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ABSTRACT

Employee and facilitator manuals are provided for two courses developed for a workplace literacy program: Communications on the Job I and II. Each 10-session course begins with a preassessment and ends with a postassessment. Components of each 2-hour session are objectives, informational materials, and problems or exercises. The facilitator copies include a session overview with time suggestions and the answer keys. Topics covered in the first course include the following: self-awareness and personal learning styles; successful learning strategies; vocabulary building system; phonics review--consonants; using the dictionary; vocabulary building; phonics review--vowels; process and types of reading; job-related vocabulary improvement; roots, prefixes, and suffixes; synonyms and antonyms; homophones and homographs; following instructions; drawing logical conclusions; active listening skills; how to deal with difficult communication situations; and role playing. Topics covered in the second course are as follows: process and types of reading; active and passive reading; skimming and scanning; technical vocabulary building system; h .ophones and homographs; previewing; job-related vocabulary improv ment; prefixes and suffixes; synonyms and antonyms; identifying main ideas, topics, and details; following instructions; drawing logical conclusions; reading and writing: memos; active listening skills; and identifying codes and symbols on schematics and blueprints. (YLB)



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Communications on-the-job

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TRW COMMUNICATIONS ON THE JOB I

SESSION OVERVIEW

10 2-hour sessions

Session 1

Self-Awareness and Personal Learning

Styles

Pre-Assessment

Session 6

Synonyms and Antonyms

Job-related Vocabulary Improvement

Session 2

Successful Learning Strategies Vocabulary Building System

Session 7

Homophones and Homographs

Job-related Vocabulary

Improvement

Session 3

Phonics Review - Consonants Using the Dictionary Vocabulary Building Session 8

Following Instructions, Drawing Logical

Conclusions

Job-related Vocabulary Improvement

Session 4

Phonics Review - Vowels The Process and Types of Reading Job-related Vocabulary Improvement Session 9

Active Listening Skills

How to Deal with Difficult Communication

Situations

Role-playing Exercise

Review

Session 5

Roots, Prefixes and Suffixes Job-related Vocabulary Improvement Session 10

Review

Post-Assessment



S WSHARE GRANT NEWCOMI-COMINIODS TRW

COMMUNICATIONS ON THE JOB I PRE - ASSESSMENT

1)	Name the four Preferred Learning Style categories represented by	y these	initials:
	V		
	A		
	Κ		
	T		
2)	Name one of the three components of effective learning.		
3)	List below 4 skills that help people learn more effectively:		
4)	The dictionary is considered a " power tool ".	True	False
5)	Phonics skills are an important part of adult reading.	True	False
6)	Name two types of dictionaries that are useful everyday.		
			_
7)	Name 2 components of a dictionary page.		
			_
8)	How many consonants are in the English alphabet?		



1

9)	The letters	w and y are	e: (circle one	answer)			
•	consonant	s	vowels		both consonants a	ınd vowe	els
10)	Circle the	words with th	ne short e so	ound:			
	she	verse	fret	Pete			
	bench	these	press	wed			
11)	A person's	s attitude is a	an important p	art of the	reading process.	True	False
12)	Name two	of the four	major compon	ents of F	Reading.		
				· · · · · · · · · · · · · · · · · · ·			
	<u></u>						
13)	•		ys try to maint they are read		ame reading	True	False
14)	Reading i	s learned on	ly at an early	age.		True	False
15)	A person	must read e	very word to b	oe a "goo	d" reader.	True	False
16)	•	id very fast y g you read.	ou should still	I try to re	member	True	False
17)	Name thr	ee good rea	ding habits.				
			-				
			-				
18)	One word	d can have s	everal differer	nt meanir	ngs.	True	False
19)	A homop	hone is a _					
				<u> </u>			

20)	Asking a co- a new techn	worker is an acceptable way to find out what ical word means?	True [.]	False
21)	Read the fol	lowing:		
	mereiore, qi	quality product at a fair price is the goal of any manu uality control must be an important aspect of TRW's pro- be controlled in two ways.	facturin ocess.	g plant. Product
	What is the i	main topic of this reading:		
22)	Define the fo	llowing TRW terms:	-	
	Dresser			
	Shear		·	
	Collet			
				
	SPC			
	Process			



23) What is the proper spelling of the circled word on this sign.

24) If you wanted to make this go faster, which knob would you turn? (circle one) left center right

25) Is the verb in the sentence on the white ticket correct? Please write the correct verb on the line.



TRW COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 1

- Identify ways to overcome personal obstacles to learning
- Identify his or her personal learning style



THE TRAIN

What does "The Train" tell you about the power of your mind?			
Have you heard of any other examples of people deciding something contrary to "fact" with dramatic results?			
To what extent do you feel you control your attitudes? What circumstances do you feel take control away from you, and what would it take to get it back?			



SOME REASONS WHY WE ASSUME WE CAN'T LEARN

- Past Conditioning We were told we couldn't learn. We thought we weren't good at a particular subject or subjects.
- Stereotypes How often have we heard statements like the following. "He's a lathe operator, great mechanical ability, but his verbal skills aren't too good." "She's wonderful at communicating with others, but technically, I don't think she has it"? In many cases, these statements reflect stereotypes present in our society and our companies. It's easy to buy into them. They create self-fulfilling prophecies so we fit the stereotype.
- Other People's Perceptions of Us Often, we're labelled, usually early in life. "He's the artist." "She's the smart one!" "He has the mechanical mind." If this happens, we get pigeon-holed. We also assume that we can only be good at what people tell us we're good at. Or we assume that we're poor at whatever people tell us we're poor at. We then might try to live up (or down) to what other people expect.

Other reasons why people assume they can't learn:					
·					



SUCCESSFUL LEARNING EXPERIENCE

Describe a recent successful learning experience.					
Why did you					
			<u> </u>		
			-		
	-				



SOME MOTIVATING FACTORS

- **Money** People will often learn new skills to gain a promotion or to get a new higher-paying job.
- Comfort People are motivated to learn new skills if it will make their jobs easier.
- Safety/Health If a skill is necessary to their safety or health, people usually view that skill as an important one to learn.
- Status People will often learn new skills if they believe it will increase their status. This can be status with their supervisor, their co-workers, or family and friends.

What factors motive	ate me?		



PERSONAL LEARNING STYLES

- Visual= Seeing Learns best through observation or studying graphs or charts. Do you learn well from demonstrations? Does looking at graphs, drawings, charts, or maps, help you to understand something? You may be a visual learner.
- Auditory= Hearing These people learn best through listening. Do you get a
 lot from lectures? Do you like to listen to educational audiotapes at home or in
 your car? Chances are you are an auditory learner.
- Kinesthetic= Moving the body Learns best through movement or while
 moving. Do you like to walk around or knit or tinker while listening to
 educational material? Do you feel you're pretty good at picking up new sports
 moves after one or two tries? It's a good guess that you're a kinesthetic learner.
- Touch Learns best through touch or "hands-on" experience. Are you the type of person that wants to start operating a new piece of equipment quickly? Do you want to touch or feel objects to get a better sense of them? Then you are most likely a touch learner.

LEARNING METHODS

• **Print/Individual** - Learns best through reading and writing. Do you love to read? Do you learn a lot from manuals, magazines and books? You may be a print-oriented learner.

You might learn best on your own with a book.

• Interactive/Group - These people learn best by talking with other people. Do you learn a lot from small group discussions? Does bouncing ideas off people help? You may be an interactive learner.



WHAT KIND OF LEARNER AM I?

Learning Style Inventory

Check below the techniques through which you think you learn best.

1. motion pictures	15.question-answer sessions
2. lecture, information-giving	16. independent reading
3. group discussions	17. physical motion activities
4. reading assignments	18. model building
5. role playing with you as a particip	19. graphs, tables, and charts
6. project construction	20. recitation by others
7. television programs	21. interviews
8. audiotapes	22. writing
9. participant in panel discussion	23. participant in physical games
10. written reports	24. touching objects
11. nonverbal/body movements	25. photographs
12. drawing, painting, or sculpting	
13. slides	
14_records	



WHAT KIND OF LEARNER AM I?

Learning Style Inventory

Interpretation

Circle the numbers you checked on the Learning Style Inventory. Find the row where the most numbers are circled and identify the learning style to the right of it. Most likely, that's your dominant learning style. It is possible to have 2 learning styles with the same or almost the same number of circles. In that case, you probably use both learning styles equally well.

NUMBERS	LEARNING STYLE
1, 7, 13, 19, 25	VISUAL
2, 8, 14, 20	AUDITORY
3, 9, 15, 21	INTERACTIVE/GROUP
4, 10, 16, 22	PRINT/INDIVIDUAL
5, 11, 17, 23	KINESTHETIC
6, 12, 18, 24	TOUCH



LEARNING STYLES ACTIVITY

Tony works for the Excellent Products Company operating a drill press. Recently, his company automated all the drill presses in the plant. Tony, and all the other drill press operators, must now learn to operate the automatic controls. Tony has been running the drill press for 5 years. He feels that the automation will make him more productive and allow him to learn new skills. This attitude helps him feel sure that can learn to work with the automatic control system. The big question is how will he learn about the new presses?

Tony's supervisor, John, brings him a copy of the big, thick manual. This manual came with the new machinery.

"Everything you need to know is right in there," says John. "Read it."

Tony tries to read it. This manual is boring to him. What he does find useful are the drawings and charts. After a week of trying to read the manual, Tony decides to talk to John.

"I could look at this manual from now till retirement and never learn what to do. I need someone to show me how to use this thing!"

John said he understood and the next day, he worked with Tony. John patiently explained everything he knew about the machine to Tony. Tony kept wanting to push the buttons and check out the information for himself. Tony didn't admit it to John, but sometimes he felt lost by John's explanations.

When he had explained everything to Tony, John asked him to repeat the steps for certain operations. Tony couldn't do it successfully. "Walk me through it," he kept saying.

"I just did," insisted John.

"Well, if I could just try it one time, then I think will remember it better," said Tony.

"No," said John, "Until you learn what to do, we can't take a chance on damaging the new machinery."

John walked away rather exasperated. Tony felt very frustrated. "If I could just watch someone operating one of these babies, then I could pick it up," he thought.



LEARNING STYLES ACTIVITY (cont'd)

The next day, Tony decided to take another route to learning the automated controls. He talked to the other drill press operators. Tony found that Nancy, a younger operator, was skilled at operating automatic controls. She had vocational training on these presses.

Tony asked Nancy if he could watch her in action. "Sure," Nancy said.

That afternoon, Tony went over to Nancy's drill press. She first explained what she was going to do, then did it. Tony kept track of the buttons she pushed and in what order. "Can I try it?" he asked when she was done with the demonstration.

"Of course," said Nancy. "I'll cancel the program I just did and you can start from scratch."

"Thanks," said Tony. He approached the controls. He was amazed when he remembered practically the whole sequence of events. Nancy just had to prompt him a couple of times.

"See, nothing to it," said Nancy when he finished successfully.

"Yeah, nothing to it," said Tony. "Wonder why it seemed so hard yesterday?" he thought.

Every day for a week, Tony worked with Nancy. By then he had all the basic operations down. John came by and saw Tony operating the automatic controls with skill and ease. "Really dug into that manual, didn't you, Tony?" he said. "I was beginning to think you were a hopeless case. Good job."

What kind of learner is Tony? Is there more than one style you can identify for him?

What kind of learner do you think John is? What kinds of problems did this cause between John and Tony?



LEARNING EFFECTIVELY

To le	arn e	effectively,	vou	must
-------	-------	--------------	-----	------

• Believe in yourself.

• Be motivated.

• Be aware of your personal learning style and take advantage of it, whenever possible.



TRW COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 2

- Demonstrate study skills techniques in various learning situations
- Identify and practice a vocabulary building system



S IWSHARE/GRANT/NEWCOMI/COMISESO TRY

FOUR STUDY SKILLS TO HELP YOU LEARN

- Organize
- Concentrate
- Take Notes
- Improve Your Memory



ORGANIZE

In order to be successful in this class (and others), it's important to:

- Set a goal
- Plan how to reach that goal
- Act upon your plans



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PERSONAL COMMUNICATIONS GOALS

It's important to set personal goals for this course. Take a few minutes and write down a goal that you would like to accomplish in Communications on the Job I.
MY PERSONAL COMMUNICATIONS GOAL IS:



WHAT IS CONCENTRATION?

Concentration is thinking.

Consider the postage stamp. It secures success through its ability to stick to one thing until it gets there.

-- Josh Billings



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WHAT BREAKS OUR CONCENTRATION?

• 007	TSIDE/EXTERNAL PROBLEMS
Som	ne examples: poor chairs, lighting, noise
	IERS:
• INSI	DE/INTERNAL PROBLEMS
Som	e examples: personal problems, daydreaming
OTH	ERS:
• PHYS	SICAL FACTORS
Some	e examples: hunger, thirst, tiredness, illness
OTHE	ERS:
• MENT	TAL FACTORS
Some	examples: boredom, negative attitude
OTHE	



WAYS TO INCREASE CONCENTRATION

	WAYS TO INCREASE CONCENTION
•	Keep your goal in mind.
•	Develop an interest in and a positive attitude about the material.
•	Try to decrease internal and external problems beforehand.
•	Think about successes you've had in the past. Know that you will succeed this time! Then, get to work.
(CONCENTRATION HINT: You can will yourself to concentrate and then practice

CONCENTRATION HINT: You can will yourself to concentrate and then practice. Start by telling yourself to concentrate for just 5 minutes. Then you can gradually increase your concentration time. Soon, concentration will become a good habit.



NOTETAKING TIPS

Listen actively - Good listening skills are important for taking good notes.

- Don't try to write down every word the instructor says Shorten words and use clue words. Write a your summary. The most valuable notes to you are the ones in your own words.
- Be neat and organized After all, what good are a bunch of messy, sloppy words that you won't be able to understand later? On the other hand, don't get too hung up on neatness. A word crossed out here or there or an arrow or two is OK, as long as it's understandable.
- Review your notes daily It's best to review them right after class. Just a quick 5-10 minute review will help you to retain the material longer.



MEMORY IMPROVEMENT

Three Types of Memory

• {	Seeing		
• }	Hearing		
•	Moving\ touching	•	
MY	IY STRONGEST TYPE OF MEMORY IS:		



GENERAL TIPS TO IMPROVE YOUR MEMORY

- It's much easier to remember information about what interest you.
- It's a lot easier to remember the important points made, rather than to try and remember all the details given.
- You need to give your full attention to something that you want to remember.
- If you understand something, you'll remember it a lot easier.
- You need to tell yourself that you want or need to remember something.
- Have a positive mental set -- see yourself as a person with a good memory.
- Connect things in your mind.
- You'll more easily remember new things about a topic if you already know something about that topic.
- Group things you have to remember in a logical fashion.
- The more you practice, the bet'er your memory will be.



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MEMORY SYSTEMS

- Observe It! The more and better you observe or study something, the easier it will be to remember.
- See It! Picturing something helps us to remember it better. Concrete items are easier to visualize than abstract ideas.
- Connect It! It's easier to remember new information when you associate it with something you already know.
- Replace It! Think of and picture a word or group of words that sound like or remind you of what you want to remember. This works well for difficult ideas.
- Group It! Divide items into logical groups. It's much easier to remember three or four groups of four to six items each than one large group of twenty to twenty-five items.



VOCABULARY BUILDING SYSTEM

WHAT IS VOCABULARY

A person usually has four different vocabularies. You developed these at different times and in different ways. They can be different in size. When they are put together, they are your key to being able to handle the English language.

A person learns a different vocabulary as they grow. You can see that each type of vocabulary is built upon the ones before. They develop as we develop.

LISTEN AND HE	AR 	 		
SPEAKING		 		
				-
READING				
WRITING				



HOW TO BUILD VOCABULARY

There are many ways to build your vocabulary. Have you heard about the many methods that are sold on radio and TV? Reader's Digest provides a monthly word building program for millions of readers. You can improve your vocabulary, but any system requires time and energy on your part. You can't put it under your pillow and soak it up at night.

VOCABULARY IMPROVEMENT IN THIS COURSE

An easy method to improve your word power will be used in this course. It will help by making sure that any new words that come up in class become easier for you. It will also build another area of your vocabulary that we haven't talked about. The words you use on the job. The subject of job-related vocabulary will be presented in the next session.

TRW VOCABULARY ASSEMBLY SYSTEM (VAS)

This vocabulary system will help you work on words that you do not know. Therefore you won't work on words on lists that are already a working part of your vocabulary. These words will come from many different sources. They may be words from class. Words you hear spoken. Words from the newspaper, or magazines may be in your reading vocabulary, but not in your speaking vocabulary. Using this system for words like these will build all of the areas of your vocabulary that we discussed above. It will help you "assemble" a powerful vocabulary that will serve you well in your future.



HOW TO USE THE VAS

There are two components in the assembly of your system:

PART NUMBER 1 - YOUR CARDS

FRONT SIDE

The words, that you decide upon, will be placed on an index card. The new or never used word will be on one side of the card. If you saw the word in print, chances are you already have the correct spelling. If you meet the new word by hearing someone speak it, you may need to work a little harder to find it's correct spelling. Keep a good supply of cards on hand. If a new word surfaces when a card is not handy, write it down on something and place it on your **VAS** card as soon as possible.

It will also help to put the dictionary pronunciation on the front of the card. Write it down exactly as you see it in the dictionary. After the "Using the Dictionary" section of the next session you will add this part to your cards.

BACK

The definition will be placed on the other side of the card. This definition will not appear by magic. You will need to look it up and decide what to write on your card. It is important to remember that these are your personal cards. If what you write down on the definition side is not pretty or perfect that's OK! It's for you. If you need help with writing a definition your instructor can help.

Now write a sentence that uses the word in context. The sentence that you heard or saw when you first met this word might start you on the right track. The sentence that you put on your card would be most helpful if it is your sentence. Make up one that makes sense to you and the way you will use the new word.

Kin-is-thetic using the state of bodily
position and movement

Thinking while I run helps use My
kinesthetic leakning style to
nemember information.

BACK

CNI

in neset/erant/com1-trw/com1-m2.chp (1-93)

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₂₋₁₃ 33



SKILL PRACTICE Choose three words to put on your cards right now. Try some of the new words you may have seen for the first time in the Personal Learning Styles section of Session 1. Work through putting these three words on cards in class today. Then start your system this week outside class. PLEASE BRING AT LEAST FIVE NEW CARDS TO CLASS NEXT WEEK.

PART NUMBER 2 Next session



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TRW COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 3

- Demostrate consonent phonics skills
- Demonstrate ability to locate specific information in a dictionary



PHONICS REVIEW

There are two kinds of letters in the English alphabet, **consonants** and **vowels**. Twenty-one of the letters in the alphabet are consonants:

þ	, c	d	f	g	h	j	k	1	m	n
р	q	r	s	t	V	w	x	у	Z	

Five of the twenty-six letters of the English alphabet are vowels:

a e i o u

This phonics review will include consonant blends, silent consonants, single long vowels and single short vowels. Using phonics is necessary when you need to decode and pronounce unknown words.

THE KEY STEPS IN USING PHONICS TO DECODE AND PRONOUNCE WORDS ARE:

- 1. Look at the letters that make up the word very carefully.
- 2. Say the sounds that letters and pairs of letters stand for.
- 3. After you have said all the sounds of the letters, say them again while blending the sounds together so that the result is the sound of the new word.



 $\Im \varphi$

CONSONANT BLENDS

Consonant blends are combinations of two or three consonants, each with a distinct sound, that go together--blend smoothly with the other(s). These consonant blends can be found in the beginning, in the middle, or at the end of a word. Each consonant in the blend keeps its own speech sound, and these sounds can be heard when you say the blend. When you say the following words, you will be able to hear the sound of each of the consonants in the underlined blend

<u>bl</u> ue	<u>pl</u> astic	se <u>nd</u>
grass	wa <u>st</u> e	la <u>st</u>
drag	un <u>dr</u> ess	te <u>nt</u>

The consonant blends are easier to learn when they are put into groups. The following are some often-used groups of consonant blends. Say the words in each group and listen for the sounds of the consonant blends.

L blends all have I as the last letter of the blend.

bl fl sl cl lq Examples: black clap glass plate slice splash <u>fl</u>y Class Examples:

PRACTICE 1

Say each of the following words. Circle each I blend you hear.

1.	place	6.	flop
2.	clock	7.	claw
3.	slope	8.	split
4.	flat	9.	plum
5.	glue	10.	bleed



R blends all have r as the last letter of the blend.

br cr dr fr gr pr tr

Examples:

brown crab drag fry green prize train try subtract

Class Examples:

PRACTICE 2

Say each of the following words. Circle each ${\bf r}$ blend you hear.

frank 6. 1. training regrind 7. unfriendly 2. profile 8. press 3. dresser bring 9. 4. crib 10. drum 5.



3-3

S blends all have **s** as the beginning of the blend.

sc sk sm sn sp st sw scr spr str

SI and spl can be I blends or **s** blends. They have been put in the I blend group.

Examples:

scale skip smile snake spider still sweet scrub spring string

Class Examples:

PRACTICE 3

Say each of the following words. Circle each ${\bf s}$ blend you hear.

- 1. scrap
- 2. spindle
- 3. screw
- 4. screen
- 5. smart

- 6. swear
- 7. snap
- 8. standard
- 9. first
- 10. desk



Other	often-u	used co	nsona	nt blen	ds are usually	found at the en	ds of words.	
	nt	nk	nd	ld				
Exam	ples: hu <u>nt</u>		tha <u>nk</u>		fou <u>nd</u>	co <u>ld</u>		
Class	Exam	ples:						

PRACTICE 4

Say each of the following words. Circle each consonant blend you hear.

1.	bunk	6.	hold
2.	field	7.	treatment
3.	sent	٤.	send
4.	blend	9.	tank
5	lint	10.	weld



SKILL PRACTICE: CONSONANT BLENDS

Circle the consonant blends you hear in the words in each of the following groups. Some words have more than one consonant blend. Other words do not have any blends at all.

1.	grind	greet	gold
2.	trapper	tailor	trailer
3.	clearest	contest	cripple
4.	subject	swallow	splinter
5.	pretend	placement	passage
6.	chunk	grasp	blunt
7.	favor	flavor	fright
8.	slender	sorrow	strike
9.	brain	blame	bold
10.	improve	instant	insist



SILENT CONSONANTS

When two consonants are next to each other in a word, sometimes one of them is silent. You do not hear it at all when you say the word. The following are some examples of silent consonants. Say the words in the examples. You should not hear the underlined letters.

Two of the Same Consonant Letters

When two of the same consonant letters are next to each other, only one sound is heard.

egg	o <u>dd</u> est	pu <u>rr</u> ing	bi <u>ll</u>	pu <u>tt</u>	mi <u>ss</u> ed
Examples of S	ilent Consona	nts			
Silent b Silent c Silent g/gh Silent h Silent k Silent I Silent n Silent p Silent s Silent t Silent t	lam <u>b</u> bla <u>c</u> k sign g <u>h</u> ost knife calf autum <u>n</u> psalm i <u>s</u> le cas <u>t</u> le wrong				
Class Example	es:				



SKILL PRACTICE: SILENT CONSONANTS

Say each of the following words. Cross out any consonant letters you do not hear.

1. listen

6. psychology

2. thumb

7. rhyme

3. high

8. wreck

4. scale

9. assign

5. talk

10. knight



USING THE DICTIONARY

- 1. Keep a dictionary within easy reach
- 2. Practice alphabetical order

Two ways that might help:

If the word begins with b, look toward the front
If the word begins with m, look toward the middle
If the word begins with s, look toward the back of the dictionary

Another method groups the letters of the alphabet into sections:

- 1. ABCDEFG
- 2. **HIJK**
- 3. LMNOP
- 4. QRSTUV
- 5. W X Y Z

Now practice picturing these sections in your mind. The next time you need to look something up in the dictionary, the phone book,the glossary of a manual, or a street name on a map, try to picture these sections.



PRACTICE PUTTING WORDS IN ALPHABETICAL ORDER

Keep the alphabet and the techniques above in mind when alphabetizing words, names etc. Practice with putting words in order helps when finding a word quickly.

If words all begin with the same letter the **second** letter determines the alphabetical order.

Circle the <u>letter</u> on the "g" word list that determines how these words were ordered:

galley girl girth generation gold golden gum



ACTIVITY 1

This activity will give some hints, techniques and practice with putting words or names in alphabetical order. Some people seem to have an easier time with this. It is a skill that can be reviewed and improved.

Alphabetize a set of TRW Employee Daily Production Reports.

HINT: Separate (and alphabetize) these names in groups then rearrange them in alphabetical order.

Example:

- Names beginning with "Robb"
- Names beginning with "Robert"
- Names beginning with "Robi"
- Names beginning with "Rod" and so on...



3. Use a dictionary with ease



SKILL 16: POWERHOUSE, POWER TOOL

The Dictionary

15 Ways a Dictionary Can Energize Your Reading

🗹 Guide Words—————	→ sinister/siren
(1st & last words on .	sinistet/stren
a page)	<pre>sin-is-ter (din'l ster) adj. (< L. sinister,</pre>
Word Meanings (definitions)	of or on the left side SYN. base, disastrous, foretelling danger
Read all the meanings given. Then choose the most suitable one for your use.	mink (sligk) vi. [GE. simum; 1. to fall downwhid slowly 2. to become partly or completely submerged in water 3. to become lower or weaker in value 4. to appear to go down, as the sun 5. to pass gradually into a less active state (sleep, ill-health, etc.) vt. 1. to cause to fall, make go down, under, lower, or weaker 2. to dig a well 3. to send (a ball) in-
Pronunciations	2. to dig a well 3. to send (a ball) into a hole or pocket in golf, billiarde, basketball, etc. 4. to invest money n. 1. a basin with a drainpipe 2. a cess-
(division of words into syllables or parts)	pool or sewer 3. Printing the extra space left at the top of the page for the leginnings of a chapter, etc Idiom shuk or swim. to fail or succeed, depend- ing on one's own efforts
Accents	sink-er (sing'ker) n. 1. a person or thing that sinks 2. a weight used to sink a fishing line 3. [Collog.] a doughnut
(+ verb and adjective	sinking fund a fund used to extinguish a debt
forms, plurals)	Sino- (LGk. Sinai) a combining form, mean- ing Chinese and (such as Sino-Japan- end meaning Chinese and Japanese)
Word Origins (etymologies)	sin-u-ate (sin'yōō at adj. (< L. sinuatus, bent, curved) 1. winding: bent in and out actor. having a wavy margin, like some
Parts of Speech	
Synonyms (See SKILL 23) Idioms	Sloux (800) n. pl. Sloux (800, 8002) [< Fr., short for Nadowessioux < Ojihwa Nadoweisiu enemy lit. little snake] a member of any of various American Indian peoples, esp. of the Dakota tribe adj. pertaining to this tribe.
☑ Capitalization	sire (alr) n. [< L. senior, comp. of senex, oid l. a father or ancestor 2. title of respect used to address a sovereign or ting 3: archaic an important person, or
Usage Labels	one in a position of authority sir-se (se re) interj., often used with no or yes
☑ Subject Labels	si-ren (sī'ren) n. (< Gr. Seiren) 1. Gr. 4 Roman Hyth. any one of a group of sea
₽ Illustrations	nymphs, represented as part bird and part woman, that used their singing to lure sailors to their destruction 2. a seductive woman 3. a whistle or similar de-
☑ Mythology	vice used as a warning signal

ERIC

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JOB RELATED VOCABULARY IMPROVEMENT

Building job related vocabulary starts with words that you already know. Words and terms used on the job may look like words you use outside of work everyday.

That's important to remember. Start by thinking of the definition that you have used outside of the job. Then think of the way you have either read or seen the word at work. This will also give you a clue to it's job related meaning.

Use your new and tuned up dictionary skills to build these words into your VAS. You probably have a "regular" dictionary on hand. Look the word up there. Review the definitions given. Separate the everyday uses from any that may be close to your job related use of this word. You need to be creative in finding the way the definitions fit. This dictionary may not reveal a definition that is job related. That will tell you that your word has a special technical meaning.

