skill they came in to learn: in this case, can they operate the computer or the terminal? Did you put together a class that provided your participants with a satisfactory experience, or did you spend your time just trying to get rid of things you felt would dissatisfy them? Keep in mind your skill as an educator and the mental attitude of your adult learner. When they came to learn did they have successes and were they recognized for those successes? Having success in the classroom is necessary. Trying to replace this satisfactory experience by eliminating a dissatisfactory experience, like a too cold room, will not work.

"Gary’s Rules Of Thumb"

1. Do not concentrate on just the things that may dissatisfy the participants in your class, also concentrate on what will satisfy them.
2. Devise a classroom setting that encourages the participants to be successful at what you are instructing.
3. Meet your training objectives.
SETTING UP YOUR CLASS TO MEET THE REQUIREMENTS OF THE JOINT COMMISION ACCREDITATION FOR HOSPITALS ORGANIZATION

This section is written specifically for educators in a hospital environment. If you do not teach in a hospital setting it may still be worthwhile to read this chapter because your field may very well have inspecting agencies. This chapter may give you food for thought.

Something to keep in mind -- at some point in your career as an educator in a hospital setting you will be inspected by the Joint Commission of Accreditation for Hospitals Organization (JCAHO). When this organization comes, it is much easier to keep your approval if your program is already set up to meet what they will expect to see. When they inspect, they will look for five sections in your program:

1. Goals and objectives,
2. Program content, including your handouts,
3. A method of evaluating your objectives to see if your participants can meet your stated objectives,
4. A method for your participants to evaluate your program,
5. A list of the names of your participants.
Let us look briefly at these five sections:

Section 1: Goals and Objectives.

When writing about goals, refer to the reason the people are attending your training session. Robert Mager\(^\text{69}\) refers to the goal as the purpose, or what we are trying to accomplish.

When writing about objectives, write about how you will determine when your participants have reached your goals. In other words, when your participants can perform your objectives you will know they have reached your goal. Objectives are very important because they also give you something to aim towards in your teaching.\(^\text{70}\)

Section 2: Program Content.

When JCAHO requests to review your program content, that is exactly what they want to see. They want to understand what you taught by viewing your outline, tests, handout material, and anything else you may have that provides them with information about your program.
Section 3: Evaluation of Your Objectives.

JCAHO's request to see how you determine if your objectives have been met by the participants is another way of asking to see the test given to them. Now, when planning your test, keep in mind the participant's self-esteem. R. Smith writes that adults have more stress during test situations than they had as children because they fear the revelation of ignorance and negative comparisons with peers. I write this to remind you that a test will probably not be very popular with your group of learners. So, prepare a way to measure your objectives efficiently but with as little stress to your participants as possible. If your test reveals the participant's ignorance, and also allows their peers to know about it, do you think this participant will ever want to come to one of your classes again?

The worst mistake that you can commit in devising a test is to teach one thing to your participants and test them on another. Robert Mager writes that you do not measure steam with a yardstick, or music with a bathroom scale. And I will add that you do not teach a person the theory behind your computer system and then ask them to demonstrate how to use the computer. Nor, do you demonstrate to your participants how to use the computer system, and then quiz them on the
history and theory of the computer. I use two types of test methods when teaching my computer class:

1. Return Demonstration: As Denova writes, "Everything must be as realistic and life-like as possible... performance testing is the end result of performance training." I try to be as realistic as possible when teaching my participants to use the computer terminal. Therefore, when I ask them to return demonstrate I want it to be as much like what they will do on the floors, and what I have taught them as possible.

2. Multiple Choice: Again Denova writes, "The multiple-choice item is considered the best type of objective testing method for measuring a variety of training objectives." Since I do have a variety of training objectives I use this type of testing item.

Section 4: Participant Evaluation of Your Program.

Allowing participants to give you feedback concerning your class, is not only a good idea because it meets the JCAHO standards, but you will get important information to improve the class; which can only improve your performance.
Section 5: Sign-up Sheets.

Keep a record of who attends your inservices for three reasons:

1. The record will justify the work you do.
2. You may need to prove that an individual has attended one of your courses.
3. An attendance record will hold an individual accountable for the information.