If the job related definitions of a technical words are not in this regular dictionary, you will need to find a new source for definitions. Let's take a look at some possibilities. Could you find a Technical Dictionary? Would a manual with a glossary help? What about asking a "seasoned" co-worker? Take a few moments to discuss these methods with the class. Rank them in the order that the class thinks would help find the most correct definition.

1	
2	
3.	
Discuss what is good and bad about each method	od:



OVERVIEW OF JOB VOCABULARY WORD SEARCH

Steps in review:

- 1. Think of "regular" use
- 2. Look up the "regular" definition
- 3. Find:
 - a. job related dictionary
 - b. manual with glossary
 - c. co-worker with the definition
- Place the word on a VAS card and build your 4. job-related vocabulary!



CLASS ACTIVITY

Do Steps 1 & 2 and write down definitions for the following words. Use the space below.

Plant	
step 1	
Valve	
step 1	
Jam	
step 1	
step 2	
Mean	
step 1	
step 2	

Place these words on a **VAS** card. Now you will have job related vocabulary and others words in your sysrem. You will need to indicate on your cards that some of these words have their technical definitions. Perhaps the word **JOB** or **TECH** could appear in one corner of the card?

ASSIGNMENT You will continue on to do the step 3 as your assignment out side class. You may not need to do step 3 with these words. If not please explore how you will find help with this step when needed with future words.



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TRW COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 4

- Demonstrate vowel phonics skills
- Identify components of the reading process



S WSHARE/GRANT/NEWCOM/COM/SESO TRW

VOWELS

Five of the twenty-six letters of the English alphabet are vowels.								
		а	е	i	0	u		
Sometimes th	Sometimes the consonant letters w and y also act as vowels.							
When the sound of a vowel is the same as its name, the vowel sound is said to be long . Say each of the following words and listen for the sound of the vowel's name. A bar (-) is used above a vowel letter to show that the letter stands for long vowel sound.								
ace	eve		ice		- oh		use	
PRACTICE 1	i							
	the following v g vowel that y			en for t	he nar	ne of th	e vowel letter	Then
	base	choke)	wipe				
	Utah	Pete		she				
	tote	hope		late				
	fuse	kite		we				
	high	flake		abus	е			
Others:								



Single Vowels at the End of Short Words

A single vov Say the folk	wel at the e owing shor	end of a sh t words ar	ort word us id listen for	ually stands f the long vowe	or a long vowe al sound in eac	el sound. ch.
	be	go	hi			
Others:						
Silent <i>E</i> at	the End o	f a Word				
for a long s	ound. The	following	words are	nt e pattern, the examples of the st vowel has a	e vowel some nis pattern. No a long sound.	times stands otice that the
tape	th	nese	bite	gage	rude	made
Others:						
	-		PRACT	TCE 2		
Say the fol to each wo	lowing wor ord. Now m	ds. You whark the lo	vill not hear ng vowel so	any long vow ound you hear	el sounds. Th in each word.	en add an e
fat						
fat_	_					
us						
us_	_					
Others:						



4-2

Y AS A VOWEL

The letter y can act as either a consonant or vowel letter. The letter y found at the beginning of a word stands for the consonant sound in yet. When the letter y is found in the middle or at the end of a word, it stands for a vowel sound.

Short / Sound of Y

When the letter y is in the m	hiddle of a word, it usually stands for a short i sound.
Listen for the short i sound.	Listen for the short i sound of y in the following words.

	g <u>y</u> m	h <u>y</u> mn	ox <u>yg</u> en
Others:			
Long / Sour	nd of Y		
	ound of a sho following wor		tter y usually stands for the long i sound
	dry	fr <u>y</u>	m <u>y</u>
Others:			
Long E Sou	ınd of Y		
	long e sound		ord that has more than one part, it usually e long e sound at the end of each of the
	rotary	hand <u>y</u>	happy
Others:			·



SKILL PRACTICE: VOWELS

Say the following words and listen for the sound of each vowel. Write the letter that stands for the sound you hear and mark it as long or short.

1.	fly		11.	branch	
2.	cute		12.	vent	
3.	me		13.	like	
4.	floppy		14.	shaky	
5.	valve		15.	home	
6.	type		16.	hike	
7.	warm		17.	turn	
8.	pitch		18.	kit	
9.	p!ace		19.	settle	
10	lumpy		20.	lunch	



DOUBLE VOWELS--ONE VOWEL IS SILENT

When two vowels are next to each other in a word, they usually act as if they were only one vowel. Some double vowels stand for the sound of only one vowel--the other is silent. The following double vowels act as though they were single vowels. The first vowel stands for the sound you hear. The second vowel is silent.

The double vowels ai and ay usually stand for only one sound, long a. The i and y

Sounds of Al and AY

are silent.	Say the	following wor	ds and listen for the sound of long a.
<u>ai</u> d		m <u>ai</u> n	l <u>ai</u> d
Others:			
Sounds o	of <i>Al</i> and	AY	
			es stands for a long e sound. The a is silent. Say r the long e sound.
cl <u>e</u> :	<u>a</u> n	s <u>ea</u>	
Others:			
			stand for a short e sound. The a is still silent. Say or the short e sound.
br <u>e</u>	<u>ea</u> d	d <u>ea</u> th	
Others:			



	and listen for the long e sound.							
	w <u>ee</u> k	p <u>ee</u> p						
Othe	rs:							
_								
<u>Şou</u>	nd of <i>OA</i>							
The for th	double vowel one long o soun	oa usually stands for the long o sound. The a is silent. Listen and as you say the following words.						
	s <u>oa</u> p	c <u>oa</u> l						



Sound of EE

Others:

DOUBLE VOWELS-NEW SINGLE SOUNDS

Some double vowels stand for a single sound that is different from that of either vowel when it stands alone.

Sounds of AU and AW

Both <mark>au</mark> and <mark>aw</mark>	stand for the nev	v single vowel	sound you h	ear in the	following
words.					

	c <u>au</u> se	sq <u>ua</u> w
Othe	rs:	
Note	that the w acts	s as a vowel when it follows the a in these words.
<u>Sour</u>	nds of <i>OI</i> and	<u>oy</u>
	ole vowels oi a ving words.	nd oy stand for the new single vowel sound you hear in the
	poř	v <u>oi</u> ce
Othe	ers:	

Note that y acts as a vowel when it is part of the double vowel oy.



PRACTICE 3

Say each of the following words. If you can hear the sound of **aw** (shawl), write an **a** next to the word. If you hear the sound of **oy** (joy), write a **b** next to the word.

1.	enjoy	 6.	auto	
2.	rejoice	 7.	crawl	
3.	caught	 8.	noise	
4.	lawn	 9.	Paul	
5.	coil	 10.	destroy	



CITY PESET GRANT COMI-TRW SESSION4 CHP (1-93)

DOUBLE VOWELS THAT STAND FOR MORE THAN ONE SINGLE SOUND

Sounds of OW

The double vowel \mathbf{ow} may stand for a long \mathbf{o} sound. In this case, the \mathbf{w} is silent. Say the following words and listen for a long \mathbf{o} sound in each.

	bl <u>ow</u>	gr <u>ow</u>								
Others	Others:									
Some	imes th	ne ow may sta	and for the sou	und he	ard in the fol	lowing words.				
	h <u>ow</u>	<u>ow</u> l								
Other	s:									
			PRA	СТІСЕ	4					
has a	n <mark>ow</mark> so	ound as in sng	words and liste ow, write an a next to the we	next to	he two soun the word. I	ds of ow . If the word f the word has the ow				
	1.	power		6.	now					
	2.	brown		7.	town					
	3.	flow		8.	show					
	4.	growling		9.	prowl					



10.

slow

flower

5.



Sounds of OU

PRACTICE 5

Say the following words and listen for the sounds of **ou**. Write **a**, **b** or **c** to show which sound of **ou** you hear.

a = sound in <u>ou</u>t

 $\mathbf{b} = \text{sound in double } (\mathbf{u})$

c = sound in group (u= oo)

1.	country	 6.	cougar	
2.	youth	 7.	ounce	
3.	count	 8.	rough	
4.	house	 9.	trouble	
5.	enough	10.	coupon	



Sounds of OO

The double **oo** may stand for two different sounds. One **oo** sound is heard in the following words. It is called the long **oo** sound (oo). Listen for the long **oo** sound as you say the following words.

room snoop

Others:

The other **oo** sound is heard in the following words. It is called the short **oo** sound (oo). Say the following words and listen for the short **oo** sound.

foot book

Others:

PRACTICE 6

Listen to the **oo** sound in each of the following words. Mark the **oo** sound as long (boot) or short (hood) in each word.

1. zoo

6. hood

2. brook

7. groom

3. shook

8. wool

4. bloom

9. proof

5. noose

10. rooster



USING PHONICS TO DECODE AND PRONOUNCE WORDS

You have learned sounds that letters of the English alphabet usually stand for. You are now ready to use these sounds to decode and pronounce words. This practice will help you learn to use phonics whenever you need to decode and pronounce words.

REMEMBER - THE KEY STEPS IN USING PHONICS TO DECODE AND PRONOUNCE WORDS ARE:

- LOOK AT THE LETTERS THAT MAKE UP THE WORD VERY CAREFULLY.
 Use what you know about consonant blends and double vowels to help you
 spot letters that go together.
- 2. SAY THE SOUNDS THAT LETTERS AND PAIRS OF LETTERS STAND FOR. Be careful not to say silent letters.
- 3. AFTER YOU HAVE SAID ALL THE SOUNDS OF THE LETTERS, SAY THEM AGAIN WHILE BLENDING THE SOUNDS TOGETHER SO THAT THE RESULT IS THE SOUND OF THE NEW WORD. TRY THESE PSEUDO WORDS.

Word: skoaph	Word: sproad		
sk = blendgo together	spr = blendgo together		
oa = 0	oa = double vowel = o		
ph = f sound	d = consonant sound		
sk + o + f	spr + o + d		
Pronounced: skof	Pronounced: sprod		



SKILL PRACTICE: USING PHONICS TO DECODE AND PRONOUNCE WORDS

Directions:Use what you know about letters and their sounds. Say each word. Then write its correct English spelling. These are real words.

Example: terckee = turkey; cou = cow.

1.	psope	 6.	cyk	
2.	wramb	 7.	phlag	
3.	kwik	 8.	cou	
4.	phite	 9.	wrabit	
5.	shiah	10.	doun	



THE READING PROCESS

THE 4 COMPONENTS OF READING

Define:	
Vocabulary	
Comprehension	
Speed	
Concentration	

ACTIVITY 1 Take an inventory of your reading skills!



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ACTIVITY 1

READING SKILL INVENTORY

CONCENTRATION

Consider the four areas of reading we have discussed:

VOCABULARY COMPREHENSION SPEED

Which is the area in which you have the most strength?					
The most important area of my reading that I feel needs improving is:					
The area of my reading that I would most like to improve is:					
This course will give participants an overview of strategies to improve these skills especially on the job. Many different courses exist to focus on improving your reading skills. Write down a goal for improving your reading in the near future.					



Reading Skills

Is reading important to your job?		
·	-	
A positive attitude		
Personal goals		



Different Reading Rates

Study speed						
	•					
		.				
	_		<u> </u>			
"Normal" speed						
		_		-		
Skimming and Scanning		-		-		
			_			
		_		/-		



Stages of Reading

earning to Read				
Stage 1				
<u></u>		 	 	
Stage 2				
Reading to Learn	l			
Stage 3				
	<u> </u>	 	 	



"Good" Reading Habits

Concentration	
Setting a Purpose	
Setting a context	



Fallacies about Reading

<u>Become</u>

Facts about Reading

Discuss responses and where these fallacies come from. Did the information in this session help turn these fallacies into facts?

Reading is learned only at an early age?

True False

You should read all material in the same way?

True False

A person has to read every word to be "GOOD" reader?

True False



TRW COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 5

- Identify situations in which a technical dictionary is needed
- Differentiate between the meanings of common prefixes and suffixes
- Practice job-related Vocabulary Improvement



WORD STRUCTURE

Word parts defined:					
prefixes			 	_	
		·			
roots					
suffixes			 	_	
	•				



ROOTS

The parts of words that were just presented are important keys to discovering the meanings of words. The root is the only essential part of any word. If the other parts can be removed, they are most likely prefixes or suffixes. As was pointed out before, those word parts cannot stand alone. Because the English language is made up of root words from other languages, such as Greek and Latin, the root word that ends up standing alone may not actually make sense unless it's derivation is understood.

The easiest way to understand roots is to see them and review their meanings. The following roots and their meanings can provide participants with the keys to unlock the meanings of many words, even in more difficult and technical readings.

WORD PART	MEANING	EXAMPLE	YOUR EXAMPLE
audi	to hear	audio	
auto	self	automobile	
bio	life	biology	<u> </u>
cide	to kill	pesticide	
cred	to believe	credit	!
dic	to speak; tell; say	dictate	
duc	lead; make; shape	reproduce	
cap	take or seize; hold	capacity	
(capt)		captive	,
fac	do, make	facsimile	·
fer	bear or carry	transfer	
graph	write	paragraph	,
logos	speech or science	prologue	



	, 	(
(ology)	study of	microbiology .	
luc	light; shine	translucent	
1	; !	luminous	
miss	send .	dismiss	
(mit)	<u>.</u>	remit	
path	suffering; emotions	pathetic	
phobia	fear	zoophobia	
phono	sound	megaphone	
port	carry	portable	
scribe	write	scribble	
(script)	1	Scripture	
spec	look	spectator	
vers	turn	conversion	
vita	life	vitality	·
(viv)		vivify	



PREFIXES

This section will explore common prefixes.
Some prefixes have only one meaning while others may have multiple meanings.
Two prefixes that always mean NOT:
NON=NOT
Examples:
UN=NOT
Examples:
Dictionaries do not define these words because the meanings are simply a sum of the prefix and the root word.
HANDOUT Prefixes in the Dictionary



Two prefixes that mean NOT but have more than one meaning:		
DIS = NOT in these words:		
Examples:		
DIS = LACK OF/ OR OPPOSITE OF		
Examples:		
ACT	TIVITY 1	
Look at the list of words. Think about which DIS means LACK OF OR OPPOS	nat each word means. Circle each word in SITE OF:	
1) discomfort	6) disagree	
2) discourage	7) disassemble	
3) disadvantage	8) disrobe	
4) disarm	9) dismount	
5) disobey	10) disorder	



Other	r multiple meaning Prefixes:
1)	IN = NOT
Exam	nples:
2)	IN = IN OR INTO
Exan	nples:
	IN = IM When it comes before b, m, and p. It has the same two meanings as in .
Exar	mples:
4)	IM = NOT
Exar	mples:
5)	IM = IN OR INTO
Exa	mples:
6)	MIS = WRONG OR WRONGLY / OR BAD OR BADLY
Exa	mples:



Other Prefixes and their meanings: RE = ANEW / AGAIN / BACK Examples: _____ 8) INTER = BETWEEN Examples: _____ 9) INTRA = WITHIN Examples: ____ 10) EX = OUT FROM, AWAY Examples: _____ 11) HYPER = OVER OR ABOVE NORMAL Examples: _____ 12) PRE = BEFORE Examples: _____



OTHERS:	 	 	



SUFFIX	MEANS	EXAMPLE
	without something	help
		top
	somewhat like something	fool
		boy
	full of	help
		pour
×		smoke
	like a something	ghost
		precise
	state of being something	employ
		revis
		boy



TRW COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 6

- Identify and select synonyms, antonyms, homophones and homographs
- Practice job-related Vocabulary Improvement
- Demonstrate skills for using a technical dictionary



SIWSHARE GRANTINEWCOMI COMISESO TRW

SYNONYMS

	hat do synonyms do for	our language ?	
mmon synonyms: modify=change measure=gauge plant=fact automobile=car cast=form work=labo urces for finding synonyms:			
mmon synonyms: modify=change measure=gauge plant=fact automobile=car cast=form work=labo urces for finding synonyms:			
modify=change measure=gauge plant=fact automobile=car cast=form work=labo urces for finding synonyms:			
modify=change measure=gauge plant=fact automobile=car cast=form work=labo urces for finding synonyms:	ommon synonyms:		
automobile=car cast=form work=labources for finding synonyms:			
automobile=car cast=form work=labources for finding synonyms:			
urces for finding synonyms:			plant=factory
	automobile=car	cast=form	work=labor
·	urces for finding synon	yms:	
	ACTICE:Use thesaurus	to find other work related sy	nonyms:
ACTICE:Use thesaurus to find other work related synonyms:		<u> </u>	
ACTICE:Use thesaurus to find other work related synonyms:			



ANTONYMS

Define:		
EXAMPLES:		
Others:		
succeed - fail	erratic - regular	
help - hinder	usable- scrap	
specific-general	revenue- expenses	
PRACTICE: Use dictionarie	s to find antonyms.	



MEMOS AND STANDARD OPERATING PROCEDURES

Written Communication on the Job

How many times have you heard someone at work say, "Could you write all that down?" or "Put that in writing for me, and I'll get it taken care of"?

Writing is one way to make sure that plans get carried out right, that everyone understands a policy, that people follow safety rules, or that people know what their jobs are. In this session, you'll practice several kinds of writing that many people use on the job.

Define:		
Why are memos important:		
How does TRW use memos?		
£.	 	
Are memos important in your job?		



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MEMOS

Memo Form

Memos are a simple form of writing that many people use on the job. You may not be required to use them yourself, but chances are that they pop up for you to read. If you were more confident in writing them well yourself, you may find a new way to get your good ideas across to others and be listened to.

A memo has some standard features that let the reader know important information about the memo.

Guidelines for Writing a Memo

1. Follow memo format, using these headings above the message:

TO:

From:

Subject:

Date:

- 2. Use your full name followed by your initials.
- 3. Use the full name of the person or specify the group of people the memo is directed to.
- 4. Make the specific subject of the memo clear in the heading.
- 5. Organize your thoughts carefully before writing your memo. Be sure to include only relevant information. Be sure you give your reader everything he or she needs to know.
- 6. State the purpose of theyou memo in the first sentence.
- 7. After you write your memo, check it carefully to be sure it is clear,

Trade Winds In Work Based Education, published by Partners In Education and Training, Baltimore, Maryland



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Model Memo

MEMO

To:

Don Parker

From:

Mercedes Hunter

Subject:

Lateness of February Bank Reconciliation

Date:

March 14, 1986

This memo should explain why I am behind schedule in completing the February bank reconciliation.

The February statement form the first Mercantile Bank does not reconcile with our books. Apparently several errors were made when our deposits were recorded in our books. As a result, the bank statement shows a balance that is \$3,532.31 less than the amount shown on our books.

I understand that the bank reconciliation is to be completed by the fifteenth of each month under normal circumstances. However, I will not be able to finish it until the errors have been corrected and the books for February brought up to date. I am certain that the reconciliation will be finished by March 20. Please see me if you have any questions.

Trade Winds In Work Based Education, published by Partners In Education and Training, Baltimore, Maryland



8.3

ACTIVITY: WRITING A MEMO FROM NOTES

USE GUIDELINES AND MODEL MEMO

USE YOUR OWN IDEA/SUGGESTION NOTES

SAMPLE NOTES:

Lee has some concern that the heating and cooling in the plant area is not always up 'o par. Lee has several ideas to help the situation. These are the notes that Lee wants to put into put these ideas in writing. Use Lee's notes to write a memo to submit to the Synchronous Steering Committee.

2-10-93 - to Synchronous Steering Committee

My Boss?

anyone else?

Keep a copy myself

problem

heat levels not consistent hot and cold patches takes days for the plant temp to catch up to outside conditions hot outside- heat inside still on cold outside- cool ventilation still onsolution/idea

solution/idea

review ventilation diagrams by TRW (Maint?) check air flow with these new Flowmeter machines new ducts off main duct in identified areas

My new idea

C NYCKI grant

use heat from forging area as I have shown on the sketch add sketch



03

Job- Related Vocabulary Improvement

A portion of each of the remaining sessions will be used to improve your work related vocabulary. Most of these words you know, but how many have you ever "looked up"?

In these sessions you will have a chance to find the definitions of these words in several different ways. It may take some searching on your part to find the "TRW definitions". You may come across words from another department that you hear but can't define. Even though you don't work with these words everyday, it will help to learn their "real" definitions.

Don't forget to place these technical words on VAS cards!!



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TRW COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 7

- Identify and select homophones and homographs
- Practice job-related Vocabulary Improvement

8 WASHARENGAANTWEWCOM WOOM ISE SO TRIV



SOP FOR ACMES

- 1. Stop the machines whenever defects occur...don't continue to make bad parts or defects.
- 2. Make sure center drill is sharp...if not change it.
- 3. Make sure face tool is sharp... if not sharpen or replace.
- 4. Take air hose and blow excess oil and grit out of center hole.
- 5. Check valve under 3 power magnifying glass to determine if valve is good or bad.
- 6. Record and track total number of parts run and total number of defects by FR by shift.
- 7. Repair any center hole defects on drill press.
- 8. Check OD R/O at least 2 times per shift and make needed changes...Don't add cost to valve.
- 9. This means if the center is too large or deep then scrap the valve. If not sure check with supervisor.



STANDARD OPERATING PROCEDURE

DEPT 408-4

CORRECTIVE ACTION FOR WAUKESHA ENGINE AND GENERAL ELECTRIC.

PURPOSE: TO ELIMINATE THE POSSIBILITY OF PARTS WITH OUT OF PRINT SEAT SEGREGATION OF PARTS WITH OUT OF PRINT SEAT RUNOUT RUNOUT FROM BEING PASSED ON TO VISUAL INSPECTION.

Q 0 %

SEAT OPERATORS TO CHECK SFAT RUNOUT 100% DURING OPERATION. PARTS ARE NOT TO EXCEED .0002 BELOW HIGH LIMIT ON BLUE PRINT UNLESS INSTRUCTED BY SUPERVISOR.

ANY PARTS EXCEEDING THIS TOLERANCE ARE TC BE GIVEN TO REPAIRMAN.

ALL PARTS RETURNED FROM REPAIR ARE TO BE GAGED TO VERIFY THAT SEAT RUNOUT IS NOW IN TOLERANCE.

AFTER VERIFICATION THE SEAT OPERATOR WILL SEND REPAIRED PARTS ON TO THE NEXT OPERATION.

AUGUST 8, 1991 TONY LEONARDI 5

C.N.C. SET UP

- REMOVE ALL VALVES AND SCRAP FROM PREVIOUS F.R.
 - GET SET UP CARD FROM SUPERVISOR
 - 3. GET TAPES AND PRINTS FI.OM CRIB
- 4. GET PROPER GAGES SET
- GET NECESSARY TOOLING AND MAKE CHANGES
 - 6. RUN PROGRAM TAPE INTO COMPUTER
- 7. QUALIFY TOOL HOLDERS AS NEEDED
- RUN VALVE AND GET READING FROM CRIB
 - 9. MAKE NEEDED ADJUSTMENTS
- TAKE ACID TEST ON STELLITE VALVES ONLY AND ADJUST
 - 11. GET FINAL READING FROM CRIB
 - 12. GET SUPERVISOR APPROVAL
- CHECK RUN OUT AT LEAST 4 TIMES DAILY CHECK STELLITE LINE 2 TIMES DAILY ** NOTE **

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100

S.O.P.

ALL VALVES

IN TRAYS

SHOULD BE MARKED (MAGIC MARKER)

ON THE STEM

PRIOR TO

FINISH GRINDING

CORRECTIVE ACTION FOR WAUKESHA ENGINE

QA678.679 11/1/91

S.O.S

CINCI STEM GRINDERS ROUGH, SEMI. FINISH.

- CLEAR OUT ANY F.R.'S BEFGRE BEGINNING SET UP
 - 2. DISCARD ANY SCRAP VALVES PROPERLY
- OBTAIN SET UP CARD FROM SUPERVISOR
- OBTAIN SKETCH FROM CRIB AND HAVE GAUGES SET IN GAUGE CRIB
- DRESS TRACTOR WHEEL AND GRINDING WHEEL, THEN CHANGE BLADES SET TRACTOR WHEEL TO BLADE, LEAVING 1/8" CLEARANCE BETWEEN
 - TRACTOR WHEEL AND BLADE.
- SET TRACTOR WHEEL SLIDE TO GRINDING WHEEL BY PUTTING A VALVE ON THE BLADE AND MOVING TRACTER WHEEL SLIDE.
 - SET KICKER ROD FOR PROPER GRIND LENGTH AND BLEND ω.
- . GRIND VALVE
- O. MAKE NECESSARY CHANGES
- 1. GET SUPERVISOR APPROVAL
- 12. CHECK STEM RUN OUT AT LEAST THREE (3) TIMES AN HOUR
- CHECK STEM MICRO ON PROFILOMETER (FINISH GRIND ONLY) AFTER EVERY DRESS.
 - CHART FIVE (5) PARTS AN HOUR ON SPC CHARTS



30/A LANDIS

- REMOVE ALL PREVIOUS VALVES FROM AROUND MACHINE, DISCARD ALL SCRAP VALVES.
- . OBTAIN SET UP CARD FROM SUPERVISOR
- OBTAIN PRINT AND MASTER VALVE FROM CRIBS.
- SET UP NECESSARY GAUGES.
- REMOVE COLLETS AND REPLACE WITH PROPER SIZE COLLET.
- 6. MOVE WORK HEAD TABLE TO PROPER ANGLE.
- REPLACE OR ADJUST TIP STOP TO PROPER LENGTH.
- B. REMOVE SEAT RUNOUT.
- . GRIND VALVE AND FIND SIZE.
- CHECK PART ON ALL GAUGES AND MAKE NECESSARY ADJUSTMENTS.
 - JSING PROPER BLUEING CONE, BLUE UP A PART (IF IT DOES NOT BLUE UP, MOVE SEAT ANGLE UNTIL PART BLUES UP.
 - 2. GET READING FROM GAUGE CRIB.
- 3, OBTAIN SUPERVISOR APPROVAL.
- 14. CHECK ALL PARTS 100% ON ALL GAUGES.
- CHECK SEAT MICRO TWO (2) TIMES AN HOUR. ا ت

AN HOUR.

RECORD ON SPC CHARTS ALL PERTINENT INFORMATION, (FIVE (5) PARTS ø.

A ARABITATION OF THE ARABITATION ASSESSMENT AND THE ARABITATION OF THE

12-1/2 LANDIS - STANDARD SETUP PROCEDURE

- Clean machine of previous F.R.
- Obtain setup card from supervisor.

Remove blade.

- A. Unlock regulating wheel handwheel locking screw.
- B. Retract regulating wheel by turning handwheel counter clockwise to assure proper working space for blade removal.
- C. Loosen kicker rod and retract rod for blade clearance.
- D. Loosen screws and remove blade & shims obtain proper gage.
- 4. Exchange blueprint and blade for F.R. being S.U. get gage set.

5. Dress regulating wheel.

- A. Turn switch to dress to attain regulating wheel high speed.
- B. Lower dresser slide on to cam.
- C. Infeed dresser .001 or .002, turn outer traverse control valve clockwise (out) and counter-clockwise (for in). Inner traverse knob is for dresser traverse speed repeat until wheel is completely clean.
- D. Turn switch to grind to obtain running speed.

6. Blade setting.

- A. Turn machine off.
- B. Clean holder and work rest.
- C. Insert blade in holder and tighten.
- D. Check with scale to make sure blade is of equal height at both ends.
- E. Standard height is 4.
- F. Insert blade 1/8 inside of grinding wheel break edge if needed.
- G. Hold blade down when tightening in work rest.

Setting blade to grind wheel.

- A. Bring grinding wheel to within .020 of blade.
- B. Use .020 shim to insure clearance of blade to grinding wheel.
- C. Lock grinding wheel handwheel.

8. Adjusting regulating wheel to touch point of valve.

- A. Jog regulating wheel where high side is next to blade.
- B. Loosen and drop V-block.
- C. Turn regulating wheel handwheel clockwise to allow valve to rest freely on blade.
- D. Infeed regulating wheel to touch point and lock.

9. Set kicker rod and valve location.

- A. Drop valve manually set kicker to proper grind length can be adj. later.
- B. Reset V-block to within .020 of head 0.D. without touching O.D.
- C. To infeed head locator lock locator valvair. Adjust locator button to place valve in contact with kicker rod - do not over adjust (or force) valve into kicker.
- D. Unlock valvair to retract locator eject valve.

10. Find size.

- A. Check and adjust coolant.
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- B. Check diamond replace if needed. Reset and dress grinding wheel.

- C. Grind valve to .001 oversize.
- D. Check size taper blend R.O. flat spots & chatter.
- E. Use micrometer to obtain final size.
- F. Obtain O.K. from supervisor and inspector.

TROUBLE SHOOTING 12-1/2 LANDIS

1= STEM RUNOUTS

- A- Check blade height wear & for loose blade
- B- Check regulating wheel speed
- C- Dress regulating wheel
- D- Check for play in regulating
 - wheel bearings
- E- Check bad forging & insufficient stock
- F- Check coolant spout on valve and on dresser

2= BURNT STEMS

- A- Check diamond & speed & infeed
- B- Check diamond gear box & cable
- C- Check coolant spout alignment
- D- Dress regulating wheel
- E- Check regulating wheel speed
- F- Check bad forging & insufficient stock

3= STEM CHATTER

- A- Check height & for loose blade
- B- Check number of pieces on dress
- C- Dress regulating wheel
- D- Loose regulating wheel
- E- Check locator for proper location
- of valve
- F- Check for proper drag
- G- Check V-block clearance
- H- Check for play in regulating wheel bearing
- I- Check regulating wheel alignment to grinding wheel
- J- Check regulating wheel directional drive motor if brushes are bad, motor speed will change check with supervisor

4= STEM SIZE VARIATION

- A- Check blade height & wear and for loose blade
- B- Check diamond and infeed also for play in post
- C- Check hydraulic oil level
- D- Check wheel guard clearance
- E- Check for proper amount of coolant
- F- Check for proper drag
- G- Check for play in regulating wheel bearings.
- H- Loose regulating or grinding wheel
- I- Check regulating wheel speed
- J- Check locator for proper location of valve

5= WHEEL OR BLADE MARKS

- A- Check proper coolant spout alignment
- B- Check kicker rod and assembly
- C- Check blade wear
- D- Check diamond
- E- Dress regulating wheel
- F- Check V-block clearance
- G- Check valve on ready finger for proper release
- H- Check stem guide

6= GRIND LENGTH VARIATION

- A- Check locator
- B- Check for broken or worn blade
- C- Check alignment of regulating wheel pocket with kicker cam
- D- Check for broken kicker rod and kicker assembly
- E- Check coolant for proper setting
- F- Check for heavy shoulders from forging.



S.O.P. SEGREGATION OF REJECTED PARTS 408-4

PURPOSE:

TO ELIMINATE THE POSSIBILITY OF DEFECTIVE PARTS
GETTING PAST VISUAL INSPECTION

REASON:

CORRECTIVE ACTION FOR WAUKESHA ENGINE

S.O.P.:

ALL VALVES SET ASIDE AT VISUAL MUST BE CLEARLY
MARKED WITH RED MARKING PENCIL. ONCE THE
PARTS ARE REPAIRED, THEY ARE TO BE PLACED IN
10 SLOT BOXES FOR VISUAL PERSONNEL TO REVIEW.

ONCE THE

REPAIRED PART IS RE-INSPECTED FOR ALL DEFECTS

AND IS ACCEPTABLE, VISUAL PERSONNEL WILL REMOVE THE RED MARKING AND PLACE THE PART IN TRAY FOR SHIPPING.

TRW VALVE DIVISION

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QUALITY CONTROL ORDER

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PROCEDURE FOR HANDLING AND CONTROLLING DISCREPANT MATERIAL

PURPOSE: 1.0

To establish a uniform and well understood procedure for identifying, controlling, segregating and dispositioning of discrepant material. To ensure that the disposition of discrepant material is responded to within seventy-two (72) hours at the Cleveland Valve Division.

2.0 SCOPE:

This QCO applies to the raw material, any parts received from outside vendors in-process and finished goods in the Cleveland Valve Division.

DEFINITIONS: 3.0

- 3.1 "Material" is referred to broadly as raw material, any part, component, or finished product used in the manufacturing process.
- 3.2 Discrepant material is any material which does not conform to all applicable product drawing requirements, operational sketch requirements, engineering specifications, material specifications, acceptance standards, quality requirements, process specifications, or TRW workmanship standards.

4.0 RESPONSIBILITY:

- 4.1 The quality assurance and manufacturing departments are responsible for ensuring that all nonconforming material is properly identified, segregated, dispositioned or disposed of within the established time. The quality assurance department is responsible for notifying the customer of any suspected or nonconforming material shipped to them.
- 4.2 The manufacturing/quality department is responsible for:
 - A. Stating the cause of the discrepancy.
 - B. Notification to the proper causing department or area.
 - C. Determining the action to be taken on discrepant material, i.e., standard repair, sort, scrap, use as is, or request a deviation.

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QUALITY CONTROL ORDER

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4.3 The quality department is responsible to interface with appropriate parties (plant manager, production manager, product engineering, process engineering, materials laboratory and the customer) and provide a timely response (72 hours) on deviation requests.

PROCEDURE: 5.0

- 5.1 If a nonconformance is found by a supplier, incoming inspection, lab, manufacturing, floor inspection or outgoing audit, the quality/manufacturing department will red tag the nonconforming material and affix the red tag to all logical groupings (tubs, pans, skids, pallets, boxes, etc.).
- 5.2 The following sections of the "do not use," red tag are to be filled out by the person initiating the red tag:
 - A. part number (FR)
 - B. date
 - C. originator's master number (inspection number)
 - D. reason held
 - E. quantity suspect
 - F. department
 - G. shift
 - H. shop order number and/or lot number
 - I. last operation completed
- 5.3 Quality department informs materials management and manufacturing of the nonconformance, and the customer if the nonconforming parts were suspected to have been shipped to the customer.
- 5.4 Manufacturing/material control moves the red tagged material to the appropriate bonded area.
- 5.5 Quality/manufacturing departments review the red tagged material in the bonded area for the following corrective action: scrap/repair/sort/use with deviation/use as is.
- 5.6 Quality department audits the red tagged material after the corrective action is taken and removes the red tag and records the corrective action.

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6.0 DISTRIBUTION:

- 6.1 The red tag will remain affixed to the nonconforming material until the proper corrective action is taken: scrap/repair/sort/use with deviation/or use as is.
- 6.2 The white copy of the red tag will be returned to the quality office. The quality office will issue a DMR report listing all material held in the bonded areas. The DMR report will be issued monthly to the manufacturing managers, the production control manager and the plant manager.
- 6.3 The red tag will be initialed and removed from the nonconforming material when the proper corrective action is taken. The red tag will be initialed by the person who audits the material for proper corrective action. The red tag will then be returned to the quality office.

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TRW VOCABULARY LIST

median SQC accessible conveyor statistical correction mike alignment symmetrical parallel crib allowable cylindrical plating taper alterations plating thimble Datum angular tolerance precision appropriate detector diameter procedure traverse attentive treatment dimensions process average trends profile dresser barrel profilometer troubleshooting erratic blend ultrasonic projected blueing exhaust visual extrude projection blueing come proprietary fault butts ratchet flights carrier regulating chamfer forge retracted chrome gage clutch hub rotary schematic idlers CNC index segregator collet induction shear comparator sketch inspection compensation solution compressed interference SPC concentric jam

manual

mean

concentricity

controller



spindle

specifications

VISUAL DEFECTS

Barber Poles

Burnt Heads

Burnt Stems

Shaved Heads

Blow Holes

Cracks (CDs-Stems-Tips)

Forging

Steps in Blends

Nicks (raised metal)

Flaky Heads

Rough Under Heads

Mixed Valves

Bad Stamps

Chrome (Bad and None)

Chatter

Wheel Marks

u/s Stems



TRW COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 8

- Demonstrate ability to draw logical conclusions
- Read and interpret job-related instruction
- Practice job-related Vocabulary Improvement



FOLLOWING INSTRUCTIONS

THE OLD ADAGE ABOUT FOLLOWING THE INSTRUCTIONS						
WHY FOLLOW INSTRUCTIONS?						
REASONS	EXAMPLES					
·						
.						
TECHNICAL INSTRUCTIONS:	·					



STEPS TO SIMPLIFY INSTRUCTIONS

Instructions may be written in an orderly easy to read format. These usually include numbers, a logical sequence and easy to understand language.

Example:

- 1. Complete all information on form.
- 2. Sign and date form.
- 3. Mail form to this address _____, in envelope provided.

The form may end up being impossible but the directions are clear.

In most cases the order in which the steps are preformed is very important. What if step 3 above was performed before steps 1 or 2?

Often a routine task, especially at work, becomes so automatic that the steps are hard to explain. When you think of the steps of a procedure, explain and order the steps as if you were guiding a person who had never done the task. Keep their safety in mind!

ACTIVITY 1

The next set of instructions needs to be placed in the proper order. Give it a try.



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ACTIVITY 1

Place these instructions in the proper order. Fill in the correct number of each step 1-8 in the blank.

TO CHANGE A LIGHT BULB TO A HIGHER WATTAGE:

 Take higher wattage bulb and place into the socket.
 Turn on power to socket.
 Gently hold bulb and unscrew in counter clockwise motion.
 Obtain higher watt bulb.
 Place old bulb in a safe place
 Leave power to socket off.
 Hold bulb gently and screw clockwise into the socket until tight.
If old bulb is still lit, turn it off and let it cool. Don't touch hot bulb!



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STEPS TO SIMPLIFY INSTRUCTIONS (CONT'D)

So far we have looked at instructions that have easy to identify steps. Instructions also come written in paragraph form. These can look very confusing and overwhelming at first. Any set of instructions can be reworked to make them easier to follow. You may already have a method that comes in handy. It may almost be an automatic thinking process.

Here is a method that separates instructions into manageable parts. This method combines the memory systems of association and classification that were presented earlier in this course. It also presents the word **PRAISE** as a mnemonic or memory assisting device. The word PRAISE helps you remember the steps in order. It also reminds you to give yourself credit or **PRAISE** after you successfully use this method.

1) P	ositive,
	attitude
	credit
2) R	ead
	the whole picture
3) A	<u>sk</u>
	and answer
	What
	What
	What
	Why
4) : 1	dentify words
	What kind?



5) S	pecial equipment
	equipment
	materials
	information
	needed
6) E	asy action words
	Red Flag Words = ACTIONS
Exampl	es load the bin.
	insert the cutting tool.
	record the weight.



STEPS TO SIMPLIFY INSTRUCTIONS (CONT'D)

After completing the six **PRAISE** steps remember to:

• Complete each step of the instructions in the correct order.

If you will use these instructions often:

• <u>Create your own</u> set of <u>instructions</u> to help you remember the steps.

If the instructions are in paragraph form use:

• PRAISE Step 6 - Easy Action Words to help break it up into individual steps. Make one step to a line with it's own verb.

ACTIVITY 2 Try it!

Care of Rules

The steel rule is a precision tool and should be kept in the best condition. This can be accomplished by keeping the rule clean. Whenever the rule is used near or around water or with sweaty hands, the rule should be wiped dry and oiled to prevent rusting. Some of the common abuses which should be avoided are the using of the rule for a screw driver, a scraper, or a pinch bar to pry one part free from another.

emember! A steel rule is a	precision-ma	de measui	ring tool - ι	ise it as suc	h.



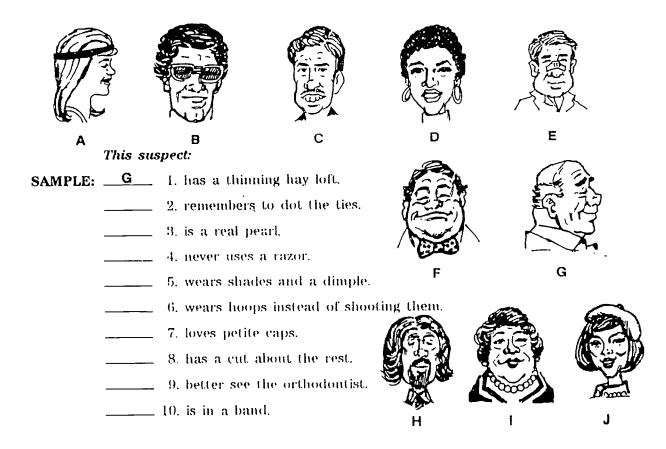
CONTEXT AND LOGICAL CONCLUSIONS

CONTEXT Define: ______ Requires _____ reading. 1) These three skills = _____ which is crucial for technical reading. Your Facilitator will guide you through the following activities and discussions. **ACTIVITY 3** Context Clues **ACTIVITY 4** Inferring from Context



ACTIVITY 3

To be a successful technical reader, you must be a "detective" and find clues in your reading. Many descriptions and instructions are sketchy and hard to understand. In this activity match the descriptions to the suspects. Fill in the correct letter for each match.



Did you have trouble matching these descriptions to the suspects? To be successful, you had to carefully read the brief descriptions; then search for clues to link them to the illustrations. When reading technical information, even if it is poorly written, you must find clues which improve communication between the writer and the audience.

From: READING AND UNDERSTANDING TECHNICAL INFORMATION by Richard Marsh



ACTIVITY 4

How Grandpa Came into Money

He was a sweet man, my grandfather, but when the brains were passed out he must have been somewhere else. I still respect how Grandmother could raise a family on his earnings.

Perhaps you can understand what it meant when, one fine day, Lady Luck smiled on Grandfather. He got himself in a train wreck.

Now, if something like that happened to you (and you lived through it) you had it made. The railroad would pay. So all of the lucky people on the train knew exactly what to do: they began to groan loudly and twist about on the ground while waiting for the doctors and stretchers to come.

All but Grandfather!

Never in his life had he missed a meal and he was not going to start now. No sir! Not for a little trainwreck. So he cut himself a walking stick and set out for home—a three hour walk.

In the meantime, the news of the wreck had already reached our town and the news had reported, "No deaths."

I cannot describe the many looks that passed across my grandmother's face when she saw her husband come strolling in the door, covered with dust, a bit tired from his long walk, but safe and smiling for he was just in time for dinner. First came joy at seeing that her man was not hurt. Then the joy turned into anger.

Grandfather had passed up his one and only golden chance.

So Grandmother turned into a kind of wild storm. Before he knew what was happening, he found himself without his pants and in bed. His complaints did him no good. Grandmother slapped a wet towel on his head while Mother went to search for the only medicine we had in the house—castor oil!

Grandfather cried out in fear and tried to hide under the blanket, but Mother dosed him

anyway. Poor man! The only thing he really needed was his dinner. But what could he or anyone else do once his wife and daughter had made up their minds.

And then came the time of waiting. The two women did all they could do to keep Grandpa in bed and coached him carefully on what to say when the railroad people came. Grandpa nodded and said he would do as he was told. However, he bribed one of us children to find his pants for him and got out of bed anyway.

And out of bed he was when the insurance people from the railroad came to our town. Pants, boots, and all, grandpa was stuffed into bed and the covers were pulled up to his chin. The shades were lowered, the castor oil was placed by his bed, and the insurance people were brought in.

From the first minute it was clear that Grandpa had forgotten all of the careful coaching. He beamed a welcome to the insurance people and told them how well they looked. He then went on to talk about the weather and crops. When the railroad doctor was able to get a word in and asked him what injuries he had gotten in the train wreck, my grandfather smiled and said, "There's realiy nothing at all wrong with me that 100,000 dollars couldn't cure."

Mother promptly fainted. Grandmother screamed and ran out of the room. The insurance men doubled up with laughter.

After they had stopped laughing and revived my poor mother, the insurance men gave Grandpa 5,000 dollars—making him the richest man in our little town.

But to his dying day, Grandpa could never understand why the insurance men had given him the money.

Adapted from "How Grandpa Came into Money" by Else Zentner



About the Story. Choose the best answer from the four choices and write it

on the	line.
1. Who	was telling the story in "How Grandpa Came into Money"?
	(a) Grandpa(b) Mother(c) the granddaughter(d) the grandmother
2. Wha	at does Grandpa seem to like best?
	(a) farming(b) food(c) money(d) train rides
3. The	other people on the train were
	(a) badly injured (b) faking injuries (c) in a state of shock (d) killed
4. The	grandmother's first feeling when she sees Grandpa coming in the door is
	(a) calm (b) happiness (c) in a state of shock (d) sadness
5.	Grandpa is given castor oil because
	(a) Grandmother is angry with him(b) he is ill from the train wreck(c) he needs a little castor oil now and then(d) there is no other medicine to give him
6.	When the insurance men come to the house,



(a) Grandpa is being given a dose of castor oil(b) Grandpa is eating dinner
(c) Grandpa is nude(d) Grandpa isn't where he's supposed to be
. Which of the following is <i>not</i> part of Grandmother's plan to convince the insurance men that Grandpa has been injured in the train wreck?
(a) She lowers the shades.(b) She pulls up the covers.(c) She puts Grandpa in bed with his clothes on.(d) She puts castor oil by his bed.
8. When Grandpa answers the insurance men's questions about his injuries, the men are
(a) amused(b) angry(c) confused(d) disgusted
9. Why did the insurance men give Grandpa the money?
(a) He has such an awful wife.(b) He needs it.(c) He is so humorous.(d) We don't really know why.
10. The family in this story lives
(a) in the city(b) in a town(c) on a farm(d) on an island
Explain how your answers depended on the context of the story:
•



TRW COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 9

- Demonstrate study skills techniques in various learning situations
- State components of active listening
- Identify effective communication techniques when faced with difficult job situations
- Practice effective communication techniques when faced with difficult job situations
- Practice job-related Vocabulary Improvement



ACTIVE LISTENING

WHAT IS LISTENING?

Listening is:	
 Taking in information and meaning without passing judgment while tryi 	
Encouraging talkers to continue co	mmunicating
 Providing limited but positive inpu forward. 	t to help a talker carry an idea
To help us more fully understand what list two questions:	stening is, consider the following
1. What does it feel like to really liste	n to someone else?
2. What does it feel like when some	one really listens to you?



THREE LEVELS OF LISTENING

Level One - This level of listening combines two parts of what you hear from the speaker. 1) the content or ideas and words the speaker is using 2) The intent or purpose of the speaker. At this level the listener tries not to judge the speaker. The listener also tries to understand and identify with the speaker. This is empathy.

Level Two -

Hearing, but not really listening. At this level, listeners hear the words, but often miss the speakers deeper. Some of the meaning carried in nonverbal signals.

Level Three -

Passive listening is not really listening at all. Listeners may be daydreaming, or thinking about where they'll go for lunch. Some people who listen like this are always concentrating on what they want to say next.



Three Levels of Listening

Everyone listens at different levels at different times. We listen better in some situations than in others. For example, some people listen effectively on the job, but "tune out" when they get home. Each of the three levels of listening has specific features to it. These levels are not distinct lines of differences, but rather, are general categories into which listening behavior falls.

Level One/At this level of listening we are using listening skills. We refrain from judging and being critical of the talker. Internal distractions are avoided or kept at a minimum. We place ourselves in the talker's position, attempting to see things from his or her point of view. This is what Janet was doing when she was listening to Jeff. Some characteristics of this level include: taking in main ideas; acknowledging and responding; not letting ourselves be distracted; paying attention to the total communication of the speaker, including his or her intent; not judging or finding fault; awareness of what the talker is expressing nonverbally.

Level one requires listening not only for the content of what's being spoken, but, more importantly, for the intent and feelings of the message as well. This is done while showing both verbally and nonverbally that we are truly listening.

Listening at Level One/In the video you just saw, Janet was listening to Jeff at level one. At this time you may wish to view the video a second time, noting any behavior you may have missed the first time. Particularly note how Janet is using level one skills.

Information we listen to at level one will be more easily remembered by processing what we are listening to. Processing means associating what is said with something familiar to us, repeating the information internally or out loud, or summarizing what the person has said. People speak at a rate of about 200 to 250 words per minute while listeners can process information at about 300 to 800 words per minute. What is done with that time lag will strongly influence what level we listen from.

In addition to using the association or summarization techniques, as a listener you can visualize what is being said by attempting to see in your mind's eye what the person is saying. In essence, you will be simultaneously listening to and seeing what is being said.

Depending on the situation or person, the levels of listening may overlap or interchange. As we move from level three to level one our potential for understanding, retention, and effective communication increases. We began developing our listening style very early in life. As we grow older we continue to reinforce our habits and patterns, although not many people are aware that they listen from these three levels and that each level has elements that affect listening effectiveness.

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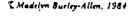
OMadelyn Burley-Allen, 1984

Level Two/At the second level of listening we move from an empathic, attentive listening state to one of "hearing." We hear words, but are not paying close attention to the talker's intent, tone or voice inflection, facial expression or body posture. We stay at the surface of communication and are unaware of the deeper meaning of what is being said.

At this level, we remain emotionally detached from the conversation, hearing words but not fully participating in the interaction. This level of listening can be dangerous because misunderstandings may occur since the listener is only slightly concentrating on what is said. Talkers could be lulled into a false sense of being listened to and understood at this level.

Level Three/When we are listening at this level we are in a passive, withdrawn state; in other words, "tuning the person out." This level includes daydreaming, mental tangents, thinking about something else, forming rebuttals, or thinking about what we are going to say when the other person stops talking.

Listeners do not remember much of what is said when listening at this level. It may be stored somewhere in the brain waiting for recall, but probably won't be recalled because we weren't paying attention. Listening at this level can be compared to some kinds of reading. If you have ever switched into "automatic" while reading a boring report or book and finished a page without having any idea what you have read, you can understand what level three listening is.





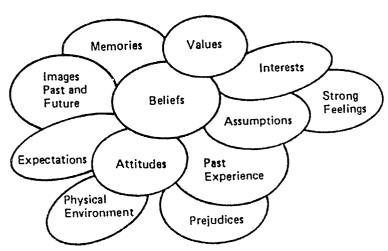
BARRIERS TO LISTENING

•	Filters - screen what we hear	
•	Bias = changes what we hear	
•	Assume = We think we know what we hear	
•	Hearing What We Want to Hear	
•	Only Using the Thinking of our own Culture	
•	Negative Emotions	
•	What our words mean to others	
•	Misreading Nonverbal Cues	
•	Physical Problems	
•	Daydreaming	
SOME BAR	RIERS THAT PREVENT ME FROM LIST	ENING EFFECTIVELY:



Listening Through Filters

We are often unaware of how our childhood experiences influence our adult behavior. The socialization process results in our listening through filters. Our brain processes each new piece of experience through filters that have various forms. The following diagram shows some of the filters that exert the greatest influence:



Although these filters are within us, we are often blind to them. It is important to develop the ability to become conscious of these blind spots that often result in unproductive behavior. We will then have an opportunity to understand and reshape our beliefs, values, and attitudes.

People aren't aware of their beliefs so they have little opportunity to understand them and/or reshape them. When people aren't aware of how their beliefs influence what they value about work and their attitude toward certain behaviors in others, they find it difficult to listen to the other person's point of view or accept their behavior.

Say, for instance, I'm your supervisor, and I strongly believe that when people talk and enjoy their work they aren't getting their work done properly. Because of my belief, I value silence and seriousness on the job. I also have the attitude that people who kid around don't perform as they "should" and are more trouble than they are worth.

On the other hand, you believe that a relaxed and enjoyable working environment keeps work from being drudgery and makes it acceptable. Because of this belief, you value an understanding, easy-going supervisor. You have the attitude that a supervisor who doesn't kid around a little is a "turkey."

Now, if we both are unaware of our attitudes, we would probably have difficulty dealing with each other. We would both find it arduous listening to the other's point of view since the views are in opposition. Our beliefs could even lead to contempt for each other, thus interfering with our ability to work things out.

The belief that we hold in reference to each other's work behavior will result in both of us having certain expectations of each other, and because our beliefs are so different, our expectations are rarely realized, leaving us both disappointed and frustrated. On the other hand, if both of us could gain understanding of our own as well as the other's belief, we might start listening to each other's point of view.



HEARING WHAT YOU WANT TO HEAR

As you discovered in the preceeding quiz, a listening barrier exists when someone hears what he wants to hear and not what is really communicated. Barriers to listening happen because of one or several filters. For example, past experience filters can make a listener become anxious to hear something that fulfills his or her wishes or desires.

This often happens in business settings, where one person is selling merchandise to another and the salesperson wants the sale to be as large as possible. Jeanne related this story:

I was working on the order desk for a company that supplied materials for large conferences. One week before, my supervisor had checked with a client about how many packets they needed for their program. She was told that they had only eight registrants. However, they expected more, and she was asked to check back with them.

My supervisor was called out of town, and I was asked to follow up on this client. Well . . . I checked with them for the number of registrants they had now. The client told me eighteen. In my desire to sell the most materials possible, I heard eighty.

Three of us spent three hours getting the materials ready. When the delivery man brought the materials to the client, he was told they only needed eighteen packets, not the eighty we had prepared. I could have fallen through the floor when he told me. I was so embarrassed!

Jeanne expected to hear a larger number because of her anticipation and desire to fill a large order. This caused her to hear incorrectly. As a result, the company lost three hours of work by three people.

BIASED LISTENING

Another block to listening occurs when we form an opinion about the level and value of what will be said. We label the information ahead of time as unimportant, too boring, too complex, or as being nothing new, and we are anxious for the speaker to get to the point.

"A biased listener tends to distort the message positively or negatively, often getting so emotionally involved that listening efficiency suffers. Certain emotionally laden words, sometimes referred to as "red flag" or "buzz" words, can evoke strong feelings and thus create barriers to effective listening. We sometimes respond to a word or phrase in a way that has been conditioned by our past experiences. In other words, we have attached meanings to the same word from prior, emotion-laden situations. Sometimes words can affect a listener to such an extent that his reaction will result in Level 3 as his emotions are causing internal distractions to occur, thus interfering with Level 1 listening. Unconsciously, we tune out what we negatively label.

Every day words provoke different feelings or ideas in different people. These emotion-laden words often have a strong impact on people that interferes with listening. Tones of voice have the same kind of impact.



PHYSICAL BARRIERS

The last internal barrier is the physical barrier: what happens physically that influences an individual's listening efficiency. At certain times of the day, we have more energy than at others. Fatigue is a factor in listening, since listening takes concentration and effort. When we don't feel up to par, we have a more difficult time being attentive.

It is easier to daydream and become preoccupied when our energy level is low. When we have personal problems, our energy is often used to deal with the problems, which lessens the amount of energy we have available to listen at Level 1. Personal problems sometimes manage to creep into our minds while someone else is talking.

Another element that can cause fatigue is the "time-lag factor"; the average speaker talks about 200 words per minute, while a listener can process information at around 300-500 words per minute. It is easy to spend this time-lag daydreaming, going on mental tangents, and thinking of personal problems. It takes energy to use this time difference for more productive use, such as internally summarizing what the person said, visualizing what is being said, or associating what is being said with something already stated. Because Level 1 listening takes energy and concentration, it is easy to allow these factors to interfere with it.

The fatigue barrier is often prevalent during meetings, especially those held at the end of the day or in the evening. People attending have already expended considerable energy getting the day's work done. Along with this low-energy factor, listening at meetings can be boring. Most often, the agenda does not have the same interest for all those who are attending.

In this case, it would be important to listen at Level 2 to make sure you aren't missing information you will need. If what is being said pertains to you, you could then move to Level 1, in which you would process the information. You might even want to jot down some notes to be used later as memory-triggers.