The material I have included in this section will meet these expectations. I have included in this section an example of everything you will need to put together your own computer training class. Of course, this is only an example, and you may use it to build upon so it reflects your own style of instructing. I will now give you an example of my handout with explanations as to its use.
"Gary's Rules Of Thumb"

1. Determine your goals and objectives, plan your program content and based upon your objectives, determine your test methods.

2. When you set up your class be sure that it meets the requirements of any inspecting agencies that may be reviewing your material.

One Very Important and Final Note

As an educator you are entitled to not know an answer. Simply admit your ignorance and try to get the answer before the participants leave your class, or as soon as possible after the class is completed.
EXAMPLE OF A CLASS HANDOUT

GOAL: To enhance the employee's knowledge of the Kaiser Permanente Data System.

(Note: For our purposes this is an acceptable way to write a goal. Robert Mager would not agree. He would want you to be much more specific as to your goal. For instance:

GOAL: At the end of this class session the participants will be able to sign on to the KPDS computer system, and return demonstrate three functions as indicated by the instructor.)

OBJECTIVES: Given a four hour class, information, and a course packet, the participants will be able to:

1. demonstrate signing on to the terminal,
2. demonstrate one ADT function,
3. demonstrate one Order Entry function,
4. pass a multiple-choice quiz, with 90% accuracy.

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KPDS TRAINING SCHEDULE

Introduction ----------------- 15 minutes

Signing on procedure -------------- 30 minutes

ADT practice ----------------- 75 minutes

Break ----------------- 15 minutes

Order Entry practice -------------- 90 minutes

Test and evaluation ----------------- 15 minutes
(Note: I have included this section because some people have less stress if they can feel organized.)

INTRODUCTION:

SIGNING ON PROCEDURE:

ADT FUNCTIONS:

ORDER ENTRY FUNCTIONS:
WHAT IS THIS ALL ABOUT?

(Note: I have included this section because adults want to know exactly what they will be doing in your class. Why are they there? It may seem obvious to you, and still be unclear to them.)

You are going to study the method we use to enter orders on patients. It is called the Kaiser Patient Data System (KPDS).

At this time it is made up of two categories of patient functions:

a. Admission, Discharge, Transfer (ADT)

b. Order Entry.

If you hear someone say they are going to use the KPDS system, the ADT system, or the Order Entry system they are usually referring to the same computer system.
WHAT WILL YOU BE ABLE TO DO AT THE END OF THIS CLASS?

After this four hour class, you will be able to:

1. demonstrate signing on to the terminal,
2. demonstrate one ADT function,
3. demonstrate one Order Entry function,
4. pass a quiz, at 90% accuracy.

(Note: This is the objective sheet I give to the participants.)
HOW TO SIGN ON TO THE COMPUTER SYSTEM

In this tutorial, all key names are indicated by **bold type.**
For example: Enter key.

<table>
<thead>
<tr>
<th>WHAT APPEARS ON THE SCREEN</th>
<th>WHAT YOU DO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type K and Press Enter</td>
<td>Type K and press the ENTER key.</td>
</tr>
<tr>
<td>CICS-VS screen</td>
<td>Clear the screen. Do this by: Holding down the ALT key and then pressing the CURSOR SEL key.</td>
</tr>
<tr>
<td>Blank screen</td>
<td>You type KPDS and then press the ENTER key.</td>
</tr>
<tr>
<td>User ID/Password</td>
<td>You type your 3 initials and your password.</td>
</tr>
</tbody>
</table>
KPDS Notification screen

You press the ENTER key.

To sign off from the system just *probe Signoff.

* Probe = To hold the light pen over the desired command word on the monitor screen. Press the light pen against the screen over the desired command word until you hear a click and the screen changes.

If you have a question about one of the fields enter information in all of the fields except the one you have a question about. In that field type in a ? and press the Enter key.
WHAT IF YOU HAVE A PROBLEM?

First: Call your supervisor, a unit secretary, another nurse, or a KPDS specialist.

Second: Call ______________ at Beeper ______.  
Or call  
_______________ at Ext. ______.

WHAT IF THE SYSTEM GOES DOWN?

Call Gardena at 8+330+1143 and explain the problem to them. If they tell you the system will be down for more than 15 minutes call the page operator at 5111 and inform them. They will make an overhead announcement. (Our page operators do not make overhead announcements between the hours of 2200 and 0600 so inform your shift coordinator.) If you are told by the Gardena employees that the system will be down for less 15 minutes do nothing.
KPDS ADT OE TEST

Your Name: __________________________ Date: ______________

Return Demonstration: The instructor will fill this portion out.