SEMANTIC BARRIER: THE MEANINGS ARE IN PEOPLE, NOT WORDS

We each have our own meanings for words because we filter them through our varied beliefs, knowledge, education, upbringing, and experience. As a result, no two people have exactly the same meaning for the same word or expression; meanings are not in words, meanings are in people.

The dictionary contains thousands of words. However, the average adult uses about 500 of these words most often, and each has between twenty and twenty-five meanings! So, two people can use 500 words with the possibility of 25,000 different meanings!

A word is simply a representation of the thing it names or describes. It is not the thing itself, and may mean something different to the speaker than it does to the listener. The practice of summarizing what you believe the speaker said, as a check, can insure understanding.

We make judgments about people, based on how we understand what we see and perceive. We evaluate an individual's competence and motivation through our semantic filters.

Have you ever tried to moderate between two people who are arguing, and you had to say, "Wait a minute, he didn't say what you said he said." Usually, people do not purposely change what people say; they simply do not hear the same words in the same way that the words were said. I have a sign that I display in my seminars which reads: "I know you believe you understand what I said, but I'm not sure you realize that what you heard is not what I meant." Everyone receives sensory data in a unique way; it is not "raw" data, but rather, data that is filtered and interrupted by the receiver.

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THE EFFECTS OF EMOTIONS ON LISTENING

Along with words that affect our biases that lead to emotions, there are some areas we do not want to talk about, topics that we have an emotional reason for not wanting to discuss... these areas are also "hot buttons" for us. When another person pushes our "hot buttons" with a word, phrase, or topic, our mind goes through certain filters: past experiences, beliefs, or biases connected to what the other is saying. As a defensive measure, we often "tune out" the talker, plan rebuttals, or formulate questions to confuse the talker.

If something is said that might cause us to change our perception, we feel threatened. Potential change in our perceptions can involve strong feelings. Often, the first feelings are frustration and confusion. To reduce these feelings, we flee mentally from what is being said by tuning out what the talker is saying or by distorting it so we won't have to alter our perception, belief, or opinion.

Experiencing high emotions, either positive or negative, usually interferes with listening ability. Strong feelings are one barrier that influences effective listening and sometimes causes confusion and the taking in of information in a disorganized manner, as illustrated by June's experience.

I'm a case worker, which means I deal with people who come into our agency for help finding a job. I was so sympathetic to what they were saying, I became overly emotional and found it difficult to think objectively. When I did this, I couldn't think effectively and didn't obtain all the information I needed to match the client to the proper job.

June had developed a habit of listening almost entirely with her feelings. As a result, she was not taking in the kinds of information she needed to get her job done properly. She often became overanxious, which accelerated her tension level.



STYLES OF LISTENING

• The Faker - Fakers pretend to listen. They actually get caught up in giving the impression that they're paying attention. They

really are not listening at all.

- The Pleaser Listener
 Listener
 These listeners want to please others.
 Instead of listening, they're concentrating on impressing the other person.
- The Interrupter Interrupters are so focused on what they want to say that they often don't even hear others. Worse yet, they interrupt them while they're talking to make a point. Many times what they say, doesn't relate to what the talker is saying.
- The "How Do WE Look" is going. They want to create a positive image when they're speaking. The focus is on the appearance of themselves or others. They're distracted by how the conversation is going. It's hard for them to listen effectively to what the speaker is saying.
- The Intellectual or Logical
 Listener

 Intellectual listeners hear only what they want to
 hear. They often concentrate on the facts only,
 ignoring emotional or nonverbal communication. So, what
 they really do is block out more than half of what the talker
 is really trying to communicate.



STYLES OF LISTENING

The Faker

Some people fake attention. They pretend to listen when their minds are actually off on a flashing tangent. They may fake attention because they think they are pleasing the talker. Often, people who wish to be attentive have their eyes riveted on the speaker. Their ears appear to be wide open. They so exhaust themselves in playing the attentive role that they end up no longer listening at all. Have you ever watched a person fake listening by smiling and head-nodding, when neither the smile nor the head-nodding matched what the speaker was saying?

Others try hard to fake being good listeners by trying to memorize every fact given; thus, the intent of the message becomes lost. However, they give the impression of listening with intense interest and curiosity. This need to hear and digest everything being said can easily lead to an overloading and jamming of the communication network.

The Dependent Listener

Some listeners are highly dependent and live vicariously through the opinions, wishes, and feelings of others. Often, their feelings are evoked in interpersonal communication situations, making it difficult for them to deal with abstract matters. So much concern is given to how they are listening and reacting to the talker, that they miss out on what is actually being said. In their urgency to elicit a favorable impression from the talker, they focus on how they appear to others, rather than on the clarity and content of what they are saying.

Dave's father dominated his relationships when he was young. He often told Dave, "Children should be seen and not heard." When Dave expressed an opinion on a subject, his ather told him he was stupid and not old enough to know the right way to do things. Often in their interactions, Dave's father would say, "You'd better listen to every word I'm saying, young man!"

As a result of this communication, Dave became a dependent listener. He put his effort into appearing to listen in order to please others. He often felt confused and frustrated. He also felt like a doormat because he went along with other people's wishes at the expense of his own. He discovered he didn't have many opinions of his own because he let others do his talking for him. In his relationships with his co-workers, he was afraid to say no. This behavior pattern resulted in his feeling tense, unhappy, and victimized.

The Interrupter

Sam had a habit of interrupting when others were talking. He thought he'd forget what he wanted to say if he didn't interrupt. He often felt



anxious if he wasn't able to say what was on his mind. Many times, the people he worked with became frustrated and annoyed by his behavior.

While completing a self-awareness exercise, he discovered he was so busy focusing on what he wanted to say that he listened at Level 2 or 3. In the process, he wasn't considering the speaker's needs. During a practice session, in which he had to paraphrase what the other said, he became conscious of his internal process. He started to think of what he wanted to say after the speaker had spoken only a few words. After he became aware of this internal process, he could stop and direct his attention to what the speaker was saying. He found he could remember what he wanted to say by associating what the speaker had said with the information he wanted to discuss.

Bringing up something that doesn't relate to what the speaker is saying is another form of interruption. Often, this is done when the talker is discussing something the listener is uncomfortable with and feels threatened by. The listener takes the conversation off on unrelated tangents, as a means to side-step the issue being discussed. The speaker gets so involved in the side issue, the real issue is never dealt with.

Paul had an employee, Fred, who came late to work three to four times a week. Paul had approached Fred about his lateness on several occassions. He became discouraged because the conversation ended up going around in a circle.

Paul: You came in 15 minutes late again this morning. You should be on time.

Fred: I'm a good worker, and I've been with the company ten years.

Paul: I think you're a good worker too, but you have to be at work on time. That's the rule!

Fred: I can't do everything right. I keep trying to get to work on time, but I just can't seem to do it. Anyway, I get my work done.

Paul: Why don't you get up earlier in the morning as I told you to!

Fred: I try to, but I can't. Anyway, Janet over there takes longer breaks than I do. I don't know why you only pick on me.

Paul: I don't think Janet takes longer breaks than anyone else in the office. I don't pick only on you. When others infringe on the rules, I talk to them too. Can you try to get to work on time from now on?

Fred: Yeah, I'll try.

This can be a discouraging and frustrating experience, yet it happens often. Problems don't get resolved when one person is able to side-track the real problem. When you find yourself in this situation, a couple of statements can be used.

For example when Fred said, "I'm a good worker, and I've been with the company ten years." Paul could have said, "I appreciate your good work and time with the company, but that's not the reason for this discussion. The issue is your lateness. I want it to stop, and I want to know how you are going to end this situation."



Or, when Fred said, "anyway, Janet over there takes longer breaks than I do," Paul might have said, "That's not the issue here," or, "That's not relevant to our discussion; we are talking about your lateness," or, "Right now I'm only concerned about your lateness."

By using such statements, Paul could control the discussion and solve the problem.

The Self-Conscious Listener

Some individuals focus too much attention on themselves by thinking, "Am I doing well or badly?" "Do I look all right?" or "I wonder if the talker thinks I'm intelligent?" These people give attention to themselves as participants when it would be better to involve themselves in the content and meaning of the conversation.

Self-consciousness can also be viewed as a kind of preoccupation with internal matters at the expense of effective listening. When people become too concerned about how well the discussion is going, they often lose their spontaneity and become overly involved with themselves during the conversation. Our society has unspecified standards as to how much people are allowed to be carried away by the talk, and how thoroughly they are to permit themselves to be caught up in the conversation. People who become too involved give the impression that they don't have self-control over their feelings and actions. This can lead the listener to draw away from involvement with the other person. What is one person's over-eagerness can be another's alienation. In this kind of situation, the speaker is forced to adjust to the listener's state of emotion because the listener is incapable of adjusting his own.

The Intellectual or Logical Listener

The intellectual listeners listen mostly with their heads, hearing only what they want to hear, blotting out larger areas of reality. Because they are mainly interested in a rational appraisal, perhaps as a result of their educational training, they tend to neglect the emotional and nonverbal aspects of the speaker's behavior. Their evaluation of what is said is most often geared to the interpretation of verbal statements, often causing them to miss the speaker's less obvious intent.

They are not aware of how listening behavior affects others or how others affect them. They listen in terms of categories, making certain that what they listen to does not disturb their inner peace or systematic order. It is almost as if they are putting what the talker is saying into a computer's data bank. If a statement doesn't fit into a systematic logical sequence, their minds reject what is said as invalid. I refer to this process as getting into "analysis paralysis."

These types of listeners are so involved in programming what is being said, that they miss out on the deeper meaning of what is spoken. These types of listeners cut off experiencing through the sensory system, thus losing the opportunity to actually experience the event. The brain is so busy making



calculations, that the body isn't given the chance to feel the communication. As a result, nonverbal communication is disregarded. All this is happening because the listeners are blind to their own emotions and the emotions of others.

Frank was a computer programmer whose job demanded that he analyze information focusing on what might be wrong or how a program could be improved. To succeed at his work, he had to pick information apart, listen to what could go wrong, and compute information in a logical, systematic manner.

He was so busy analyzing what was communicated to him, he didn't have time to just be there with the other person. His wife often told him he was a nit-picker. She felt he was overly critical of her and the children because he seldom accepted what she said. He would challenge her thought processes. He spent most of their communication time analyzing what she said as if he had to turn it into a program.

This listening pattern had a serious effect on his marriage and social life. After becoming aware of the pattern, he took steps to change it outside of his job. It took a lot of concentration and effort to change this pattern, but he said it was more than worth it.



OK ATTITUDES

1.	I'm Ok - You're OK
2.	I'm OK - You're Not OK
3.	I'm Not Ok - You're OK
4.	I'm Not OK - You're Not OK



The socialization process includes the position of "OKness" in relation to self and others. According to Dr. Berne's theory, there are four positions:
(i) I'm OK-You're OK, (2) I'm OK-You're Not OK, (3) I'm Not OK-You're OK, and (4) I'm Not OK-You're Not OK either, so there!

The listening behavior of individuals in the different OK positions varies; thus, each has different listening characteristics that include one's beliefs about oneself and others which, in turn, influence the attitudes and ways a person interacts with others.

Greg's father's style of listening matched the "I'm OK-You're Not OK" pattern. Greg, a supervisor in a large federal agency, incorporated many of his father's listening behaviors. As a result, his employees didn't feel that he listened to them. Greg had the attitude, "Who needs to bother listening to "Not OK" people; they don't have good ideas anyway."

Others in the office often complained that Greg listened to them with a critical expression on his face. He would quickly judge and criticize what they had said. And, he seemed to listen only to what he had to say, as if he were the only one who had good ideas. When someone brought up an opposing point of view, Greg would hear what he wanted to hear, filtering out comments he didn't agree with. His manner and listening style often left people feeling dumb and stupid. Thus, Greg listened much the same way as his father, not realizing how his behavior was negatively affecting others. In other words, this listening behavior was in his blind area.

Kathy, on the other hand, held the "I'm Not OK-You're OK" position. Her behavior was very different from Greg's. She often worried about herself and how she was coming across. She focused on herself rather than on the dynamics of what was going on between herself and others. She was so busy trying to say the right thing, she usually didn't say anything. During meetings, she was reluctant to speak up because she believed what she had to say would be stupid. She often said, "I will probably say something dumb, so why bother!" Because she was behaving from the "Not OK" position, she usually listened at Level 2 or 3. The consequences: instructions carried out poorly, messages taken down incorrectly, and frequent criticism from her supervisor.

The "Not OK-Not OK" position is very detrimental to listening and the entire communication process. People behaving from this position vaccilate between the two before-mentioned OK positions. They listen most often from Level 3, and as a result, do not hear others. They do not make the effort to listen to what others say. Since neither they nor the others are OK they find very little reason to bother listening, they are rarely interested in what anyone has to say. They are usually perceived as disinterested in others, withdrawn, negative, and pessimistic. This behavior leads nowhere. It's felt by those experiencing it as "going around in circles," ending in frustration, anger, and discouragement. You'll hear these people say, "I can't do anything; there's nothing anyone can do!" Because of the attitude, not much does get done. Problems don't get resolved, and the same ones crop up over and over.



On the other hand, if parents, teachers, and other adults model effective listening behavior by focusing attention on speakers, acknowledging speakers without being judgmental, and communicating through their faces, bodies, tones of voice, and words, that the speakers are important, children will be more-likely to develop positive concepts, exhibit effective listening behavior, and operate from the "OK-OK" position. Effective listening patterns, as well as non-listening patterns, can become habitual. Undesirable patterns can be changed, although it requires continual awareness and practice.

Where the "Not OK" styles usually close off communication, the "OK-OK" style is categorized as open, understanding, logical, empathic, and relaxed.

Allan described his parents as understanding and easy to talk to, tolerant, and accepting of his behavior. Whenever he had a problem, they would listen and help him come to a solution while supporting his decision and encouraging him to follow it through.

As a manager, he applied these same listening skills to the people on the job. His expectations of himself and others were realistic and valid. People felt comfortable around him because he didn't quickly judge or criticize. He had a mutual respect for himself and others while accepting the significance of people. Co-workers often said, "I like him; he really listens to me."

Like Janet in Chapter 1, he listened with understanding, had an open mind, and didn't interrupt or ask unnecessary questions. He often reflected feelings that were expressed by paraphrasing for understanding and summarizing for mutual clarification.

Being aware of this "OK" phenomenon, this aspect of human behavior and how it influences listening, can be beneficial in quickly improving listening behaviors. It's an easy way to modify your behavior in a stort time.

Drama Triangle

Another aspect of the socialization process is the "drama triangle." When individuals act from the "Not OK" behavior mode, they frequently participate in a drama triangle that has three types of participants: persecutor, rescuer, and victim.⁴

The persecutor operates from the "I'm OK-You're Not OK" position. People behaving in this mode often are fault-finding, nit-picking, can't wait to say "gotcha," and are blemish players; no matter what you pass over their desk, they find something wrong with it and might even circle the mistake in red so you have to do it over again. Persecutors are experts at zeroing in on what people do that's wrong, rather than right. Their management and supervisory styles are to "manage by exception—what goes wrong is what is paid attention to." If something is out of line, they give a negative stroke. They are quick to form a rebuttal to what has been said, and often listen to how something is going to fail or not work. People often feel as if they are being treated like dumb and stupid children after communicating with a persecutor.

Rescuers are advice givers. They take on other people's monkeys and



make the problems their own. These people are rescuing others who don't need to be rescued, don't want to be rescued, and aren't asking to be rescued—but they rescue them anyway because it's good for them! They take over others' responsibility; they have to do it themselves. Like persecutors, they are operating from the "I'm OK-You're Not OK" mode. They have a strong need to be relied upon and feel OK when doing things for others. They tell their employees what to do and when it doesn't go right, the rescuers get blamed, and thus, end up victims.

They tend to be lousy delegators—"gotta do it themselves." This results in feeling victimized because their own work doesn't get done and pressures build up. They end up working 10-12 hours when everyone else is going home on time.

They build dependency relationships between themselves and their employees by solving the employee's problems, doing their thinking for them, and figuring out what should be done. They become indispensable and have constant interruptions during the day. When a person is talking, they are so busy thinking of the best advice to give, they don't listen to the whole problem; as a result, often, the advice given is inappropriate.

Tim, a supervisor, found out that he often listened and behaved from the rescuer mode. He decided that not only was it detrimental to his employees' professional growth: he also discovered that the rescuer mode left him little time for his own work and was plagued by interruptions. He found some distinct advantages to giving it up: he had more time for himself, he finished his own projects on time (resulting in less hassles from his boss), he felt decreased stress and tension, and the people he supervised became more self-reliant and confident. He said he had to be on his toes to stop himself from giving advice, often stopping himself in the middle of a sentence. Tim discovered that his listening habits changed. Because he stopped forming advice in his head while the person was talking, he listened more frequently at Level 1. As a consequence, he remembered more of what was said to him.

Like Tim, some people behave from the rescuer mode by taking on others' responsibilities, doing others' work, thus not having time to do their own. When people do this, they end up victims. Therefore, they have moved from the rescuer mode to the victim mode. Then there are others who start in the victim mode by behaving in such a way that they incite others to "kick" them verbally, nonverbally, emotionally, or physically.

When people start out in the victim mode, they are operating from the "I'm Not OK-You're OK" position in ways that result in their getting negative strokes: not listening to directions, allowing their emotions to over-ride their objectivity, and becoming defensive instead of listening. Marie, a secretary in a computer company, discovered she behaved from this position in her relationship with others—especially her boss:

I often feel victim in my interactions with my boss. I think he is the persecutor and I'm the victim. For example, late Thursday afternoon,



my boss gave me a twenty-page project with graphs and numerical tables to type and finish by Monday at 10 a.m. I didn't listen to the time he stated when he handed me the project. Instead, I was busy figuring out how I was going to get it done and finish the other work I had on my desk. All I heard was Monday.

As I look back on this situation, I can see that by not being clear on the time, I was already setting myself up to be a victim. Discussing with him my concern about getting it out on Monday, along with completing the other assignments on my desk, would have kept me out of the victim position.

In any event, I didn't take either of these options. Instead, I became nervous and frustrated, which led to errors and my typing the project more slowly. By 10 a.m. Monday morning, I had it typed but not proofread. You can imagine my surprise when my boss asked for it! I told him I didn't hear him say it was due at 10 a.m. It was finished, but not proofread. Naturally, he became angry at my comment that I didn't hear him say it was due at 10 a.m. and he said a few choice words I won't repeat. However, he reluctantly extended the time by an hour so I could get it proofread.

Well, by this time I was so nervous I had to have a cup of coffee. I took the report down to the cafeteria. Again, I can see this was another set-up on my part to end up victim. You don't take important projects to the cafeteria. It would have been better to forego the coffee until after I'd proofread the material. But . . . I cidn't!

While I was proofreading, an emergency came up. In my hurry to take care of the emergency, I left the report on the table, completely forgetting it. Guess who came down to the cafeteria and found the report? Yep! My boss. He brought the report to me and said critically, "Are you by any chance looking for this?" and threw it on my desk. Was I embarrassed!

This example was just one of the many ways Marie discovered that she set herself up to be victim. Upon examining her listening habits, she found that her nonlistening habits resulted in other kinds of nonproductive behavior such as not completing tasks as directed. She discovered she talked to herself mentally while her boss was giving her instructions. This internal dialogue distracted her from what was being said. She found she could stop this internal process by being aware of it, stopping the dialogue, and then summarizing what the other person said as a way of checking her listening.

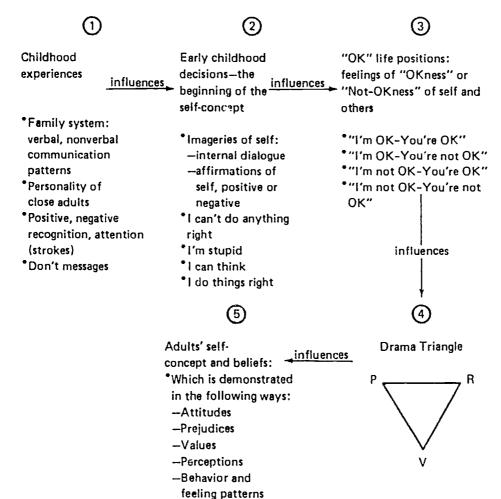
These "OK" life positions play a major part in each person's listening behavior. As you can see from the graph that follows, these positions of "OKness" are formed early in childhood. They are a reflection of our self-concept and they influence our attitudes about others that can result in ineffective or effective listening behavior. Being aware of what "OK" positions we are listening from can be a giant step in improving our listening habits.

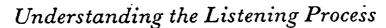
This socialization process is an important ingredient in determining the "OK" positions from which people behave. It is a significant factor that

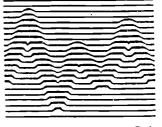


causes many of the listening problems people experience. Graphically, the process is summarized like this:

SOCIALIZATION PROCESS



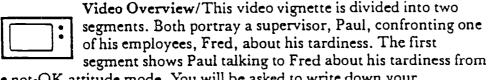




Learning Activities Module 2



Video Exercise 2-1



the not-OK attitude mode. You will be asked to write down your observations of both Paul and Fred.

Turn on the videotape to the vignette "Lateness — Poor Model." Watch and listen to the brief dialogue between Paul and Fred. Observe specifically what Paul does to prompt Fred to respond in a negative manner.

Video Instructions/Before carrying out these instructions read them over carefully.

- 1. Turn on the videotape to the vignette "Lateness Poor Model."
- 2. Listen to and watch the two-minute confrontation between Paul and Fred. When the vignete is over turn the tape off. You will watch the good model after you have written your responses to the poor model.
- 3. After you have listened to and watched the vignette, open your "Participant Exercise Booklet" to page 2-5 and answer the questions.
- 4. After completing the questions, turn to page 2-6 in your "exercise booklet" to find an explanation of the answers. Compare your answers to the explanations to find out how you did.

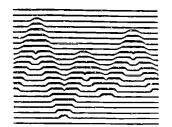
3 Madelyn Burley-Allen, 1984



VIDEO VIGNETTE - LATENESS - POOR MODEL

<u> </u>			
How did Fred re	espond to Paul's not-	OK behavior?	
		•	
			
Did they solve	the lateness problem	? Why or why not?	





Understanding the Listening Process

Learning Activities Module 2

2-6

1. What kinds of behaviors did Paul use that indicated he was in a not-OK attitude mode?

Paul sat on his desk. He pointed and shook his finger at Fred. He used should and have to; words that many people have an emotional reaction to. Because of Paul's manner, Fred felt threatened and attacked. Paul's tone of voice was condemning, angry and he had a critical look on his face. Paul did not ask questions that could have helped Fred work through his problem, instead he told him what to do.

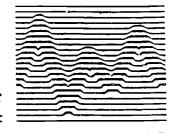
2. How did Fred respond to Paul's not-OK behavior?

Fred responded by becoming defensive. He tried to justify his behavior by pointing the finger at another employee hoping to divert Paul's attention.

3. Do you think the lateness problem has been solved? Why or why not?

The problem hasn't been resolved. The interaction was one of attack and counterattack. Since Fred didn't solve his own problem, he had no interest in making it work. The exchange was more like a parent telling a child to be on time. This kind of behavior doesn't usually work with adults.





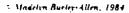
Understanding the Listening Process

Learning Activities Module 2

2-7

Video Instructions/Before carrying out these instructions read them over carefully.

- 1. Turn on the videotape to the vignette "Lateness Good Model."
- 2. Listen to and observe the two-minute confrontation between Paul and Fred. When the vignette is over turn the tape off.
- 3. After you have listened to and watched the vignette, open your "Participant Exercise Booklet" to page 2-8 and answer the questions.
- 4. After completing the questions, turn to page 2.9 in your "exercise booklet" to find an explanation of the answers. Compare your answers to the explanations to find out how you did.

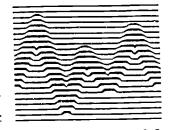




VIDEO VIGNETTE - LATENESS - GOOD MODEL

What were the main differences between the two demonstrations?
What indicates to you that Paul was listening to Fred at level one in
OK-OK attitude mode?





Understanding the Listening Process

Learning Activities Module 2

2-9

- 1. What were the main differences between the two demonstrations?
 - Paul was sitting in a level position.
 - Paul didn't say should or have to, or point/shake his finger at Fred.
 - Paul didn't get sidetracked when Fred pointed out the other employee's behavior, but brought the conversation back to the lateness issue.
 - Paul was calm, direct and kept the conversation moving toward a solution.
 - Paul avoided labeling Fred's behavior by describing it instead.
- 2. What indicated to you that Paul was listening to Fred at level one in the OK-OK attitude mode?

Paul acknowledged what Fred said by responding to his feelings and summarizing what Fred said. His OK-OK listening mode was a major factor in the willingness of Fred to take action to solve his own problem.



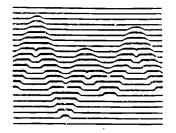
THE DRAMA TRIANGLE

Persecutor

Rescuer



Victim

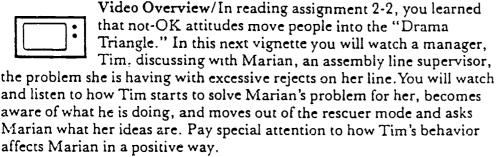


Understanding the Listening Process

Learning Activities Module 2

2-11

Video Exercise 2-2



Turn on the videotape to the vignette "Staying Out of Rescuing." Listen to and analyze the four-minute discussion between Tim and Marian.

Video Instructions/Before carrying out these instructions read them over carefully.

- 1. Turn on the videotape to the vignette "Staying Out of Rescuing."
- 2. Listen to and watch the discussion between Tim and Marian. When the vignette is over turn the tape off.
- 3. After you have listened to and watched the vignette, open your "Participant Exercise Booklet" to page 2-12 and answer the questions.
- 4. After completing the questions, turn to page 2-13 in your "exercise booklet" to find an explanation of the answers. Compare your answers to the explanations to find out how you did.

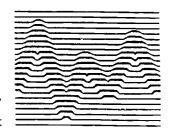


E Madelyn Burley-Allen, 1984

VIDEO VIGNETTE - STAYING OUT OF RESCUING

m's listening	behavior ha	ve on Marian	?
	m's listening	m's listening behavior hav	m's listening behavior have on Marian





Understanding the Listening Process

Learning Activities Module 2

2-13

1. What did Tim do to stop himself from rescuing Marian?

Instead of telling Marian what she ought to do, Tim paused, moved back in his chair and said to Marian, "What are your thoughts about what you could do to resolve the problem?"

He avoided rescuing Marian again when she asked him, "What do you think I should do?" by saying, "Before I answer your question, let's take a minute to look at some of the things that can help employees become more conscious of quality."

Tim provided Marian with a framework to analyze her problem, explore alternatives, and solve the problem herself.

2. What effect did Tim's listening behavior have on Marian?

Marian's confidence in herself was raised because she found out she could solve her own problem. Her opinion of Tim and their relationship was enhanced, allowing them to work more cooperatively. Her competence as a supervisor was improved.



E Madelyn Burley-Allen, 1984

DEALING WITH DIFFICULT COMMUNICATION SITUATIONS

Many factors combine to create difficult communication situations. Can you name a few?	u
Others:	
Communication does not occur in a vacuum. Any communication situation nvolves people, words, emotions, attitudes, and non-verbal interactions. Cayou name any other ingredients that add to the communication "stew"?	an



DEALING WITH DIFFICULT COMMUNICATION SITUATIONS

The I-Messages Approach

You-Blaming Approach **I-Messages Approach** This approach usually leads to a 1. This approach leads to a win/win 1. resolution. win/lose resolution. There's no plan of action. 2. Develop plan of action, like a meeting 2. time, to talk about the prblem situation One person discloses something he or 3. One person reveals something he or she is unhappy about with the intent of 3. she is unhappy about in hopes of letting the other person know he or she changing both people's behavior to should change. solve the problem. This approach uses one of the not-OK 4. This approach uses the OK-OK attitude 4. attitude modes. mode. This approach promotes confrontation 5. This approach sticks to behaviors and 5. that dumps negative feelings on does not attack or negate other another person. persons feelings. The person is unaware of either 6. The person is aware of nonverbal 6. person's nonverbal behavior. behavior, both their own, and the other person's. The person states a message in a 7. The person states a message in a blaming, critical, judgmental manner. 7. nonblaming, noncritical manner. The person blames the other person for The person takes responsibility for his 8. 8. his or her feelings. or her own feelings. The person labels the behavior as good 9. The person observes and states by 9. or bad, right or wrong. using I-messages what behavior is causing a problem. Deliberately uses words that push the 10. other's hot buttons. The person tries not to use words that 10. push the other's hot buttons.



DEALING WITH DIFFICULT COMMUNICATION SITUATIONS

The I-Message Approach

Some Examples

I-Messages	You-Blaming Messages
I'm embarrassed when you criticize me in front of my co-workers. I feel it's degrading to me.	You're always embarrassing me by criticizing me constantly in front of my co-workers.
I feel angry when you don't get your work done on time. I think it makes the whole department look bad.	You make us look bad because you never get your work done on time.
I expect you not to take longer than 10 minutes for a coffee break.	You're always taking long breaks.
Now it's your turn. Below are two you-blar I-message statements.	ming statements. Change them to
I-Message	You-Blaming Message
	You always leave your workstation a mess and I'm stuck cleaning up after you.

You never tell me what's going on. You act like I don't even work here.



DESCRIBING BEHAVIOR

DO's	DON'Ts
Stay with what a person does.	Make comments about what you think a person is.
Use adverbs that relate to specific actions.	Use adjectives that label someone.
Ex: He talked loudly in the meeting.	Ex: He's a loudmouth.
Describe what occurred.	Use labels that judge what's happened.
Ex: When we don't agree, the problem usually doesn't get resolved.	Ex: You're wrong to be so stubborn.

VIDEO VIGNETTE - DESCRIBING BEHAVIOR #1, #2, #3 AND #4

What a	re the main benef	its of using t	he describi	ng behavior	?

DESCRIBING BEHAVIOR EXERCISE

Change the statements below to describe behavior rather than label people. You'll have to use your imagination to fill in specific facts.					
Sally, you're just trying to show Geri up.					
Rick, you're such a slowpoke.					
Carlos, you're very rude.					
Don't fly off the handle now, Marla.					



POSITIVE FEEDBACK VS. PRAISE

Positive Feedback	Praise
A positive comment with meaning that specifically lets the listener know what the speaker values	A positive judgment with little additional meaning
Specific, related to a task	General and non-specific
A statement of observation and appreciation	Value judgment such as right, wise or good
Identifies behavior and describes the listener did	Labels behavior and judges what the listener did
Rings true	Can be taken as phony



VIDEO VIGNETTE - PRAISE/POSITIVE FEEDBACK #1, #2, AND #3

vell did Jon, J g positive feed	itella do in	carrying out	the criteria fo





PRAISE/POSITIVE FEEDBACK EXERCISE

You'll have to use your imagination to fill in specific facts.
Jack, you really do good work.
Tina, you're such a nice person.
I can't believe how thoughtful you are, Mario.
Joyce, you're so talented.



ROLEPLAYING EXERCISE

Each person in the group is assigned to one of the roles on the next page. After reading and putting some thought into how to play your role, act out the following scenario with the people in your group.

Scenario:

Roy is responsible for safety in his department. There are two other employees in his department, George and Brian. George doesn't follow safety standards as he should. George often doesn't wear his safety glasses, piles boxes higher than is safe, and sometimes has boxes jutting out into the aisle. Roy would like to get George to change his behavior. He knows that instead of judging and labeling George, he has to speak to him using the describing behavior approach. Roy speaks to George about his unsafe practices with the goal of getting him to commit to changing his behavior.

Brian, on the other hand, does a good job following safety practices. Roy wants to let Brian know that he recognizes and appreciates how Brian follows the safety rules. He realizes that he needs to use positive feedback rather than praise so that Brian will feel he's sincere and to keep Brian motivated to continue following safety practices. Roy talks to Brian about his behavior using positive feedback.



ROLEPLAYING EXERCISE (cont'd)

Roy:

Not a supervisor, but charged with the responsibility of safety in his department. His first reaction to George is to tell George that he's careless and to tell George what he should do. But Roy realizes that this approach won't do much to change George's behavior. That's why he decided to use the describing behavior approach and good listening skills to get George to change his safety ways. He also knows it would be easier to just tell Brian, "Good job." But he realizes this won't motivate Brian to keep up the good work or win Brian's trust for the future. He reasons that giving positive feedback about specific behaviors will show Brian that he does notice and appreciate Brian's contributions to department safety.

George:

Doesn't really care about safety. He just does whatever's easiest at the time. When Roy first approaches him about his unsafe practices, he tells Roy that neither he nor any other employee has ever been injured by anything he's done or not done. But because Roy listens to him and doesn't judge him, Roy is able to persuade him to change his practices by pointing out how he could benefit from following safe practices.

Brian:

Always tries to co-operate. However, he is a little suspicious when people praise him. He sometimes feels that because he's co-operative, people take advantage of him. When someone praises him, he figures they just want something out of him. When Roy talks to him about his safety practices, he's not sure Roy's sincere and tries to figure out what Roy really wants. But as Roy continues talking, he realizes that Roy is sincere and just wants to recognize him for following safety rules and keep him motivated in the area of safety.





ROLEPLAYING EXERCISE - EVALUATION QUESTIONS

	
How did the descr changing his safet	ibing behavior approach help George to commit to y behavior?
	·
What types of star	tements were used to show that Roy was using positive



ROLEPLAYING EXERCISE - EVALUATION QUESTIONS (cont'd)

What othe	r good liste	ning skills '	were demor	istrated by	Roy?
		_			



COMMUNICATIONS ON THE JOB I POST - ASSESSMENT

1)	Name the four Preferred Learning Style categories represented by	these	initials:
	V		
	. A		
	K		
	т		
2)	Name one of the three components of effective learning.		
		<u> </u>	
3)	List below 4 skills that help people learn more effectively:		
		_	
4)	The dictionary is considered a " power tool ".	True	False
5)	Phonics skills are an important part of adult reading.	True	False
6)	Name two types of dictionaries that are useful everyday.		
7)	Name 2 components of a dictionary page.		_
8)	How many consonants are in the English alphabet?		



9)) The letters w and y are: (circle one answer)					
	consonant	S	vowels	both consonants	and vow	els
10)	Circle the	words with th	ne short e so	ound:		
	she	verse	fret	Pete		
	bench	these	press	wed		
11)	A person's	s attitude is a	ın important p	art of the reading process	. True	False
12)	Name two of the four major components of Reading.					
40)	A		ia tri ta maint	oin the come reading		
13)	•	-	they are read	ain the same reading ing.	True	False
14)	Reading i	s learned on	only at an early age.			False
15)	A person	must read e	t read every word to be a "good" reader.			False
16)	If you read very fast you should still try to remember everything you read.			True	False	
17)	Name three good reading habits.					
						
						
18)	One word	One word can have several different meanings.			True	False
19)	A homophone is a					



20)		orker is an acceptable way to find out I word means?	t what	True	False
21)	Read the follo	ving:			
	Therefore, qua	ality product at a fair price is the goa lity control must be an important aspec controlled in two ways.			
	What is the m	ain topic of this reading:			
22)	Define the foll	owing TRW terms:			
	Dresser -				
	Shear .				
	Collet				
	SPC				
	Process				_



23) What is the proper spelling of the circled word on this sign.

24) If you wanted to make this go faster, which knob would you turn? (circle one) left center right

25) Is the verb in the sentence on the white ticket correct? Please write the correct verb on the line.



ZIRCOA Communications on-the-job

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ZIRCOA COMMUNICATIONS ON THE JOB I

SESSION OVERVIEW

10 2-hour sessions

Session 1

Self-Awareness and Personal Learning Styles	60 minutes
Pre- assessment	45 minutes
Task/Productivity Matrix	15 minutes

Session 2

Successful Learning Strategies	60 minutes
Active Listening Skills	45 minutes

Session 3

How to Deal with Difficult Communication Situations	45 minutes
Role-playing Exercise	30 minutes

Session 4

Phonics Review	60 minutes
Using the Dictionary	60 minutes

Session 5

The Process and Types of Reading	90 minutes
Job-related Vocabulary Improvement	30 minutes



ZIRCOA COMMUNICATIONS ON THE JOB I SESSION OVERVIEW (cont'd)

Session 6	
Recalling Factual Information, Identifying Main Ideas Job-related Vocabulary Improvement	60 minutes 30 minutes
Session 7	
Homophones and Homographs Following Instructions, Drawing Logical Conclusions Job-related Vocabulary Improvement	30 minutes 60 minutes 30 minutes
Session 8	
Prefixes and Suffixes, Synonyms and Antonyms Reading Technical Manuals Job-related Vocabulary Improvement	30 minutes 60 minutes 30 minutes
Session 9	
Reading for Meaning - Memos, Processes and Procedures Job-related Vocabulary Improvement	60 minutes 30 minutes
Session 10	
Identifying codes and symbols on schematics and blueprints Job-related Vocabulary Improvement	60 minutes 30 minutes



ZIRCOA COMMUNICATIONS ON THE JOB I

OBJECTIVES

Upon completion of the Communications on the Job I course, the participant will be able to:

- Identify ways to overcome personal obstacles to learning.
- Identify his or her personal learning style
- Demonstrate study skills techniques in various learning situations.
- State components of active listening.
- Identify effective communication techniques when faced with difficult job situations.
- Demonstrate ability to locate specific information in a dictionary.
- Identify situations in which a technical dictionary is needed.
- Demonstrate skills for using a technical dictionary.
- Identify and apply a vocabulary-building system.
- Demonstrate job-related word recognition
- Identify components of the reading process.
- Demonstrate phonics skills.
- Differentiate between the meanings of common prefixes and suffixes.
- Identify and select synonyms, antonyms, homophones and homographs.
- Demonstrate reading skills of recalling factual information, identifying main topics, and drawing logical conclusions with job-related documents.
- Read and interpret job-related instructions.
- Identify codes and symbols used in schematic and blueprint reading.
- Read, analyze, and prepare job-related memos, processes and procedures.



ZIRCOA COMMUNICATIONS ON THE JOB I PRE - ASSESSMENT

1)	Name the fo	our Preferred Learning Sty	/le categories r	epresented by these initials:
		V		
		À		
		K		
		т		
2)	Name one	of the three components	of effective lear	ming.
3)	Mark each	statement about listening	True or False:	
		People tend to pay attention to what interests them.		When a listener's emotional level is high, he or she will be an effective listener.
		Hearing and listening are the same.		Listening is a natural process.
		Most people have a		Listening is a skill.
	short attention span and have trouble concentrating on the same thing for too long.	short attention span and have trouble		Listening requires little energy; it's "easy".
		same thing for too		Giving advice and telling the speaker what to do is not a listening skill.
		The speaker is totally responsible for the success of communication.		Speaking is a more important part of the communication process than listening.

4)	List below	techniques	that help peo	ple learn more effe	ectively:		
5)				e helpful than tellir	ng True	False	
6)	When a pe	When a person labels a behavior good or bad, right or wrong, they are using an "I-Rational Approach" to communication.					
7)	Giving a pe	erson praise	helps them w	ork better.	True	False	
8)	Roleplaying	g is useful in	training sessi	ons.	True	False	
9)	The diction	ary is consid	ered a * pow	er tool ".	True	False	
10)	Phonics sk	ills are an im	portant part o	of adult reading.	True	False	
11)	Name two	types of dicti	onaries that a	ıre useful everyday	<i>1</i> .		
12)	Name 2 co	omponents of	a dictionary	 page. 		_	
13)	How many	How many consonants are in the English alphabet?					
14)	The letters	w and y are	e: (circle one	answer)			
	consonant	S	vowels	both con	sonants and vo	wels	
15)	Circle the	words with th	ne short • s	ound:			
	she	verse	fret	Pete			
	bench	these	press	wed			
16)	A person's	s attitude is a	in important p	art of the reading	process. True	Fals e	

17)	Name two of the four major components of Reading.					
18)	A person should always try to maintain the same reading speed no matter what they are reading.	True	False			
19)	Reading is learned only at an early age.	True	False			
20)	A person must read every word to be a "good" reader.	True	False			
21)	If you read very fast you should still try to remember everything you read.	True	False			
22)	Name three good reading habits.					
23)	One word can have several different meanings.	True	False			
24)	A homophone is a					
25)	Asking a co-worker is an acceptable way to find out what a new technical word means?	True	False			
26)	What does CNC stand for?					
27)	What does SPC stand for?					



28)	Read the following:					
	Producing a quality product at a fair price is the goal of any manufacturing plant. Therefore, quality control must be an important aspect of Zircoa's process. Product quality can be controlled in two ways.					
	What is the main topic of this reading:					
29)	Define the foll	lowing Zircoa terms:				
	Slurry .					
	Audit					
	Selects					
	Proprietary					
	Process					



30)	. What is the definition of the LARGE word this cute guy is yelling?	
		·- ·
		<u></u>
31)	If you wanted to make this go faster, which button would you push?	
31)	If you wanted to make this go faster, which button would you push?	
31)	If you wanted to make this go faster, which button would you push?	
31)	If you wanted to make this go faster, which button would you push?	
31)		
31)		
31)		

ZIRCOA COMMUNICATIONS ON THE JOB!

OBJECTIVES

SESSION 1

- Identify ways to overcome personal obstacles to learning.
- Identify his or her personal learning style

BEST COPY AVAILABLE



Self-awareness

Introduce self and course briefly. Have students introduce themselves. Pass out any book or materials needed.

Show the video "The Yrain" (approximately 8 minutes long)
Have students write down the answers to the 3 handout questions listed below. Then take a few minutes to discuss the questions and their reactions to the video.

Handout Questions

What does "The Train" tell you about the power of your mind?

Have you heard of any other examples of people deciding something contrary to "fact" with dramatic results?

To what extent do you feel you control your attitudes? What circumstances do you feel take control away from you, and what would it take to get it back?

Some Reasons Why We Assume We Can't Learn

Keeping "The Train" in mind, let's look at how a limiting mind set affects our perception of our ability to learn. Many people assume they can't learn new things for a variety of reasons. What are some reasons you think people assume they can't learn. (List responses on board.)

Some Reasons Why We Assume We Can't Learn

- o Past Conditioning we were told we couldn't learn or that we weren't good at a particular subject or subjects.
- Stereotypes How often have we heard statements like "He's a lathe operator, great mechanical ability, but his verbal skills aren't too good." or "She's wonderful at communicating with others, but technically, I don't think she has it"? In many cases, these statements reflect stereotypes present in our society and our companies. It's easy to buy into them, and create self-fulfilling prophecies so that we fit the stereotype.

Instructor 1-1



Some Reasons Why We Assume We Can't Learn (cont'd)

Other People's Perceptions of Us - Often, we're labelled, usually early in life. "He's the artist" or "She's the smart one" or "He has the mechanical mind." What happens is that we often get pigeon-holed. We also assume that we can only be good at what people tell us we're good at. Or conversely, we assume that we're poor at whatever people tell us we're poor at. We tend to live up (or down, as the case may be) to other people's expectations.

Successful Learning Experience

Ask participants to think of a recent successful learning experience, preferably job-related, but it really could be anything from learning a new sport to learning how to program their VCR. Have them describe this learning experience on the handout provided. Stress that it does not have to be a "classroom" experience. It probably will be something that they figured out on their own, by either reading something or through just hands-on experience, or something that someone else showed them how to do.

When they're finished with the handouts, ask participants to share this learning experience and why they wanted to learn this particular skill or task with the class. Keep track of the "whys" on a piece of paper or the board to work into the next section.

Mention that often we learn when we're motivated to learn. For instance, an immigrant to this country from Malaysia wasn't familiar with the American food, hamburgers. She wasn't sure what went on a hamburger. So, when she ordered a hamburger at a restaurant and they asked her what she wanted on it, she simply said "The works." She ended up eating all kinds of things like onions and ketchup that she didn't like. She finally decided to learn what went on hamburgers and what she liked. Eventually, when asked what she wanted on her hamburger, she was able to reply "Mustard and pickles, please." What was her motivation for learning?

Some Motivating Factors

As you discuss this, categorize the participant's "whys" of their successful learning experiences in each of these categories.

o Money - People will often learn new skills in order to gain a promotion or to get a new higher-paying job.



Successful Learning Experience (cont'd)

- o Comfort People are motivated to learn new skills if it will make their jobs easier.
- O Safety/Health If a skill is necessary to their safety or health, people usually view that skill as an important one to learn.
- o Status People will often learn new skills if they believe it will increase their status with their supervisor, their co-workers, and/or family and friends.

Personal Learning Styles

Not everyone learns most effectively in the same way. For instance, some people can learn how to operate machinery by watching a demonstration of it while others would learn best by reading the manual. Additionally, different skills need different learning styles. You can read the manual from cover to cover and learn all that's there, but until you actually operate the machine yourself, you really won't know how to operate it. So, while watching a demonstration or reading the manual may be a good starting point, eventually to master the skill, you're going to have to get some hands-on experience.

- Visual Learns best through observation or studying graphs or charts. If you feel you learn a lot from demonstrations or you like to look at graphs, drawings, charts, maps, etc. in order to understand something, you may be a visual learner.
- Auditory Learns best through listening. If you get a lot from lectures or like to listen to educational audiotapes at home or in your car, chances are you're an auditory learner.
- Kinesthetic Learns best through movement or while moving. If you like to walk around or knit or tinker while listening to educational material or if you feel you're pretty good at picking up new sports moves after just one or two tries, it's a good possibility that you're a kinesthetic learner.
- Touch Learns best through touch or "hands-on" experience. If you're the type of person who wants to just start operating a piece of equipment, or who wants to touch or feel objects to get a better sense of them, you're most likely a touch learner.
- Offactory Learns best through smell or taste. If you often associate things with a particular smell or taste, you very well might be an olfactory learner.



Preferred Learning Methods

- Print/Individual Learns best through reading and writing. If you love to read and feel you learn a lot from manuals, magazines and books, you may be a print-oriented learner who likes to learn things on their own.
- Interactive/Group Learns best through talking things out with other people. If you feel you learn a lot from small group discussions or by bouncing ideas off people, you may be an interactive learner.

To help them find out what kind of learners they are, have them complete The Learning Style Inventory. When they're finished, use The Learning Style Inventory Interpretation included on the next page in the handouts to help them interpret their inventory. Remember to mention, that's possible to have 2 styles of learning that are equally dominant. Ask them if they learning style identified with this inventory matches the learning style they think they are.



WHAT KIND OF LEARNER AM I?

Learning Style Inventory

Check below the techniques through which you think you learn best.

1. motion pictures	15. slides
2. lecture, information-giving	16. records
3. group discussions	17. question-answer sessions
4. reading assignments	18. independent reading
5. role playing with you as a participant	19. physical motion activities
6. project construction	20. model building
7. odor discrimination activities	21. scented materials (i.e., scratch & sniff)
8. television programs	22. graphs, tables, and charts
9. audiotapes	23. recitation by others
10. participant in panel discussion	24. interviews
11. written reports	25. writing
12. nonverbal/body movements	26. participant in physical games
13. drawing, painting, or sculpting	27. touching objects
14. tasting	28. photographs

WHAT KIND OF LEARNER AM I?

Learning Style Inventory Interpretation

Circle the numbers you checked on the Learning Style Inventory. Find the row where the most numbers are circled and identify the learning style to the right of it. Most likely, that's your dominant learning style. It is possible to have 2 learning styles with the same or almost the same number of circles. In that case, you probably utilize both learning styles equally well.

NUMBERS	LEARNING STYLE
1, 8, 15, 22, 28	VISUAL
2, 9, 16, 23	AUDITORY
3, 10, 17, 24	INTERACTIVE/GROUP
4, 11, 18, 25	PRINT/INDIVIDUAL
5, 12, 19, 26	KINESTHETIC
6, 13, 20, 27	TOUCH
7, 14, 21	OLFACTORY

Learning Styles Activity

Have the class read through the following scenario and see if they can identify the learning styles of Tony and his supervisor, John. Also, identify any problems differences in learning styles caused in this instance.

Tony works for the Excellent Products Company operating a drill press. Recently, his company automated all the drill presses in the plant. Tony, along with all the other drill press operators must now learn to operate the automatic controls. Tony has been running the drill press for 5 years. Because he feels that the automation will make him more productive and allow him to learn new skills, he's sure he can learn to work with the automatic control system. The big question, of course, is how?

Tony's supervisor, John, brings him a copy of the big, thick manual that came with the new machinery.

"Everything you need to know is right in there," says John. "Read it."

Tony tries to read it. But it seems boring to him. What he does find useful are the drawings and charts. After a week of trying to read the manual, Tony decides to talk to John.

"I could look at this manual from now till retirement and never learn what to do. I need someone to show me how to use this thing!"

John said he understood and the next day, he worked with Tony. John patiently explained everything he knew about the machine to Tony. Tony kept wanting to push the buttons and check out the information for himself. Sometimes, although Tony didn't admit it to John, he felt lost by John's explanations.

When he was done explaining everything to Tony, John asked him to repeat the steps for certain operations. Tony couldn't do it successfully. "Walk me through it," he kept saying.

"I just did," insisted John.

"Well, if I could just try it one time, then I think I'll be able to remember it better," said Tony.

"No," said John, "Until you learn what to do, we can't take a chance on damaging the new machinery."



Instructor 1-7

Learning Styles Activity (cont'd)

John walked away rather exasperated. Tony was left feeling very frustrated. "If I could just watch someone operating one of these babies, then I could pick it up," he thought.

The next day, Tony decided to take another route to learning the automated controls. He talked to some of the other drill press operators and found that one of the younger operators, Nancy, was skilled at operating automatic controls because of some vocational training.

Tony asked Nancy if he could watch her in action. "Sure," Nancy said.

That afternoon, Tony went over to Nancy's drill press. she first explained what she was going to do, then did it. Tony kept track of the buttons she pushed and in what order. "Can I try it?" he asked when she was done with the demonstration.

"Of course," said Nancy. "I'll cancel the program I just did and you start from scratch."

"Thanks," said Tony. He approached the controls. He was amazed when he remembered practically the whole sequence of events. Nancy just had to prompt him a couple of times.

"See, nothing to it," said Nancy when he finished successfully.

"Yeah, nothing to it," said Tony. "Wonder why it seemed so hard vesterday?" he thought.

Every day for a week, Tony worked with Nancy until he had all the basic operations down. John came by and saw Tony operating the automatic controls with skill and ease. "Really dug into that manual, didn't you, Tony?" he said. "I was beginning to think you were a hopeless case. Good job."

What kind of learner is Tony? Is there more than one style you can identify for him?

Haptic - wants to push buttons, operate the machinery. Also, visual - benefitted from someone showing him how to use the equipment and found the graphs and drawings in the manual helpful.



Learning Styles Activity (cont"d)

What kind of learner do you think John is? What kinds of problems did this cause between John and Tony?

John is a print learner. His first impulse is to read the manual and learn everything there is to know about the machine before actually operating it. While this might work for John, it doesn't work for Tony. John thinks everyone learns like he does. So when Tony can't learn effectively from the manual, John assumes (wrongly, of course!) that Tony simply can't learn.

Summary

In order to learn effectively, you must

o Believe in yourself.

As we've discussed, it's important to have the right attitude toward learning. You have to expect that you can learn, and you will. Of course, it won't always be easy, but with the right attitude, you can overcome any obstacles in your learning path.

Be motivated.

As adults, it's important to motivate ourselves. Being motivated helps to maintain the right attitude. In order to keep ourselves motivated, it's important to know what we, as individuals, are going to gain from the training. Everyone will gain something a little different. It's also important to know why we, individually, are going through the training - to improve certain skills, to improve our jobs. In other words, what are the consequences for us to complete this training successfully.

O Be aware of your personal learning style and take advantage of it, whenever possible.

Knowing how you feel most comfortable learning will help you to get more out of this class, faster and more effectively. You certainly will be exposed to a variety of learning methods, but take advantage of your own learning styles whenever you can, during individual and lab study times in this class, and certainly on the job. Having this understanding about how we learn and realizing that everyone learns differently helps to keep us motivated through the learning process and helps to avoid some conflicts that commonly arise when working with others.



Instructor Guidelines for Task Matrix

This Macking was created to help correlate On the Job Training objectives to Company Productivity Measures. The information obtained will be helpful in several ways:

- 1) It will encourage the participants to relate to their everyday basic skills to the Company's productivity measures. This should help correlate their improvement in these skill areas to the improvement of the company's bottom line/productivity
- 2) It will help directly tie instructional objectives, that are based on job analysis, to company productivity.

How to present the Matrix to participants:

At first the Matrix may look intimidating. This initial discomfort can be decreased by encouraging the participants to use a simple process for answering each item. After briefly reviewing the overall use/ reason for the Matrix, have the class scan the categories of each axis of the Matrix. There are really only three steps necessary to choose the desired number value to be assigned in each productivity measure.

Have the participants say:

- 1) Do (or Does) {e.g. Skill in 1st Skill Box} subtraction miscalculations
- 2) Affect (e.g. 1st Productivity Measure Box) Zircoa's Selects/Scrap/Reworks?
- 3) Choose (e.g. from 1-5 scale) answer that best fits their usual job tasks.

After discussion and instruction on the Matrix in class, the participants should take the matrix to their work-site to have on hand while they work. They will ideally bring it to the next class and turn it in to the instructor. At that time participants may wish to discuss any insights that these direct correlations revealed. These are important insights into how Zircoa's productivity is correlated to the skills of it's workers.



Instructor 1-10

ZIRCOA COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 2

- Demonstrate study skills techniques in various learning situations
- State compenents of active listening.

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SUCCESSFUL LEARNING STRATEGIES

Study Skills Techniques

Now, that we know how to get a positive attitude toward learning, how to keep motivated and how to use our own personal learning styles, we're going to talk briefly about study skills techniques that we can use to help us get the most out of this course and others.

We'll be talking about the following 4 study skills techniques:

- o Organization
- o Concentration
- o Notetaking
- Memory Improvement

Organization

In order to be successful in this class (and others), it's important to:

- o Set a goal
- o Plan how to reach that goal
- o Act upon your plans

Each of these 3 steps is essential to success. If you get a goal, but never act on it, you won't be successful. And, if you just start taking action, without planning, you'll just spire in circles, and probably won't be successful either. In this class, we're going to help you with all 3 steps.

First, have students write down personal goals that they have for the Communications on the Job I class on the handout provided. These are for students' personal use and are not to be shared with the class. To help them, you may want to go over or suggest that they review course objectives.



Instructor 2-1

ILP

Review that ILP's are a use of goal setting, plans and actions. Review how their ILP effects this course and those in the future.

Concentration

The next important study skill we want to use is concentration. It's going to be important to concentrate in class and when doing individual work. Concentration allows us to be much more efficient and learn more effectively. When we concentrate, we don't have to ask another participant what the instructor was talking about while were daydreaming, and we don't have to read and reread instructions or books, because our mind wandered off somewhere in mid-sentence. The ability to concentrate is important to learning success.

What is concentration? Summed up briefly, concentration is thinking. When we're thinking about something and aren't aware of distractions going on around us and we're deeply involved in understanding the concepts, we're concentrating. Once we become aware that we're concentrating, however, we no longer are. Or if we start to notice little noises or listen to the conversations around us, we're not concentrating anymore. To sum up, consider this quote:

Consider the postage stamp. It secures success through its ability to stick to one thing until it gets there.

-- Josh Billings

Either read or have students read the concentration activity scenario. Ask what seems to be Pat Hawkins' problem? What kinds of things indicate that he's having trouble concentrating?

Use the concentration activity to tie in the next section on what breaks our concentration.



Concentration Activity

Pat Hawkins is about 2 weeks into his training program. He's started with Basic Math, a subject he feels he's never been good at. His supervisor told him that Math skills will become more important as improvements to the equipment are made at work. But Pat feels that he's survived this long without math skills, why should he learn them now?