The participant demonstrated the following:

1. Signing on to the computer.

2. One ADT function.

3. One Order Entry function.

Test: During this class time answer the following questions by circling the most correct answer.

1. Where is our mainframe located?
   a. Gardena
   b. Northern California
   c. Kaiser Fontana’s Business Office
   d. Kaiser Fontana’s Computer Center in L.A.
2. What is the main reason for the employee security code?
   a. So employees can be traced if they mess up.
   b. The computer can't read our names.
   c. Protecting patient information.
   d. It is more fun with the codes.

3. What is our main safety precaution concerning our terminals?
   a. Do not talk loudly around them.
   b. Do not touch the screen with your fingers.
   c. Never point light pens at your face.
   d. No food or liquids around the terminals.
CLASS EVALUATION FORM

Please circle the number on each line to indicate your evaluation of the class.

Class you are evaluating: __________________________
Instructor: __________________________

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Valuable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Worthless</td>
</tr>
<tr>
<td>Easy to Understand</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hard</td>
</tr>
<tr>
<td>Interesting</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Boring</td>
</tr>
<tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Instructor Prepared</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Orderly</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Chaotic</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>Not Essential</td>
</tr>
<tr>
<td>New To Me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not New to me</td>
</tr>
</tbody>
</table>

62
Useful To Me 1 2 3 4 5 6 Not Useful to me

Overall Evaluation

Excellent 1 2 3 4 5 6 Poor

What was most helpful to you about this presentation?

What was least helpful?

What should be changed about this presentation to make it more effective?
THIS IS THE END OF THE CLASS HANDOUT MATERIAL
1. Learning something new means change. Normally employees do not like changes.

2. The first step is to get management buy-in and approval to your new project.

3. Intelligence based on biological factors decrease with age and intelligence based on experience, education and cultural factors increase with age.

4. It is not enough to tell you participants that there will be a change and they will be using a computer, you must make it matter to them in some way, so that they will choose to abide by the changes.

5. Tell your adult students what you expect of them.

6. Do not hurt their self-esteem.

7. When you teach adults remember they learn best with the use of practice, practice, practice.

8. Adults in their 40s and 50s learn as well as they did in their 20s.

9. Adults tend to learn so that they can solve a problem or face a real-life situation.

10. Provide as much individualized attention as possible to the participants.
11. The educators need to establish credibility with adult learners.
12. Provide different learning options for the participants who may be faster or slower than the rest of the class.
13. Give your participants the big picture before you give them details.
14. Be sure that you and your participants know your objectives.
15. Don’t teach unnecessary things that will get in the way of their need-to-know information.
16. Make sure you have some sort of follow-up for your participants, after the class is completed. Or at least give them resources in the classes they are having problems in.
17. Set up an attractive classroom.
18. Set up a physically comfortable classroom.
19. Reduce the participants’ tension but enhance their motivation.
20. Use humor in your presentation if you feel comfortable in so doing.
21. If possible, allow your participants to have input into the goals and objectives of your class.
22. Do not concentrate on just the things that may dissatisfy the participants in your class, also concentrate on what will satisfy them.
23. Devise a classroom setting that encourages the participants to be successful at what you are instructing.

24. Allow your participants to have successful experiences in your classroom.

25. Determine your goals and objectives, plan your program content and based upon your objectives determine your methods of testing.

26. When you set up your class, be sure that it meets the requirements of any inspecting agencies that will be reviewing your material.

27. Always solicit feedback from your participants about the program they attended
APPENDIX A

Participant Evaluation of Computer Classes

This is an analysis of the evaluations given to the class participants. There were 207 evaluations returned to the class instructor. The range given on this evaluation is 1 (best) to 6 (worst).

<table>
<thead>
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<th></th>
<th>Mean</th>
<th>Mode</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuable</td>
<td>1.13</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Easy to Understand</td>
<td>1.36</td>
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<td>1</td>
</tr>
<tr>
<td>Interesting</td>
<td>1.28</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Not Waste of Time</td>
<td>1.20</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Preparation Apparent</td>
<td>1.12</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Orderly</td>
<td>1.16</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Essential Information</td>
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