When Pat comes into the learning lab, he picks up the resources he needs, takes off his coat and wanders over to a workstation, thinking to himself, "Oh, here comes 2 hours of boredom. I'd rather be home, eating dinner with my family, or bowling with the guys."

After arranging his resources and notebooks, he decides he needs a cup of coffee. So, he goes to the coffee machine. In the dining room, a TV is on with the news. He watches the news for 10 or 15 minutes while he sips his coffee. On his way back to the learning lab, he thinks about the news events he just saw and wonders "what the world's coming to."

He goes back to his workstation, realizes he didn't bring a pen or pencil, so he goes into the office to get one. He chars for 5 minutes with one of the secretaries.

Then, he returns to the workstation and looks at his watch. A half hour has passed already. "Good," Pat thinks, "Only one and a half more hours of this." He works 2 or 3 problems. Then, he starts to think about the argument he and his wife had this morning. It's been bugging him all day. He knows he needs to talk to her again more calmly and rationally. He starts planning what he'll say to her.

Then, Pat realizes he's cold. He's only wearing a short-sleeved T-shirt. He rubs his arms and then gets up to get another cup of coffee. In the dining area, he sees one of his co-workers. They start talking about the day's events at work and how tough it is to work and go through this training at the same time. Pat glances at his watch. Only about 45 minutes left to study.

He goes back to his workstation. He reviews his notes and tries to go through the examples, but he keeps thinking about what he'll say to his wife when he gets home. He hits an example problem that makes no sense to him. After going over it a couple times, he looks at his watch. Only 15 minutes left.

Instructor 2-3



Concentration Activity (cont'd)

"Well, I'm going to call it a day--this is a good stopping point," he says to himself and leaves. On his way out the door, he shakes his head and thinks, "It's going to take me forever to get through this Math class, 2 hours is hardly enough time."

What Breaks Our Concentration?

As you go over this section, give the examples listed for each category, then ask the students if they can think of others. Write these on board. Also, ask them is they can identify any of these factors as culprits in breaking Pat Hawkins' concentration. For example, ask what external factors broke Pat Hawkins' concentration? (TV, chatting with co-worker, not having pencil, etc.)

O EXTERNAL DISTRACTIONS

Some examples: uncomfortable chairs, lighting, noise

O INTERNAL DISTRACTIONS

Some examples: personal problems, daydreaming

O PHYSICAL FACTORS

Some examples: hunger, thirst, tiredness, illness

0 MENTAL FACTORS

Some examples: boredom, negative attitude



Ways To There are, of course, ways to increase your concentration, and get increase past the physical and mental distractions that creep in:

Concentration

- o Keep your goal in mind.
- o Develop an interest in and a positive attitude about the material.
- e Eliminate or minimize distractions beforehand.
- o Think about successes you've had or success you're determined to have. Then, get to work.

CONCENTRATION HINT: You can will yourself to concentrate and then practice. Start by telling yourself to concentrate for just 5 minutes. Then you can gradually increase your concentration time. Soon, concentration will become a good habit.

Concentration Activity - Good Model

Let's figure out what Pat Hawkins' study session would have been like if he applied some of these concentration techniques. Have the class come up with some things they think he could do. Then, refer them to the good model and briefly go over.

Pat Hawkins is about 2 weeks into his training program. He's started with Basic Math, a subject he feels he's never been good at. His supervisor told him that Math skills will become more important as improvements to the equipment are made at work. Even though Pat feels he's survived this long without math skills, he knows that

more is going to be expected from him on the job when the new equipment is installed. He knows it's going to be a struggle, but on the way to the learning lab, he mentally prepares himself to learn and succeed at Basic Math.

Before he leaves work, Pat makes sure he has everything he needs his notebook, a pencil and eraser, a snack of crackers, cheese and fruit, and a light sweater.

ERIC

Instructor 2-5

Concentration Activity - Good Model (cont'd) When he arrives at the learning lab, he takes off his coat and puts on the sweater. He takes his notebook to the dining area, eats his snack, has something to drink and goes over his notes from the last session, ignoring the news on the TV. As he walks back to the learning lab, he feels prepared. He checks out the resources he needs and goes to a workstation where he feels comfortable.

The argument that he had with his wife this morning comes into his mind. It's been bugging him all day. He tears off a piece of notebook paper and writes down what the argument was about and his solution, talk to her calmly and rationally. "I'll think about what I'm going to say in the car on the way home," he tells himself. Then, he gets down to business.

First, he reviews his notes, making sure to work through the example problems. There's one in particular that gives him some problems, so he marks it to ask the instructor about in the next class session.

Now, he's ready to tackle problems. He works through the problems in the first section of the software. Before starting the second section, though, he decides he needs a short break. He looks at his watch, about 45 minutes left, enough time for a 10-minute break.

He goes into the dining area where he sees a co-worker. He chats with him about the day's work events but lets him know that he can't talk long because he wants to finish the next section before leaving today. The co-worker comments on his motivation and persistence. "It's hard," Pat tells him, "but I look at it as an opportunity. I don't know how all this will fit together with our jobs, but I think I'll be better prepared for the new equipment if I learn this now." Pat keeps track of the time and at the end of 10 minutes, he tells his co-worker he has to go.

He returns to the workstation and works the problems in the second section of the software. Walking out of the building, Pat has a sense of confidence in his ability to learn. And when he gets in the car, as promised, he starts thinking about what to say to his wife. He feels that he'll be able to work out the situation with her, now that he let it simmer in the back of his mind for a while and came to it fresh.



Notetaking Tips

Another study skills technique that can help us get more out of this class and any learning experience is to take good notes and use them to refer back to.

The following tips are general ones, regarding notetaking:

- o **Listen actively** Good listening skills are important for taking good notes.
- O Don't try to write down every word the instructor says Abbreviate when possible and summarize. The most valuable notes to you are the ones in your own words.
- o Be neat and organized After all, what good are a bunch of messy, sloppy words that you won't be able to understand later? On the other hand, don't get too hung up on neatness. A word crossed out here or there or an arrow or two is OK, as long as it's understandable.
- Review your notes daily Preferably, review them right after class. Just a quick 5-10 minute review will help you to retain the material a lot longer.

They have 2 handcuts which are examples of neat, concise notetaking. Go over each one, pointing our the organized format which makes it easier to review notes as well as easier to take them, the use of abbreviations, and the use of a column that can either be filled out in class if there's time or during a quick review to ensure understanding (In Vocabulary example, it's the My Sentence column, in Using the Dictionary example, it's the Example column.) Stress the importance of putting notes into own words and checking understanding of notes by doing something like making up a vocabulary word sentence. Also, mention the layout of the handouts used in this class — plenty of white space everywhere for notes and in some cases, even specific blanks left for notes on class discussions.



Instructor 2-7

Notetaking Examples

Vocabulary Words

Word	Pronunciation	Meaning	My sentence
Variable	Vår ë e bel	Measurable quantities such as dimensions or weight	Two variables that I need to check are the diameter and thickness of the valve tip.
Probability	prŏb ə bii i tē	The chance that something will or will not happen	The probability of process problems increases when we use a new material for the first time.

Using the Dictionary

Recall Words	Notes	Examples
Spelling	Spelling - entry word shows - sometimes more than 1 sp more common sp. given 1st.	theater or theatre
Plurals	Plurals - most nouns show by -s or -es - irregular plurals in dict shown by pl. before plural form	mouse - pl. mice
		148-4



Memory Improvement

Just as there are personal learning styles, there are also different types of memory. You probably use all three types but you also probably have one that's more dominant.

Three Types of Memory

- o Visual
- o Auditory
- o Kinesthetic

Do the following quick exercise so participants can get an idea of what memory type is their dominant one:

Tell them you'll say a list of 5 words. After each word, they're to write down the first word that comes into their mind that they think would help them remember that word.

The list of 5 words

Art

Work

Ship

Land

Store

If they wrote down words that are concrete visual images, such as painting for art or sail for ship, they most likely have a dominant visual memory. If they wrote down sound-alike words, such as cart for art and slip for ship, they most likely have a dominant auditory memory. If they wrote down "feeling" or "describing" words such as beautiful for art or wet for ship, they most likely have a dominant kinesthetic memory.

Instructor 2-9

Memory improvement (cont'd)

Now that we know which type of memory is our strongest, let's go over some general tips for improving memory that people with all types of memories can use.

General Tips to Improve Your Memory

0	Interest -	It's much easier to remember information about what interest you.
O	Selection -	It's a lot easier to remember the important points made, rather than to try and remember all the details given.
0	Attention -	You need to give your full attention to something that you want to remember.
0	Understanding -	If you understand something, you'll remember it a lot easier.
o	Intention to - Remember	You need to tell yourself that you want or need to remember something.
0	Confidence -	Have a positive mental set see yourself as a person with a good memory.
0	Association -	Connect things in your mind.
0	Background of - Experience	You'll more easily remember new things about a topic if you already know something about that topic.
0	Organization -	Group things you have to remember in a logical fashion.
0	Practice -	The more you practice, the better your memory will be.





Memory Systems Now let's take a look at some memory systems that you can use to improve your memory. You can use whichever systems you feel would work for you. You may use just one or you may use more than one.

Memory Systems

Observation - The more and better you observe or study something, the easier it will be to remember.

In other words, if you look at something for a minute or two rather than 30 seconds, you're more likely to remember it.

o Visualizing/ - Imaging

Picturing something helps us to remember it better. Concrete items are easier to visualize than abstract ideas.

To illustrate this, have them visualize the following 2 items:

o A valve

o Putting quality into your work

Ask them which one was easier to see in their minds.

o **Association -** It's easier to remember new information when you associate it with something you already know.

For example, you can remember how to spell piece, by remembering the first three letter spell the word pie and whenever you think of piece, think of a piece of pie. Or remembering the shape of Italy by thinking of a boot.



Instructor 2-11

Memory Systems (cont'd)

Substitution -

Think of and picture a word or group of words that sound like or remind you of what you want to remember. This technique works well for abstract concepts.

For example, to remember Minnesota, you can think of a small bottle of soda -- a mini-soda. Or you can remember the word HOMES in order to remember the names of the Great Lakes (Huron, Ontario, Michigan, Erie, Superior) Mention that using other phrases like HOMES to remember a series of things is called mnemonics.

o Classification -

Divide items into logical groups. It's much easier to remember three or four groups of four to six items each than one large group of twenty to twenty-five items.

For example, remembering a grocery list according to categories such as meat, dairy, produce, pasta rather than just trying to remember the whole list.



Memory Exercise

If time, have them try the following memory exercise. If there's not time, tell them to try the exercise on their own -- they'll be amazed at how well they can remember!

Use the substitution technique to memorize the ten memory principles. Each is listed below with a space next to it for you to draw a picture or write a word which will help you remember each item. After you've completed your substitutions, take a few minutes to memorize, then flip this page over and surprise yourself at how well you remember the ten memory principles.

1.	Interest	
2.	Selection	
3.	Attention	
4. .	Understanding	
5.	Intention to Remember	
6.	Confidence	
7.	Association	
8.	Background of Experience	
9.	Organization	
10.	Practice	



Memory Exercise (cont'd)

Here's an example of how the memory exercise works.

	•	
1.	Interest	% percent symbol
2.	Selection	Imagine yourself selecting an object you like such as a piece of candy from an assorted box of chocolates
3.	Attention	Think of a soldier standing at attention
4.	Understanding	Picture a person under a stand
5.	Intention to Remember	Imagine a person in a tent with a light bulb over his or her head
6.	Confidence	Picture a person with their chest out
7.	Association	Imagine an association you belong to
8.	Background	Think about someone lying on their back on the ground
9.	Organization	Picture an organization chart, or an open file drawer that is organized.
10.	Practice	Imagine someone practicing on a musical instrument or practicing a sport.





ZIRCOA COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 3

- Identify effective communication techniques when faced with difficult job situations
- Practice effective communication techniques when faced with difficult job situation.

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DEALING WITH DIFFICULT COMMUNICATION SITUATIONS

Many factors combine to create difficult communication situations. Can you name a few?
Personality styles.
Perceptions (different for every person).
The situation (What's going on at the moment?)
Past histories.
Emotions. Assumptions.
Others:
Brainstorm any that the participants will add.
Communication does not occur in a vacuum. Any communication situation involves people, words, emotions, attitudes, and non-verbal interactions. Can you name any other ingredients that add to the communication "stew"?
Job stresses.
Home situations.
Time constraints.
Promotions.





Work environment (hot, cold, etc.)

HANDOUT

7 STEPS TO MANAGING CONFLICT

1. ASK TO SPEAK WITH THE PERSON

Decide on a time and place that is convenient for both of you.

2. LISTEN

Really listen to what the other person has to say.

Use good listening skills.

3. STATE THE PROBLEM

Use I messages to state the problem.,

Do not call names or yell.

Describe behavior instead of making judgements about the other person.

Include positive feedback vs. praise.

GO TO PARTICIPANT PAGE 3-2

3-2 through 3-9 should fit here. Based on individual decisions Facilitators can decide to go on to role playing after 3-9 or wait until finishing 7 Steps to Managing



Instructor 3-2

Conflict.

Instructor 3-3



FACILITATOR NOTE

Read through page 3-2 as a class. To tend to lower level readers, facilitator may need to read aloud. May want to have participants volunteer to read some of the statements, e.g. facilitator reads you-blaming and participants take turns reading I-rational approach. Some persons with previous communication training may identify the I-rational approach with the "I statements". The two formats are quite similar and the other may be reviewed if time permits.

When you describe behavior, I feel state how you are affected with feelings included. It would be helpful if provide possible change in behavior win/win.

RETURN TO MANAGING CONFLICT

4. REPEAT THE OTHER PERSON'S POINT OF VIEW

Make sure you understand what the person means.

Try to see the situation their way.



HANDOUT

7 STEPS TO MANAGING CONFLICT (cont'd)

5. **NEGOTIATE**

Work toward solving the problem.

This is not a win-lose situation.

ADD WIN- WIN OVERVIEW

6. REACH AN AGREEMENT

Find a solution with which you can both live.

7. FOLLOW UP

Make sure the solution is working for both of you.

Make changes if necessary.



Instructor 3-5

HANDOUT

RULES FOR FIGHTING FAIR

A REVIEW OF THE ENTIRE SYSTEM AND "GOOD COMMUNICATION" STYLES.

We learn rules for driving, for sports, and games, but most of us have never learned rules for dealing with conflict. The Rules for Fighting Fair help workers deal with conflict constructively.

- 1. Identify the problem
- 2. Focus on the problem
- 3. Attack the problem, not the person
- 4. Listen with an open mind
- 5. Treat a person's feelings with respect
- 6. Take responsibility for your actions



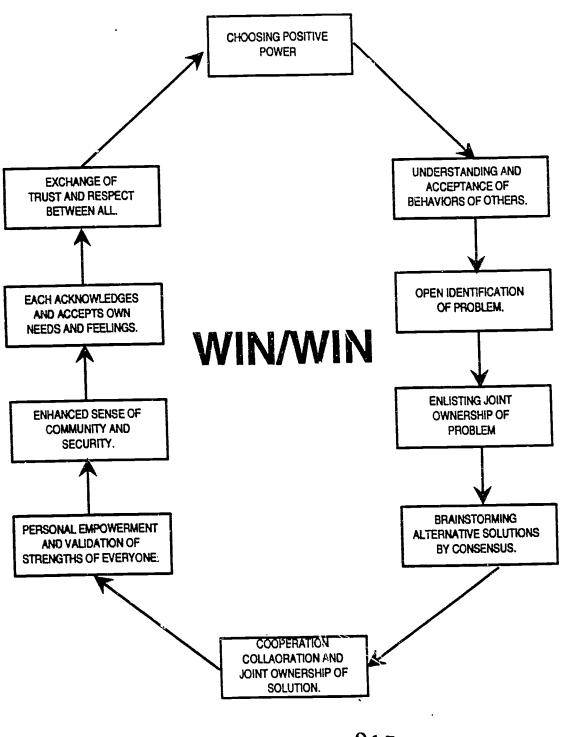
HANDOUT

TIPS

- 1. Choose a good time and place for both people
- 2. Do not bring up the past (history)
- 3. Deal only with the current conflict
- 4. Avoid words like always and never
- 5. Try to understand your own feelings and the other person's feelings
- 6. Stay calm
- 7. Have a sense of humor



Instructor 3-7



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Instructor 3-8



ZIRCOA COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 4

- Demonstrate phonics skills
- Demonstrate ability to locate specific information in a dictionary



PHONICS REVIEW

There are two kinds of letters in the English alphabet, consonants and vowels. Twenty-one of the letters in the alphabet are consonants:

b c d f g h j k l m n p q r s t v w x y z

Five of the twenty-six letters of the English alphabet are vowels:

a e i o u

This phonics review will include consonant blends, silent consonants, single long vowels and single short vowels. Using phonics is necessary when you need to decode and pronounce unknown words.

THE KEY STEPS IN USING PHONICS TO DECODE AND PRONOUNCE WORDS ARE:

- Look at the letters that make up the word very carefully.
- 2. Say the sounds that letters and pairs of letters stand for.
- 3. After you have said all the sounds of the letters, say them again while blending the sounds together so that the result is the sound of the new word.

Instructor 4-1

CONSONANT BLENDS

Consonant blends are combinations of two or three consonants, each with a distinct sound, that go together—blend smoothly with the other(s). These consonant blends can be found in the beginning, in the middle; or at the end of a word. Each consonant in the blend keeps its own speech sound, and those sounds can be heard when you say the blend. When you say the following words, you will be able to hear the sound of each of the consonants in the underlined blend.

blue	<u>pl</u> astic	se <u>nd</u>
grass	wa <u>st</u> e	la <u>st</u>
drag	un <u>dr</u> ess	te <u>nt</u>

The consonant blends are easier to learn when they are put into groups. The following are some often-used groups of consonant blends. Say the words in each group and listen for the sounds of the consonant blends.

L blends all have I as the last letter of the blend.

bl	cl	fi gi	pi si	
bl		<u>bl</u> ack	<u>bi</u> ow	re <u>bl</u> ot
cl		<u>çl</u> ap	<u>çi</u> og	un <u>cl</u> ean
fl		fly	<u>fl</u> ower	<u>fl</u> ag
gl		glass	glow	glee
pΙ		<u>pl</u> ate	<u>pl</u> op	<u>pl</u> un:
sl		<u>sl</u> ice	<u>sl</u> ate	<u>sl</u> ow
spl	•	splash	<u>spl</u> ice	<u>spl</u> int

PRACTICE 1

Say each of the following words. Circle each I blend you hear.

1.	place	6.	(flop
2.	(clock	7.	(claw
3.	(sleet	8.	Eglit
4.	(fleet	9.	(pjot
5.	(glue	10.	(pjeed

Instructor 4-2

R blends all have r as the last letter of the blend.

br	cr	dr	fr	gr	pr	tr
br cr dr fr gr pr tr		brow crab drag fry gree prize trair	en e	bran cros dry fret grap prar try	s 00	um <u>br</u> ella <u>cr</u> ank <u>dr</u> op re <u>fr</u> esh grunt sur <u>pr</u> ise sub <u>tr</u> act

PRACTICE 2

Say each of the following words. Circle each r blend you hear.

1	(trlp	6.	(frank
2.	ur(fr)endly	7.	Cry Cry
3.	pretty	8.	preach
4	bring	9.	Track
5.	drug	10.	unbreakable



S blends all have s as the beginning of the blend.

sc sk sm sn sp st sw scr spr str

SI and spl can be I blends or si blends. They have been put in the I blend group.

SC	<u>sc</u> ale	<u>sc</u> old	<u>sc</u> um
sk	<u>sk</u> ip	<u>sk</u> ate	a <u>sk</u>
sm	<u>sm</u> ile	<u>sm</u> ack	<u>sm</u> oke
sn	<u>sn</u> ake	<u>sn</u> ip	un <u>sn</u> ap
sp	<u>sp</u> ider	<u>sp</u> eak	cla <u>sp</u>
st	<u>st</u> ill	<u>st</u> and	lo <u>st</u>
SW	<u>sw</u> eet	<u>sw</u> im	<u>sw</u> ab
scr	<u>scr</u> ub	<u>scr</u> ap	un <u>scr</u> ew
spr	<u>spr</u> ing	<u>spr</u> ay	<u>spr</u> out
str	<u>str</u> ing	<u>str</u> ap	<u>str</u> uck

PRACTICE 3

Say each of the following words. Circle each s blend you hear.

1.scat6.swear2.sprinkle7.snoop3.scotch8.stretch4.screen9.firsth5.smear10.desk)

Other often-used consonant blends are usually found at the ends of words.

nt	nk	nd ld		
nt		hu <u>nt</u>	wa <u>nt</u>	we <u>nt</u>
nk		tha <u>nk</u>	su <u>nk</u>	wi <u>nk</u>
nd		fou <u>nd</u>	sa <u>nd</u>	wi <u>nd</u>
ld		cold	ba <u>ld</u>	he <u>ld</u>

PRACTICE 4

Say each of the following words. Circle each consonant blend you hear.

1.	bunk	6.	hold
2.	field	7.	want
3.	sent	· 8.	send
4.	land	9.	rank
5.	lint	10	. weld

SKILL PRACTICE: CONSONANT BLENDS

Circle the consonant blends you hear in the words in each of the following groups. Some words have more than one consonant blend. Other words do not have any blends at all.

1.	(grind)	greet	gold
2.	(trapper	tailor	trailer
3.	(clearest)	contest)	Cripple
4.	subject	swallow	splinter
5.	(pretend)	(placement)	passage
6.	chunk	(grasp)	(bl)(nt)
7.	favor	flavor	(fright
8.	Slender	sorrow	strike
9.	brain	(blame	pold)
10.	improve	in(stant)	insist)



SILENT CONSONANTS

When two consonants are next to each other in a word, sometimes one of them is silent. You do not hear it at all when you say the word. The following are some examples of silent consonants. Say the words in the examples. You should not hear the underlined letters.

Two of the Same Consonant Letters

When two of the same consonant letters are next to each other, only one sound is heard.

egg	o <u>dd</u> est	pu <u>rr</u> ing	bi <u>ll</u>	pu <u>tt</u>	mi <u>ss</u> ed
Examples of Sil	ent Consonar	nts			
Silent b Silent c Silent g/gh Silent h Silent k Silent I Silent n Silent p Silent s Silent t Silent t	lamb black sign gh⇔st knife calf autumn psalm isle castle wrong	clim <u>b</u> du <u>c</u> k g <u>n</u> ash honest knit folk dam <u>n</u> cupboard i <u>s</u> land often write	bomber nickel sight hour knee half hymn raspberry aisle tasten wholly	de <u>b</u> t mus <u>c</u> le hi <u>gh</u>	dou <u>b</u> t s <u>c</u> issors nei <u>gh</u> bor

SKILL PRACTICE: SILENT CONSONANTS

Say each of the following words. Cross out any consonant letters you do not hear.

1.	listen	6.	psychology
2.	thumb	7.	rpryme
3.	hien	8.	y vreck
4.	sgent	9.	assign
5.	stalik	10.	knigkit



VOWELS

Five of the twenty-six letters of the English alphabet are vowels.

a e i o u

Sometimes the consonant letters \boldsymbol{w} and \boldsymbol{y} also act as vowels.

When the sound of a vowel is the same as its name, the vowel sound is said to be **long**. Say each of the following words and listen for the sound of the vowel's name. A bar (-) is used above a vowel letter to show that the letter stands for long vowel sound.

ace eve ice oh use

PRACTICE 1

Say each of the following words and listen for the name of the vowel letter. Then mark the long vowel that you hear.

base choke wipe
Utah Pete she
tote hope late
flute kite we
high flake chute





Single Vowels at the End of Short Words

A single vowel at the end of a short word usually stands for a long vowel sound. Say the following short words and listen for the long vowel sound in each.

bē

gō

hī

Silent Eat the End of a Word

When a word has a vowel, consonant, silent e pattern, the vowel sometimes stands for a long sound. The following words are examples of this pattern. Notice that the final e is silent in each word and that the first vowel has a long sound.

tāpe

these

bite

nõse

rūde

māde

PRACTICE 2

Say the following words. You will not hear any long vowel sounds. Then add an e to each word. Now mark the long vowel sound you hear in each word.

fat fāt e hop hop<u>ළ</u> mad māde

us ūs e ton ton<u>e</u>

sum assüm<u>e</u>





Y AS A VOWEL

The letter y can act as either a consonant or vowel letter. The letter y found at the beginning of a word stands for the consonant sound in yet. When the letter y is found in the middle or at the end of a word, it stands for a vowel sound.

Short / Sound of Y

When the letter \mathbf{y} is in the middle of a word, it usually stands for a short \mathbf{i} sound. Listen for the short \mathbf{i} sound of \mathbf{y} in the following words.

gym

hymn

oxygen

Long / Sound of Y

As the last sound of a short word, the letter **y** usually stands for the long **i** sound heard in the following words.

dry

fry

my

Long E Sound of Y

When the letter **y** is the last letter in a word that has more than one part, it usually stands for a long **e** sound. Listen for the long **e** sound at the end of each of the following words.

baby

candy

happy



SKILL PRACTICE: VOWELS

Say the following words and listen for the sound of each vowel. Write the letter that stands for the sound you hear and mark it as long or short.

ă 11. branch 1. fly 12. verse 2. cute 13. like 3. me shaky 14. floppy 4. ō 15. home 5. gyp 16. hike 6. type 17. burn 7. warm kit 18. · 8. pitch ĕ_ <u>a_</u> 19. fret 9. place

20.

lurch

<u>u ē</u>

lumpy

10.



DOUBLE VOWELS-ONE VOWEL IS SILENT

When two vowels are next to each other in a word, they usually act as if they were only one vowel. Some double vowels stand for the sound of only one vowel—the other is silent. The following double vowels act as though they were single vowels. The first vowel stands for the sound you hear. The second vowel is silent.

Sounds of Al and AY

The double vowels ai and ay usually stand for only one sound, long a. The i and y are silent. Say the following words and listen for the sound of long a.

<u>ai</u> d	tr <u>ay</u>	st <u>ai</u> n
m <u>ai</u> n	w <u>ai</u> st	pr <u>ay</u>
laid	cl <u>av</u>	w <u>ai</u> t

Sounds of Al and AY

The double vowels ea sometimes stands for a long e sound. The a is silent. Say the following words and listen for the long e sound.

cl <u>ea</u> n	pl <u>ea</u> se	w <u>ea</u> k
s <u>ea</u>	tr <u>ea</u> t	gr <u>ea</u> se

The double vowel ea may also stand for a short e sound. The a is still silent. Say the following words and listen for the short e sound.

bread	w <u>ea</u> lth	br <u>ea</u> st
d <u>ea</u> th	d <u>ea</u> f	d <u>ea</u> d



Sound of EE

The double **ee** usually stands for the single long **e** sound. Say the following words and listen for the long **e** sound.

w<u>ee</u>k

<u>ee</u>l

qu<u>ee</u>n

peep

Greek

t<u>ee</u>n

Sound of **OA**

The double vowel oa usually stands for the long o sound. The a is silent. Listen for the long o sound as you say the following words.

soap

cl<u>oa</u>k

b<u>oa</u>t

coal

f<u>oa</u>m

<u>oa</u>k



DOUBLE VOWELS-NEW SINGLE SOUNDS

Some double vowels stand for a single sound that is different from that of either vowel when it stands alone.

Sounds of AU and AW

Both au and aw stand for the new single vowel sound you hear in the following words.

cause

<u>aw</u>e

f<u>au</u>lt

squaw

h<u>au</u>l

saw

Note that the ${\bf w}$ acts as a vowel when it follows the ${\bf a}$ in these words.

Sounds of Ol and OY

Double vowels oi and oy stand for the new single vowel sound you hear in the following words.

yod

c<u>oi</u>n

toy

voice

VOI

sp<u>oi</u>l

Note that y acts as a vowel when it is part of the double vowel oy.

PRACTICE 3

Say each of the following words. If you can hear the sound of **aw** (shawl), write an a next to the word. If you hear the sound of **oy** (joy), write a **b** next to the word.

1. enjoy

b

6. auto

a

2. rejoice

<u>b</u>

7. crawl

<u>a</u>

3.

caught <u>a</u>

8. noise

b

4.

lawn _____a__

9. Paul

a

5.

coil

b

10. destroy

<u>b</u>

DOUBLE VOWELS THAT STAND FOR MORE THAN ONE SINGLE SOUND

Sounds of OW

The double vowel ow may stand for a long o sound. In this case, the w is silent. Say the following words and listen for a long o sound in each.

bl<u>ow</u>

<u>ow</u>n

t<u>ow</u>

grow

sn<u>ow</u>

gl<u>ow</u>

Sometimes the ow may stand for the sound heard in the following words.

how

br<u>ow</u>n

C<u>OW</u>

<u>ow</u>l cr<u>ow</u>d

howl

PRACTICE 4

Say each of the following words and listen for the two sounds of **ow**. If the word has an **ow** sound as in snow, write an **a** next to the word. If the word has the **ow** sound as in how, write a **b** next to the word.

1. power

<u>b</u>

6. now

<u>b</u>

2. brown

<u>b</u>

7. town

b

3.

a

8. show

a

4.

growling <u>k</u>

9. prowl

<u>b</u>

5.

flower

flow

<u>b</u>

10. slow

a

Sounds of OU

The double vowel ou usually stands for the same ow sound you hear in owl.

blouse

fl<u>ou</u>r

our

<u>ou</u>t

ground

scout

The double vowel ou may also stand for three other sounds. In the following words, the double vowel ou stands for the long o sound. The u is silent. Listen for the long o sound in each word.

dough

s<u>ou</u>l

though

owl

crowd

h<u>ow</u>i

The double vowel ou may also stand for a short u sound. Then the o is silent. Listen for the short u sound in the following words.

cousin

double

tougl:

Finally, ou may stand for a long ${\bf u}$ sound. In the following words, the ${\bf o}$ is again silent. Say the words and listen for the long ${\bf u}$ sound.

group

route

soup



PRACTICE 5

Say the following words and listen for the sounds of ou. Write a, b or c to show which sound of ou you hear.

a = sound in out

b =sound in double (u)

c = sound in group (u)

- 1. country
 b
 6. cougar
 c

 2. youth
 7. ounce
 a

 3. count
 8. rough
 b
- 4. house a 9. trouble b5. enough b 10. coupon c

Sounds of OO

The double **oo** may stand for two different sounds. One **oo** sound is heard in the following words. It is called the long **oo** sound (oo). Listen for the long **oo** sound as you say the following words.

r<u>oo</u>m m<u>oo</u>d n<u>oo</u>n sn<u>oo</u>p t<u>oo</u> f<u>oo</u>d

The other **oo** sound is heard in the following words. It is called the short **oo** sound (oo). Say the following words and listen for the short **oo** sound.

f<u>oo</u>t h<u>oo</u>d cr<u>oo</u>k b<u>oo</u>k st<u>oo</u>d s<u>oo</u>t

PRACTICE 6

Listen to the **oo** sound in each of the following words. Mark the **oo** sound as long (boot) or short (hood) in each word.

hood 6. z00 1. groom 7. 2. brook wool 8. shook 3. proof 9. bloom 4. rooster 10. noose



USING PHONICS TO DECODE AND PRONOUNCE WORDS

You have learned sounds that letters of the English alphabet usually stand for. You are now ready to use these sounds to decode and pronounce words. This practice will help you learn to use phonics whenever you need to decode and pronounce words.

REMEMBER - THE KEY STEPS IN USING PHONICS TO DECODE AND PRONOUNCE WORDS ARE:

- 1. LOOK AT THE LETTERS THAT MAKE UP THE WORD VERY CAREFULLY. Use what you know about consonant blends and double vowels to help you spot letters that go together.
- 2. SAY THE SOUNDS THAT LETTERS AND PAIRS OF LETTERS STAND FOR. Be careful not to say silent letters.
- 3. AFTER YOU HAVE SAID ALL THE SOUNDS OF THE LETTERS, SAY THEM AGAIN WHILE BLENDING THE SOUNDS TOGETHER SO THAT THE RESULT IS THE SOUND OF THE NEW WORD.

Word: skoaph Word: sproad

sk = blend--go together spr = blend--go together

oa = o oa = double vowel = o

 $\mathbf{ph} = \mathbf{f}$ sound $\mathbf{d} = \mathbf{consonant}$ sound

sk + o + f spr + o + d

Pronounced: skof Pronounced: sprod



SKILL PRACTICE: USING PHONICS TO DECODE AND PRONOUNCE WORDS

Directions: Use what you know about letters and their sounds. Say each word. Then write its correct English spelling. These are real words.

Example: terckee = turkey; cou = cow.

1.	psope	soap	6.	cyk	_sick_
2.	wramb	ram	7.	phlag	<u>flag</u>
3.	kwik	<u>quick</u>	8.	cou	<u>cow</u>
4.	phite	<u>fight</u>	9.	wrabit	rabbit
5.	shigh	shy	10.	doun	down

INSTRUCTOR OUTLINE

Participants have numbered statements and blank space for notes

Keep a dictionary within easy reach

DISCUSSION

Tom Peters the management guru recognized the importance of this factor in a speech. He said that he had One of those beautiful big dictionaries that never got pulled off the shelf to use. He placed it on a stand in a prominent place and claims that if you can't help tripping over it you'll use it. Can you remember seeing on of those amazingly big dictionaries in a library from your childhood or even now? Don't they get used because of their accessibility?



2. Practice alphabetical order

DISCUSSION

All dictionaries are arranged in alphabetical order. Imagine trying to find a word in a 500,00 word dictionary with a simple system of order. So working quickly with the alphabet makes dictionary use easier. If you have to say the entire alphabet to find a particular letter, this will slow you down too much. Dividing the alphabet into sections can help. Then grouping the letters can lead to the approximate area of the dictionary in which to start the word search.

Two ways that

If the word begins with b, look toward the front
If the word begins with m, look toward the middle
If the word begins with s, look toward the back of the dictionary

Another method groups the letters of the alphabet into sections:

- 1. ABCDEFG
- 2. HIJK
- 3. LMNOP
- 4. QRSTUV
- 5. W X Y Z

Now practice picturing these sections in your mind. The next time you need to look something up in the dictionary, the phone book, the glossary of a manual, or a street name on a map.



Putting words in alphabetical order

DISCUSSION

Keep the alphabet and the techniques above in mind when alphabetizing words, names etc. Practice with putting words in order helps when finding a word quickly.

If words all begin with the same letter then the second letter determines the alphabetical order.

Circle the letter on the "g" word list that determines how these words were ordered:

gelley
girl
girth
generation
geld
golden
gum

Words can share the same first, second and possibly third letters. It then becomes the first letter that is different that determines the alphabetical order.

Activity 1 will give some hints, techniques and practice with alphabetization. Some people seem to have an easier time with this. It is a skill that can be reviewed and improved.



3. Use a dictionary with ease

DISCUSSION

Review the components of a dictionary page



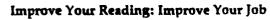
3. Use a dictionary with ease:

SKILL 16: POWERHOUSE, POWER TOOL

The Dictionary

15 Ways a Dictionary Can Energize Your Reading

-sinister/siren Guide Words-(1st & last words on . ein-is-ter (sin'i ster) adj. [< L. sinister, left hand] 1. threatening harm, evil, or trouble 2. bad, wicked, evil 3. orig., of or on the left side a page) SYN. base, dieastroue, foretelling denger ✓ Word Meanings – eink (singk) vi. [OE. sincan; 1. to fall downward slowly 2. to become pertly or completely submerged in water 3. to become lower or weeker in value 4. to appear to go down, as the eun 5. to pase gradually into a lees ective state (eleep, ill-health, etc.) vt. 1. to ceues to fall, make go down, under, lower, or weaker 2. to dig a well 3. to send (a ball) into a hole or pocket in golf, billiards, basketball. etc. 4. to invest money (definitions) Read all the meanings given. Then choose the most suitable one for your use. to a hole or pocket in golf, billiards, basketball, etc. 4. to invest money n. 1. a basin with a drainpine 2. a cess-pool or sewer 3. Printing the extra space left et the top of the page for the heginnings of a chapter, etc. _____ Idiom_sink or swim. to fail or succeed, depending on one's own efforts Pronunciations ☑ Syllabication (division of words into syllables or parts) sink-ar (sine/ker) n. 1. a person or thing
that eighs 2. a weight used to sink a
fielding line 3. [Collog.] a doughnut ☑ Accents sinking fund to extinguish • ☑ Spelling < (+ verb and adjective Sino- [< LGk. Sinai] a combining form, mean-ing Chinese and . . . (such as Sino-Japan-ees meening Chinese and Japanese) forms, plurals) in-u-ete (sin'yoo it) adj. [< L. sinuatus, bent, curved; l. winding; bent in and out a sole. having a wavy margin, like some leeves Word Origins. (etymologies) Parts of Speech Sioux (eoo) n. pl. Sioux (soo, eoos) [< Fr., short for Nadowessioux < ojibwe Nadoweisiu eneey lit. little eneke] a member of any ✓ Synonyms / (See SKILL/23) of various American Indian peoples, esp. the Dakota tribe adj. perteining to ☑ Idioms this tribe. eire (sIr) n. [< L. senior, comp. of senex, old: 1. e father or ancestor 2. title of respect used to address e sovereign or 'Capitalization' king irchaic an important person, or one in a position of authority eir-ee (se re') interj., often used with Usage Labelsno or yee ☑ Subject Labels ei-ren (el'ren) n. [< Gr. Seiren] 1. Gr. 4 Romen Myth. any one of a group of ase nymphe, represented as pert bird end pert woman, that used their singing to lure Illustrations seilore to their destruction 2. e seduc-tive woman 3. e whistle or similer device used as a werning signal Mythology-



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4. Choose the right dictionary for the task

DISCUSSION

Pocket dictionaries

Desk Dictionaries

Picture Dictionaries

Collegiate Dictionaries

Technical Dictionaries



ACTIVITY 1

Alphabetize a set of Zircoa Employees Daily Production Reports.

HINT: Separate (and alphabetize) these names in groups then rearrange them in alphabetical order.

Example:

- Names beginning with " Robb"
- Names beginning with "Robert"
- Names beginning with " Robi"
- Names beginning with "Rod" and so on...



ZIRCOA COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 5

- Identify situations in which a technical dictionary is needed.
- Demonstrate skills for using a technical dictionary
- Identify components of the reading process

BEST COPY AVAILABLE



THE READING PROCESS

HANDOUT

Have participants start the Module with the "Reading Fact Quiz"

Participants have blanks for notetakingl

FOUR AREAS OF READING

Vocabulary

Define

What does that popular radio sales pitch for a Vocabulary improvement system claim "the words you use say a lot about you"?

This may be a pitch to sell you something, but your vocabulary important to your life and job. Just imagine if your vocabulary did not include the word KILN or TICKET or SENSOR? Perhaps these words mean different things since starting to work at Zircoa. Different jobs, industries, cultures, and companies have different vocabularies. This course will encourage the participants to focus on their job-related vocabulary, but systems developed will most probably impact the participants everyday vocabulary. While many "vocabulary building systems" exist, this course will not present any one system. Participants will be encouraged to build their vocabulary within the lessons and individual systems that may emerge could be encouraged.

Vocabulary can be improved!

Comprehension

Define

Comprehension is part of the reading process. Reading is a mental process and because it can not be seen it is difficult to describe. Therefore we true to describe the skill that make up reading. Comprehension is another one of the skills of "good reading" that can be improved. Participants will also work on their comprehension.



Speed

Define

The rates at which people read differ greatly. Do any native Clevelanders remember Dorothy Fuldheim? As a Broadcaster she interviewed many famous people and frequently talked about the fact that she often read several lengthy books in one day. There are probably other people who we have observed to be "speed readers." There are many programs people can use if they choose to increase their reading speed. Although speed will not be a focus in this course, it will be important for participants to learn about the different speeds of reading and when each one is most applicable.

Speed can be improved and modified to fit the purpose of our reading

Concentration

Define

Concentration is another component of the mental process of as the definition states reading. Internal and external stimuli affect concentration.

HANDOUT

encouraging participants to review their reading strengths first and then their weaknesses.



ACTIVITY 1

READING SKILL INVENTORY

	Consider the three are	eas of reading	we have discussed:	
	COMPREHENSION	SPEED	CONCENTRATION	
Which	n is the area in which yo	u have the mo	ost strength?	
The r	most important area of m	ny reading tha	t I feel needs improving is:	
The a	area of my reading that I	i would most i	ike to improve is:	
esne	scially on the job. Many	different coul	w of strategies to improve the rses exist to focus on impropring your reading in the near	ving you





READING SKILLS

For participants to improve their reading skills they it is helpful for them to:

- Acknowledge that your ability to read efficiently is important to their job and their company.
 - Some people, who believe that they don't "read" on the job, just need help exploring other facets of reading that they may not acknowledge (e.g. skimming, scanning, Process Documents that they read a long time ago etc. May need to BRAINSTORM these).
- A positive attitude- Develop a positive attitude for learning how to read.
- Set personal goals for improving your reading as in the Activity.

DIFFERENT READING RATES

- SLOW STUDY for difficult communications, following instructions or mastering information.
- NORMAL READING for magazine and newspaper articles, business reports, memos and fiction.
- SKIMMING for grasping the main ideas and for some fiction.
- SCANNING for looking up phone numbers, stock quotations and information on charts and forms



STAGES OF READING

LEARNING TO READ

Stage 1 Focus on identifying and perceiving sounds, letters, and words.

Stage 2 Focus on perceiving groups of words and their meanings.

READING TO LEARN

Stage 3 Focus on extracting meaning from paragraphs and longer selections.

Use instructor text, on next pages, as guidance for presenting the following section

" GOOD " READING HABITS

- Concentration
 - * Controlling external stimuli
 - * Controlling internal stimuli
- Setting a Purpose
- Setting a Context
 - * Physical Context
 - * Mental Context

Have participants retake the "quiz" and see if the information in this unit helped them change fallacies to a new understanding of the reading process.

FALLACIES ABOUT READING

BECOME

FACTS ABOUT READING

Discuss responses and where these fallacies come from. Did the information in this session help turn these fallacies into facts?

Reading is learned only at an early age?

T

F

All material should be read in the same way?

T

F

A person has to read every word to be "GOOD" reader?

T

F

JOB RELATED VOCABULARY IMPROVEMENT

Building job related vocabulary starts with words that you already know. Words and terms used on the job may look like words you use outside of work everyday.

That's important to remember. Start by thinking of the definition that you have used outside of the job. Then think of the way you have either read or seen the word at work. This will also give you a clue to it's job related meaning.

Use your new and tuned up dictionary skills. You probably have a "regular" dictionary on hand. Look the word up there. Review the definitions given. Separate the everyday uses from any that may be close to your job related use of this word. You need to be creative in finding the way the definitions fit. This dictionary may not reveal a definition that is job related. That will tell you that your word has a special technical meaning.

This dictionary may not reveal the job related definition of your word. You now need to find a new source for definitions. Let's take a look at some possibilities. Could you find a Technical Dictionary? Would a manual with a glossary help? What about asking a "seasoned" co-worker? Take a few moments to discuss these methods with the class. Rank them in the order that the class thinks would help find the most correct definition.

Discuss	what is goo	d and bad ab	out each met	hod:	



OVERVIEW OF JOB VOCABULARY WORD SEARCH

Steps in review	Steps	in	review	
-----------------	-------	----	--------	--

- 1. Think of "regular" use
- 2. Look up the "regular" definition
- 3. Find:

2

- a. job related dictionary
- b. manual with glossary
- c. co-worker with the definition

CLASS ACTIVITY

Do Steps 1 & 2 and write down definitions for the following words. Use the space below.

Plant 1
2
Kiln 1
2
Jam 1
2
Mean 1

You will continue on to the next steps with your assignment! GOOD LUCK!!



APPENDIX A

FACILITATOR MATERIAL ON GOOD READING HABITS



➤ GOOD READING HABITS

If we wish to change patterns of behavior in order to improve performance, we must substitute good habits for bad ones. This need to eliminate bad habits is felt keenly by those of us who attempt to develop efficient reading skills. Understanding what constitutes good reading habits is probably the best way to begin eliminating bad habits.

Concentrating

Concentration can be defined as "the direction of attention to a single object," or simply stated as "paying attention." For the purpose of efficient reading, we define it as "focusing our full attention to the task thand—reading."

Though not the first step, it is the most import in prerequisite to efficient reading. No one can possibly read well without concentrating well. Not being able to concentrate makes it impossible to implement other principles and practices necessary to efficient reading. Probably the first step to improving concentration is eliminating the causes of poor concentration.

External stimuli can interfere with your ability to concentrate on almost any task, in almost any situation. Most harmful to concentration are external and internal distractions and a lack of purpose. They may be subtle distractions such as the warm sun beaming through the window or the distant sound of the TV. Or they may be quite obvious ones such as loud noises, an extremely uncomfortable (or too comfortable) chair, or poor lighting. These external distractions compete for our attention, and once they get it, they also grab our concentration. Fortunately, these distractions can be handled easily: we exclude them—move away from the window, find a better light, and so on.

On the other hand, internal distractions cannot be handled quite so easily. These distractions come from within us; we generate them. They range from not feeling well to worrying to daydreaming. Depending on how intense they are, it may be possible (or impossible) to attend to them. Experiencing a severe pain may make it impossible to pay attention. However, daydreaming about our vacation certainly can be overcome, first by recognizing it and then by refusing to continue it. One way to overcome either type of distraction is to have a purpose for reading.

Not having a purpose quickly erodes our attention and, thus, concentration. It is purpose that helps to focus our attention and lack of purpose that encourages all those distractions to bother us. Pick up a book with no purpose in mind; then sit in the warm sun. Do you attend to reading?



An incentive to improving concentration is exploring the results of poor concentration. We already know that we end up giving in to all sorts of distractions. But it fosters other undesirable habits as well, such as regression or rereading. We end up reading four lines, rereading two, reading the next six, and then rereading three of these. We call this the "two steps forward and one step backward" method. Such reading both distorts comprehension and certainly slows us down. Also, a lack of concentration ensures that words remain words and never become thoughts or ideas. And only by finding thoughts and ideas in text do we extract meaning.

What can we do to develop the habit of good concentration? First, we must realize that it is an individual effort and one that we really wish to accomplish. We must, in a phrase, make up our minds to use our minds. We accomplish this by giving the selection we are reading our undivided attention. Also, we must realize we cannot exclude all "distractions," but we can control many. We can choose places to read with the fewest distractions and interruptions. We can try to do our reading at peak periods of attention. Knowing we are tired or worried should alert us immediately to the possibility of attention problems. And, most important, we need to focus our attention actively by setting a goal or a purpose that we know we can accomplish.

SETTING A PURPOSE

After discussing concentration, we realize that another important reading habit to develop is that of setting a purpose. We must decide why we are reading before we can give focus and attention to our efforts. A purpose need not be very noble, though it can be. We read while we wait; we read for pleasure; we read to process important information; or we read because we must. Whatever the case, these all represent purposes for reading.

In Chapter 5, we will explore setting a purpose at greater length. Now it is just important to realize that you need to have some purpose in mind as you read.

SETTING A CONTEXT

No activity takes place in a vacuum. Reading is no exception. Reading occurs within both a physical and mental context. We are the ones who determine this context. In discussing concentration, we mentioned choosing a physical environment as free from physical distractions as possible. Other physical aspects have a bearing on reading activity. It is important to hold the book upright (not flat) at a distance from our eyes that is most comfortable—usually about fourteen inches. The lighting should allow us to see clearly and comfortably.



Other physical activities can create a less than desirable reading context. These are conflicting activities such as chewing gum (we'll end up reading at the same rate as we chew), moving our lips or vocalizing (this takes more time and fosters word-by-word reading), and even following along the printed line with our finger or a marker. The latter invites us to focus on each and every word. We should avoid any physical activity that interferes with the mental activity of reading.

Also, we need to set the proper mental context for reading, which means approaching a reading situation with a certain seriousness of mind. It does not matter whether we read to be entertained or to gain information—we must be serious if we are to accomplish our purpose. This holds especially true for taking this course. Setting the proper context also means being ready to read. We may have the most ideal physical surroundings and the best articulated purposes, but if we are not ready to read, then our efforts will be useless. If we can't get our minds off that vacation or we know the phone is going to ring, then we are probably not ready to read. Trying to read under such circumstances can be both frustrating and unrewarding. For maximum efficiency in reading, we need to "be here now."

Developing the above three reading habits—concentrating, setting a purpose, and setting a context—is a prerequisite for efficient reading. However, these habits can do more than make us efficient readers; good habits can make reading one of the most pleasurable of activities. In addition, we can derive real satisfaction from doing a task well.

ZIRCOA COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 6

- Demonstrate reading skills of recalling factual information, identifying main topics, and ideas with job-related documents
- Practice job-related Vocabulary Improvement

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READING FOR MEANING - RECALLING FACTUAL INFORMATION

ACTIVITY 1 CONCENTRATION, PURPOSE, CONTEXT ACTIVITY

TECHNICAL READING

Participants have blanks to fill.

The **Purpose** (1) of technical reading?
Brainstorm: To do the job; to learn about the job; to learn new information; to improve skills; because someone tells you to; curiosity.
Any others?

Technical reading requires more Concentration (2).

Where do we do technical reading? Need quiet? Interruptions?
Setting a **Purpose** (3) for technical reading.

Does understanding the reason or need for the reading make it easier? Does the reader's agreement with the need for technical reading make a difference (want to vs. have to)?

Setting a Context (4) for technical reading.

Explore the hands-on context of technical reading. Example: Reading the manual with the machine in front of you to touch that control or visualize it's placement etc. Brainstorm other contexts.

How do these aspects of technical reading compared to the previous discussion of these factors?

ACTIVITY 2 Inventory Types of materials read on the job and their purposes.



PREVIEWING

Different reading skills have been discussed in this program. One technique that will help with recalling facts is previewing. It is easily learned and very helpful. It helps the reader become familiar with material before actually reading it. Technical reading can especially be tackled more easily with this method.

Previewing is like seeing beforehand.

Previewing before reading is like consulting a map before taking a long trip.

Previewing gives us:

- * a fast impression
- * a quick survey
- * a concise overview

Why Preview?

- * to identify topic and thoughts
- * to see how the material is organized
- * to make it easier to pick out details when we read
- * to focus our thoughts so we can concentrate on the material better



HOW TO PREVIEW

* Articles

Read title
Read headings if there are any.
Read first several paragraphs.
Quickly read the first sentence of each of the remaining paragraphs
Read final few paragraphs.

ACTIVITY 3

SPC ARTICLE

HANDOUT

* Chapters

Read title
Read headings and sub headings
Look for and read
Objectives
Introduction
Summary

ACTIVITY 4

INTERACTIVE COURSEWARE BOOKS

* Manuals

Skim preface or introductory section Look over Table of Contents

ACTIVITY 5

ZIRCOA MANUAL





TECHNICAL VOCABULARY

These sheets will help participants find the assignment set of words from last session. These are pages from a technical dictionary. See if they provide participants with additional information for Step 3 in your Word Search System.

Instructor 6-4



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jet tlap

(Euc. Eng.). The symbol j is used by electrical engineers in place of the mathematician's i. Its main use is that in circuits carrying sinusoidal current of angular frequency ω , any inductance L and any capacitance C can be replaced by reactances $j\omega L$ and ą

respectively and Ohm's law can then be used. Also referred to as the 90° operator.

I (Phys.). Symbol for joule, the unit of energy, work, (Chem.). In names of dyestuffs, a symbol for yellow. quantity of heat

J (Eng.). Symbol for polar moment of inertia.

J (Phys.). Symbol for (1) electric current density, (2) magnetic polarization.

lecaranda (For.). See rotewood.

set (Erg.). A portable lifting machine for raising heavy weights through a short distance, consisting either of a screw raised by a nut totated by hand gear and a long lever, or a small hydraulic ram. See hydraulic-.

circuited until a jack plug is inserted. A break-jack is one which breaks the normal circuit on inserting plug, while ack (Telecomm.). Socket whose connections are shortbranch jack is one which does not.

ackbit (Min. Ext.). Detachable cutting end fitted to shank of miner's rock drill, used to drill short blast-holes. Also ack arch (Build.). A flat arch.

the roof and floor stabs are cast on top of each other and hydraulically jacked up to their respective levels, walls being built as and when required.

Jeck boar [Eac. Eng. J. One containing switches or connections for changing circuits.

Jeckel (Eng. J. An outer casing or cover countracted round actblock (Build.). A method of system building in which

a cylinder or pipe, the space being filled with a fluid for either cooling or heating the contents, or with insulating

material for keeping the contents at substantially constant temperature, e.g. the water jackets of an I.C. engine. Jacket (Nuc.Eng.). See can. Jacket (Print.). The wrapper, or dust cover, in which a book is enclosed. Bookjackets are usually artistically designed, and executed in colour, as their purpose is to enhance the appeal of the volume as well as to protect it

acthammer (Hin.Ext.). A hand-held compressed-air hammer drill for rock-drilling.

from dust.

eack plane (Bulld.). A bench plane about 16 in long, used for bringing the work down to approximate size, prior to bringing the work down to approximate size, prior to finishing with a trying or smoothing plane.

lock rafter (Build.). A short rafter connecting a hip-rafter and the caves, or a valley-rafter and the ridge. seek shaft (Elec.Erg.). An intermediate shaft used in geared to the motor shaft and carries cranks which drive the coupling rods on the driving wheels. locomotives having collective drive; the jack shaft is

sectsonian apleapsy (Med.). A convulsion of a limited group of muscles spreading gradually from one group to the other, usually without loss of consciousness; the Is cobtan (Mashs.). Of a functions as each of a variables result of a lesion (e.g. tumour) of the brain.

 x_p the determinant whose t_a th element is $\frac{\partial w_1}{\partial x_1}$. Written

Jacobian attipute functions (Matts.). See elliptic functions jacobatte (Min.). An oxide of manganese and iron, often with considerable replacement of manganese by magazinin; crystallizes in the cubic system (usually in the form

of distorted octahedra). A spirel.

scob's fadder (Eng.). Vertical belt conveyor with cups at
buckets.

Jacobson's glands (Zool.). In some Vertebrates, asset glands the secretion of which moistens the olfactory

accessory offactory organ developed in connection with the roof of the mouth. iscobson's organ (Zool.). In some Vertebrates, and

polishing and burnishing pivots.

sequent (Textiles). A device, frequently incorporating punched cards or punched continuous strip, used to acot tool (Horol.). A tool used by watchmakers for produce patterned fabrics during weaving, warp-kniting well-knitting and lace making. Named after the Frank

inventor, Joseph-Marie Jacquard, 1752-1834. actitation (Med.). Restless tossing of a patient severaly ill. surfaces by electrolysis.

colour used for ornamental purposes. It properly em-braces separate and assiste but is sometimes misapplied to green varieties of minerals such as a management, benefit, bydrogrossular, quartz and veservlassite.

Jedelle (Mis.). A monoclinic member of the pyronese a twitching or convulsion of muscle or of a limb.

Jecupitanglie (God.). A nepheline-bearing pyroxenis

constitute of titanaugite, biotite, iron ores, and nepheline,
the last being subordinate to the mafe mineral.

Jade (Min.). A general term loosely used to include
various mineral substances of tough texture and grees

group; sodium aluminium alicate. Usually white, grey or mauve, it occurs only in metamorphic rocks, and is the rare form of jade (Chinese José). Begroove cut into bed to detach block of matural stone. To undercut. A jadder is a

allowing for ventilation through louvres or holes cut in shutters giving external protection to a window, and the shutters themselves. Also ealled Venetion shuters. stonecutter and his working tool is a jadding pick, isg-bolk (Eng.). See rag-bolt. is is soon (Med.). See typhus. is leloueles (Build.). Hanging or sliding wooden

Jamaich (Chem.). See berberlae.
Jamb (Build.). The side of an aperture.
Jamb Mninge (Build.). The panelling at the sides of a
window recess, running from the floor to the level of the semb post (Bulld.). An upright member on one side of a window head. Cf. elbew linings.

James-Lange theory of emotions (Behav.). A theory that emotion is the subjective experience of one's own bodily reactions in the presence of certain arousing stimul; the stimul cause certain physiological responses, and the awareness of these responses causes emotion. doorway opening. Jamb atone (Bulld.). A stone forming one of the upright sides of an aperture in a wall.

paths a few centimetres apart. The instrument is used to measure the refractive index of a gas, by observing the frings shift when one of the light beams traverses a tube filled with the gas, while the other traverses a Jamin Interferemeter (Phys.). A form of interferemeter in which two interfering beams of light pursue parallel emesonite (Min.). See feather ere. vacuum.

to the 1970's, it links universities and research institutions 1115T (Comp.). Joint Academic NETwork. Dating back Ton one carrier by transmission on or near the same sequency, with wobble or noise modulation.

he power received at the telescope from a cosmic radio source. I jansky $(3y) = 10^{-24}$ W m⁻² Hz⁻¹ sr⁻¹. aty (Astron.). A unit in radio astronomy to measure

jestions (Telecoma.). Half-wave antenna fed and matched at the end by a quarter-wavelength line. best (Telecomm.). Transmitting or receiving antenna iscovered in 1980.

for airborne Doppler navigation systems. which can be switched between opposite directions. Used

and drying oils. Also black Japon.

Tapan camphor (Chem.). See camphor. inpanese paper (Paper). Japanese hand-made paper a pepared from mulberry bark. The surface is similar to Jayoneon vollum (Paper). An expensive handmade paper, Prepared from the inner bark of the mulberry tree, that of Japanese velium.

Ackier than Japanese paper.

**passers' gold-size (Build.). See gold-size.

**passers' gold-size (Build.). The process of finishing an article with pass, especially the storing of japans.

**pass, especially the storing of japans.

**apan wax (Chem.). A natural wax obtained from orgon aphasta (Med.). Rapid unintelligible utterance, sunsch, mp 50°C. It has a high content of palmitin.

jegone, jergoone (Min.). A name given in the gem trade to the zircons (chiefly colouriess, smoky or of golden-yellow colour) from Coylon. They recemble diamonds in yellow colour) from Coylon. They recemble diamonds in jereble (Min.). A hydrous sulphate of iron and polassium crystallizing in the trigonal system; a secondary due to a lesion in the brain.

peruh (For.). A dense resistant wood from Australia. It is of a deep-red colour, and is used for construction, piles, mineral in ferruginous ores.

kavy framing and railway sloepers. presuming machine (Foundry). See jolt-ramming ma-

uppearance resulting from a warp-thread colour pattern.
Used mainly for bedspreads and curtains. (2) Yarn made from two chemically different continuous filament yarns (e.g. nylon and polysteric) rextured together and then (e.g. nylon and polysteric) rextured together and then degree that a way that only one component is coloured together than the normal pred owing to the presence of tron oxider.

Anto (Arro.). Abbrev. for Jet-Assisted Take-Off. chies. [Textifes]. (1) Plain woven fabric with a shaded impb (Textifes). (1) Plain woven fabric and colour pattern.

pundes (Med.). Icierus. Yellow coloration of the skin and other tissues of the body, by excess of bile pigment present in the blood and the lymph. May be caused by excessive breakdown of blood (haemolytic jaundice), by failure of the liver to transport the pigments (hepatic

jaurdice) or failure to excrete the pigment through the bilary system (obstructive jaurdice).

Javal water, east de Javaille (Chem.). A mixture of potassium chloride and hypochlorite in solution. Chiefly

between which an object is held, crushed, or cut, as the jaws of a vice or chuck. (2) One of several members strached to an object, to locate it by embracing another used for bleaching and disinfecting. [gen (Erg.), (1) One of a pair or group of members

jews (Print.). See folding laws.
jews (Print.). See folding laws.
jews (Zool.). In gnathostomatous Vertebrates, the skelvjews (Zool.). In gnathostomatous Vertebrates, the skelvjews (Zool.). In gnathostomatous of the
sheaths, assisting in the opening and closing of the
sheaths, assisting in the opening and closing of the allgator. Heavy-duty rock-breaking machine with fixed vertical, and inclined swing jaw, between which large aw beenhee (Min.Ext.). Jaw crusher, Blake lumps of ore are crushed

form disulphide bonds. It helps to link together IgA molecules into polymeric forms and to hold IgM in chain (Immun.). A polypeptide chain with a high content of the amino acid cysteine, which enables it to ed at 18 Invertebrates, any similar stru-anterior end of the alimentary tra-

JCL (Comp.). See Job control language. Jedisplay (Radar). A modified A-display with circular pentameric form.

en (Texiles). Strong woven twilled fabric, used for jedding axa (Build.). An axe having one flat face and one overalls or casual wear. See denim.

elunectomy (Med.). Excision of part of the jejunum.

jojuntite (Med.). Inflammation of the jejunum. jojunocolostomy (Med.). The formation, by operation, of a communication between the jejunum and the colon. jojunoclomy (Med.). Incition of the jejunum. jojunoclomy (Med.). Incition of the jejunum.

sis, of a communication between two parts of the

jejunum, thus short-circuiting the part in between.

jejunostamy (Med.). The operative formation of an opening into the jejunum.

jejunum (Zool.). In Mammals, that part of the small intestine which intervenes between the duodenum and the

jelutong (For.). Lightwood Malayan hardwood from the genus Dyera. It is almost white in colour and takes paints better than polishing techniques. The tree also yields a resinous type of rubber. jelly (Image Tech.). See gel.

Jeppesen chart (Aero.). Airway charis, airport mans and information, named after Ebroy Jeppesen who built up Jemmy, Jimmy (Build.). A small crowbar. the basic format from 1926 to 1940.

muscles. Often used to test a reflex, e.g. knee jerk. hipped, but not down to the level of the feet of the main rafters, thus leaving a half-gable. Also called abread had jerk-pump (Autos.). A timed fuel-injection pump in which a cam-driven plunger overruns a spill port, thus causing jerk (Med.). A sudden and brief contraction of a group of the abrupt pressure rise accessary to initiate injection

a web-fed printing press or folder due usually to incorrect jerts (Print.). Violent intermittent puils of paper through through the atomizer.

jersey tabete (Textiles). The general name for knitted fabrics supplied in lengths. or worn drives.

nozzle; a small nozzle, as the jet of a carburettor. Jet (Min.). A hard coal-black variety of lignite, sometimes exhibiting the structure of coniferous wood; worked for et (Genel.). A fluid stream issuing from an orifice or

Large tokamak experiment designed to use deuterium and tritium to produce energy by a fusion process. jet coefficient (Aero.). The basic nondimentional thrust-JET (Nuc. Eng.). Joint European Torus, at Culham, UK. ewellery in the last century.

lift relationship of the jet flap;

jet condenser (Eng.). One in which exhaust steam is condensed by jets of cooling water introduced into the where J-jet thrust, e-sir density. V-speed and S - wing area. steam space.

jet detiling (Min. Ext.). See fusion detiling. Jet dyoing delicate fet dyoing (Textifes). A machine for dyeing delicate fabrics, or garments, in which the material is gently circulated by the dye liquor being pumped at high jet deflection (Aero.). A jet-propulsion system in which the thrust can be directed downwards to assist take-off and landing.

tet fian f dero ! A high-lift flight system in which (a) the velocity through jets or a narrow throa

C(K1, K1, K1, ...K.)

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maxillary (Zool.). Pertaining to a maxilla: pertaining to the upper jaw: a paired membrane bone of the Vertebrate skull which forms the posterior part of the upper jaw. maxillipped (Zool.) In Arthropoda, especially Crustera, an appendage behind the mouth, adapted to assist in the transferance of food to the mouth.

signed that the circuit elements are transformed from maximality. A. (Telecomm.). Said of amplifiers so

maximum continuous raing (Aero.). See power rating, maximum demand (Elec. Eng.). The maximum load taken by an electrical installation during a given period. It may be expressed in kW, kVa, or amportes, maximum-demand indicator (Elec. Eng.). An instrument for indicating the maximum demand which has occurred on a cicuit within a given period. filter sections incorporating stray admittances.

Maximum and minimum thermomater (Missor.). An instrument for recording the maximum and minimum temperatures of the air between 2 inspections, usually a period of 24 hr. A type widely used is Six's thermometer.

maximum-demand tarist (Elec.Erg.). A form of charging for electrical energy in which a fixed charge is made, depending on the consumer's maximum demand, to gether with a charge for each unit (WM) consumed. maximum equivalent conductance (Elec.Erg.). The value of the equivalent conductance of an electrolyic solution at infinite dilution with its own solven.

maximum flying speed (Acro.). See flying speed.

maximum landing weight (Aero.). See weight.
maximum permissible concentration (Radiol.). The recommended upper limit for the dose which may be received during a specified period by a person exposed to tonizing radiation. Also called permissible dose.

exposure time, would lead to the absorption of the maximum permissible dosa rate, flux (Radiol.). That dose rate or flux which, if continued throughout the maximum permissible dose.

meximum permissible level (Radiol.). A phrase used loosely to indicate maximum permissible concentration. Jose or dose rate.

maximum point on a curve (Maths.). A peak on a curve. For the curve y = f(x), the point where x = a is a maximum if f(a + k) = f(a) is negative for all values of ksufficiently small.

maximum-raading accelerometer (Aero.). See accelero-

speed indicator with an additional pointer showing the indicated air speed corresponding to the aircraft's limiting Mach number and also having a mark on the dial for the maximum safe alt-speed Indicator (Aero.). A pilot's airmaximum permissible air speed.

naximum take-off rating (Aero.). See power rating, naximum tensils stress. Eng.). See withnate tensile stress, naximum traction truck (Elec.Eng.). A special form of togic or truck often used on trams, and arranged so that the greater part of the weight comes on the driving.

the greater part of the weight comes on the driving wheels, thereby enabling the maximum tractive effort to be obtained. hatimum usable feaquency (Thecomm.). That which is effective for long-distance communication, as predicted from diurnal and seasonal ionospheric observation. Varies on an eleven year cycle. Abbrev. MUF.

aximum valva (Elec.Eng.). See peak raine, aximum walqh (Aero.). See under weight. Also called

nat take of weight, collog, max gross.

at level appead (Aero.). The maximum velocity of a Nower-driven aircraft at full power without assistance nom gravity; the altitude should always be specified.

in take-off weight (Acro.), See weight, nawell (Elec. Eng.). The CGS unit of magnetic flux, the IKSA (or SI) unit being the weber. One maxwell = 263

than the second designation for (Phys.). A many of a gas in thermal equilibrium. of a gas an exercises squares and the Maxwell bridge (Elec.Elec.). An early form of a.c. bridge which can be used for the measurement of leaf inductance and capacitance.

Maxwell apportment (Image Tech.). The pioneer denses stration of 3-colour additive synthesis, using 3 black-adwhite negatives.

Water regarders.

Marwellian viewing system (Phys.). In some photometers, spectrophotometers, colorimeters, etc., as
arrangement in which the field of view is observed by
placing the eye at the focus of a lens, instead of using an

Maxwell primaries (Image Tech.). The colours not great and blue-violet, used in Maxwell's experiment.

Maxwell's elecuted theorems (Phys.). Generalized form of Faraday's law of induction and Ampère's Law (modified to incorporate the concept of displacement out of Maxwell's field equations are disect. developments of the circuital theorems.

Maxwell's circulating cerrent (Elec.Eng.). A mesh of cyclic current inserted in closed loops in a complex network for analytical purposes. Maxwell's demon (Chem.), Imaginary creature who, by

opening and shutting a tiny door between two volumes of gases, could in principle concentrate slower (i.e. colds) molecules in one and faster (i.e. hotter) molecules in the other, thus reversing the normal tendency toward increased disorder or entropy and breaking the second law of thermodynamics.

Maxwell's distribution law (Phys.). The distribution of numbers of gas molecules which have given speeds, or kinetic energies in a gas of uniform temperature. The law can be deduced from the kinetic theory of gates.

electromagnetic waves in all practical situations. Used to analyse the propagation of radio waves in free space, at Maxwell'a equations (Telecomm.). Those fundamental laws of theoretical physics which govern the behaviour of all sorts of boundaries and in all guided-wave structures or transmission lines.

Maxwell's fleid equations (Phys.). Mathematical forms-lations of the laws of Gauss, Faraday and Ampère from which the theory of electromagnetic waves can be conveniently derived.

div B=0, curl
$$H = \frac{\partial D}{\partial t} + f_s$$

div $D = \rho_s$ curl $E = -\frac{\partial B}{\partial t}$.

Maxwall's rule (Elec. Eng.). A law stating that every part of an electric circuit is acted upon by a force tending to move it in such a direction as to enclose the maximum

system in equilibrium. They are expressed in the form of Maxwall's thermodynamic relations (Phys.). Four mathematical identities relating the pressure, the volume, the entropy and the thermodynamic temperature for a Maxwall's theorem (Eng.). See reciprocal theorem.

partial derivatives relating the quantities.

mayday (Telecown.). Verbal international radio-telphone distress call or signal, corresponding to 505 in telegraphy. Corruption of Fr. m'sider.

May's gradicale (Fowder Tech.). An expinee graticule used in microscopic methods of particle-size analysis, having a rectangular grid for selecting particle, and a series of eight circles for sizing particles. The size of the circle diameters increases by A progression, and a series of parallel lines is superimposed on the rectangular

beginning with a starting box, possibly including blind afters, and ending in a goal box which generally contains a reward, this not being visible from the starting box. The maze (Behar.). An apparatus consisting of a series of pathways in a more or less complicated configuration. simplest mazes are the T. and Y-mazes.

Accelerated theorem (Chem.Erg.). A graphical method, based on vapour-liquid equilibrium properties, for establishing the theoretical number of separation stages in a continuous distillation process. Wee, Exg. J., See radiation true (2).

Cours. J. See meanery buffer register.

Language to point (Mach.). A point situated on a line

logistic the weblictur to the bony prominence of the hip
loos at the upper end of the groin, and 34 mm from the

logistic a point of maximum tenderness in appendicitis.

istaced gauge (Chem.). Vacuum pressure gauge in which a sample of low pressure gas is compressed in a known tailo satili is pressure can be measured reliably. Used for tive system used on electric power networks; it operates on the balanced principle embodying biased beam relays.

Culturating direct-reading gauges.

Me, me (Gent.). Abbrev. for Metric Carat. See carat.

Meshady take (Electronical). A refax klystron capable of
Staing tuned electronically to a wide range of frequencies.

MCPA, MCP (Chem.). 4-chloro-2-methyl-phenoxyacetic
deck used as a selective weedkiller. Also called methox-

4-(4-chloro-2-methylphenoxy)butanok ecid, used as a weedkiller. (Clem.)

alter beating a ferrous alloy to the austenitic temperature range. Grain sizes are classified from one (the finest) to McQuald Ehn tool (Eng.). A method of showing grain size

(Acro.). See critical Mach number.

Man (Arra), Sec critical rates asserts:

Macroca section, network, Mar (Talecomm.). A Torpi
activori section so designed that when two or more
sections are joined to form a filter, their impedances
match at all frequencies, although the individual sections may have different resonant frequencies.

Manahay (Radar). Modified form of A display in which range is determined by moving an adjustable pedestal MDF (Telecomm.). Abbrev. for Main Distribution Frame. agast along the baseline until it coincides with the target signal; range is read off the control which moves the

meen (State.). See expectation; (of a sample) the Me (Chem.). A symbol for the methyl radical -CH₃. M & E. (Image Tech.). Same as music and effects.

mean chord (Aero.). See standard mean chord. mean calorie (Phys.). See calorie.

mean curvatura (Maiks.). See curvature. mean dally motion (Astron.). The angle through which a extestial body would move in the course of I day if its motion in the orbit were uniform. It is obtained by dividing 360° by the period of revolution.

manndar (Geol.). Sharp sinnous curves in a stream particularly in the mature part of its course. The meanders are accentuated by continuing erosion on the coavex side and deposition on the concave side of the mean draught (Ships). Half of the sum of the forward and stream course.

after draughts of a vessel; differs slightly from draught at

mean effective pressure (Eng.). See brake, indicated. lunitidal interval at a place.

mean tree path (Acous.). Average distance travelled by a sound wave in an enclosure between wall resections; required for establishing a formula for reverberation

molecule in a gas between collisions. It is dependent on seen tree path (Phys.). The mean distance travelled by a the molecular cross-section xa2 so that

Am Jak no

According to the kinetic theory of gases it is related to the vicentity in by I maken on the contine it is mean where is the number of molecules per unit volume.

molecular velocity and k is a constr

MOES SES Par T

of electrons with impurity atoms in semiconductors; also

mean heritapherical candio-powar (Phys.). The average value of the candic-power in all directions above or below a horizontal plane passing through the source; called the upper or lawer mean bemispherical candle-power according as the candle-power is measured above or below the horizontal plane through the source. of intermolecular collision of gas molecules.

directions in a horizontal plane through the source.

mean lethal dose (Radiol.). The single dose of whole
body irradiation which will cause death, within a certain
period, to 50% of those receiving it. Abbrev. MLD. mean horizonial candle-power (Phys.). The average value of the candle-power of a light source in all

iffe. (2) The mean time between birth and death of a charge carrier in a semiconductor, a particle (e.g., an ion, mean life (Phys.). (1) The average time during which an instant of its disappearance in the reactor by leakage or atom or other system exists in a particular form, c.g. for a between the instant at which it becomes thermal and the by absorption. Mean life = 1.443 × half-life. Also average thermal neutron it will be the average time

crosses the meridian at upper culmination at any place; unless otherwise specified, the meridian of Greenwich is mean noon (Astron.). The instant at which the mean sun generally meant. a pion), etc.

parallax, proper motion, and orbital motion where appreciable. These corrections can be computed for any mean place (Astron.). The position of a star freed from the effects of precession, nutation, and abetration, and of future date, and when applied to the mean place give the mean normal curvature (Mails.). See curvature. apparent place.

radioactive debris from nuclear weapon tests remains in mean realdence time (Phys.). Mean period during which stratosphere.

mean as level (Surv.). In UK the ordnance survey datum level, determined at Newlyn, Cornwall

means, the qualities between (Maihr.). $A \ge G \ge H$, where A is the arithmetic, G the geometric and H the harmonic mean of a positive numbers.

between two successive transits of the mean sun across mean aniar day (Astron). The interval, perfectly constant the meridian.

angle of mean sun. When referred to the nieridian of Greenwich it is called Greenwich Mean Time. Before is now counted from midnight; it is thus the hour angle of mean-apherical candle power (Phys.). The average value of the candle-power of a light source taken in all mear sun plus 12 hr, and is identical with universal time. mean solar time (Astron.). Time as measured by the hour 1925 this began at noon but, by international agreement directions.

of an enclosure, the average reverberation intensity in the ally equal to the response for reverberant sound. See and therefore, in conjunction with the acoustic properties enclosure. For a microphone, this response is substantimean-apharical response (Acous.). That of a microphone or loudspeaker taken over a complete sphere, the radius of which is large in comparison with the size of the apparatus. For a foudspeaker, this response (total response) determines the total output of sound power,

reverberation response, total response. mean-aguare error (Stats.). The expectation of the parameter and its true value, taken with respect to the square of the difference between an estimate of a

When it is zero, the upper and lower limits of the range have the same value but are in tension and compression sampling distribution of the estimate. mean alrees (Eng.). The midpoint of a range of stress. respectively.

a constant rate of motion and is used in timekeeping in C. A preference to the non-uniform mistion of the real win C. A. mann sun (Astron.). A fictitious reference point which has

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thography and line-colour wing which serves as a guide key drop (Build.). A guard plate covering a keyhole and falling into position by its own weight. ...aking of the separate colour plates.

tayed pointing (Build.). Pointing which is finished with lines or grooves struck on the flat joint. See flat pointing. (eyer (Tekcomm.). A device for changing the output of a transmitter from one frequency (or amplitude) to another according to the intelligence transmitted.

unknown actiology. Symptoms include dilated pupils, (ey-Gaskel syndrome (Vet.). Feline dysautonomia (Geol.). See Index fouril

sayhole limpel haemocyanin (Immun.). A large copper-containing protein from a particular kind of limpel. Haemocyanius normally function as oxygen carrying molecules, use widely used as immunogens in immunology since itey are likely to be completely foreign to mammals. Abbrey KLH. dehydration, constipation, regurgitation and sometimes loss of anal sphincter tone.

ceyhole saw (Build.). One with stiff, narrow blade 6-10 in (150-250 mm) long, for internal, curved and small cuts.

taying (Eng.). The process of fitting a key to the key-ways in a shast and boss.

teying (Image Tech.). A video switching effect which creates a space within a picture into which another image is inserted

caying (Print.). Use of keyboard to input coded copy for eventual typesetting by mechanical means in single letter (Mosotype), or slug form (Lisotype), or via a phototype-

keying wave (Telecomm.). See marking wave. key light (Image Tech.). The principal lighting of the main

tey plan (Build, Eng.). A small-scale plan showing the subject in a scene.

relative disposition of a number of items in a scheme. key piste (Build.). An escutcheon.

key print (Image Tech.). See grey key image.

tey-seating machine (Eng.). A machine twol for milling key-ways in shafts, etc., by means of an end mill, the work being supported on a table at right angles to the toy essuing (Eng.). A key-way, or the surface on to which a key is bedded

coystons (Civ. Eng.). The central voussoir at the crown of traverse of either the tool or the table. an arch

axis of the spindle. Feed is obtained by an automatic

optical or electronic image in which a rectangle is reproduced as a trapezium with the vertical sides converging. Generally a result of the beam axis not distortion (Image Tech.). Distortion of an meeting the screen at right angles.

a keyboard and writing directly to magnetic disk, hay-to-tape unit (Comp.). Input device for accepting data from a keyboard and writing it directly onto tape. tey-to-disk (Comp.). Input device for accepting data from

key-way tool (Eng.). A slotting machine tool used for the

vertical cutting of key-ways, equal in width to that of the key-way. See slotting machine.

words in a piece of text. These are some of the elements stored in most information retrieval systems. Also Index keywords (Comp.). The most informative or significant

chiling, which if not controlled quickly can cause a thek-back (Autor.). Shocks felt at the steering wheel, due Memout. See kill line.

blek capy (Print. J. On a web-fed printing press the printed and folded product is counted off in batches, each batch to the reversibility of many steering devices.

the interval between batches. See quite spacing wastern's Kick's law (Min Ext.). Annumes that the energy requires of a definite amount of naterial is garden for the same fractional reduction in average size the individual particles, i.e. E = k, log_d/dr_1, where E the energy used in crushing, k, is a constant, depends on the characteristics of the material and method operation of the crusher, and d, and d, are the average increase dimensions before and after crushing. additional velocity increment required to put a spaceral uckborter (Tekcomm.). Soe pulse height analyser (1), 33/ tick stage (Space). A propulsive stage used to provide an deknorter (Telecomm.). See pulse height analysee (1), press which displaces one copy of the product to lad

on a given trajectory.

Kid (Hyd.Eng.). A bundle of bruthes serving as a groyne!

Lidnay (Zool.). A paired organ for the exercion of nitrogenous waste products in Vertebrates.

kidney machine (Med.). See artificial kieney. of iron, Fe3O3, which occurs in reniform masses, hears! the name (Latin ren, kidney).

Kanny pases (crover,), as well, in perpetual calendar work to give the equation of time. Midney stone (Min.). A name given to nephrito, which was once supposed to be efficacious in diseases of the kides? kidney place (Horal.). A cara, shaped like a kidney, (Gk. nephros, kidney).

kidney stones (Med.). Hard deposits formed in the kidney. The composition varies, and kidney stones have been found to consist of uric acid and urates, calcium contains, calcium and magnesium phosphate, alice and alumina, cystine, xanthine, fibrin, cholestrol and fatty acids. Passage of the stones down the ureter may cause. severe pain (renal colic).

ther (Textiles). A large steel vessel in which yarn and cloud are boiled with alkaline liquors for scouring and bleaching. Now frequently replaced by continuous kidney worm disease (Vet.). In pips the parasite the causative parasite if Stephanura destatus. The main larget for infestation is the kidney with occasional spinal canal involvement. The intermediate host is the earthworm. In dogs Dictyophyma renale is the parasite, processing machinery.

kieseiguhr (Mir.). See alatomite. kieserite (Mir.). Hydrated magnesium sulphate which crystallizes in the monoclinic system; found in large emounts in some salt deposits. kleve (Min.Ext.). See dolly tab. tleving (Min.Ext.). Sec tossing

entirely some item in preparation, derived from the use of the word as an instruction to distribute type. till (Print.). In printing, an editorial instruction to delete

this, choke line (Min.Ext.). Small bore pipe lines connected through the blowest presenter stack; they allow denser mud to be pumped nine a borchole which has been thut out because of the danger of a blewest. Hilled steel (Eng.). Steel that has been killed, i.e. fully deoxidized before easting, by the addition of manganese, evolution of gas from the reaction between carbon and it from-oxide during solidification. Sound ingots are ob-tained. See also rimming steel. silicon and sometimes aluminium. There is practically no

till string (Min.Ext.). See lajection string. iller (Phys.). See polson

kiln (Win Ext.). Furnace used for: drying ore; drying off of conting sulphide ores of the conting the continue to remove sulphin as dioxide; reducing from the continue of the continue (II) ores to magnetic state in reducing atmosphere.
Itle- (Genel.). Prefix for denoting 1000, used in the metric system. E.g. 1 kilogram = 1000 grams. tilocaloria (Phys.). See calorie.

kilocurle source (Radiol.). Giant radioactive source usually in form of **Co. Hocycles per second (Phys.). See kilokertz. the-electron-velt (Phys.). See keV.

Mogramime) (Gent.). Unit of mass in the MKSA (SI)

system, being the mass of the International praton -

One thousand hertz or cycles per second. A multiple of the SI unit of frequency. Abbrev. ria (Phys.).

Memoria waves (Telecomm.). Those with wavelengths between 1000 and 10 000 m.

Megarage (Astron.). See parsec.

Mouse (Elec. Eng.). A unit of reactive volt-amperes equal Melon (Phys.). Unit of explosive power for nuclear weapons equal to that of 104 tons of

Moved empere (Elec. Elg.). A commonly used unit for expressing the rating of a.c. electrical machinery and for other purposes; it is equal to 1000 volr-amperes. Abbrev. to 1000 VArs. Abbrev. kVAr.

hiswan (Elec.Erg.). A unit of power equal to 1000 watts and approximately equal to 1.34 h.p. Abbrev. kW. Liberathour (Elec.Erg.). The commonly used unit of electrical energy, equal to 1000 watthbours or 3.6 MJ. Often called simply a unit, abbrev. kWk. See Beard of

Kinchell lag (Comp.). Small punched card attached to merchandise which is detached when goods are sold, to

eating whitewood (Atalaya hemiglauca).

Manbertha (Geol.). A type of mica-peridotite, occurring in volcanic pipes in South Africa and elsewhere, and provide machine-readable sales data. Imbarioy borse disease (Vet.), Walk-about disease, A disease of horses in Australia due to poisoning caused by

and diamoids.

Lianssthesia (Behav.). A general term for sensory feedback from muscles, tendons and joints, which inform the individual of the movements of the body or limbs. containing xenoliths of many types of ultramafic rocks,

kinssethelic (Zool.). Pertaining to the perception of and the position of the body in space.

bases (Biol.). An enzyme which catalyses the phosphory-bases of its substrate by ATP. Thus protein kinases phosphorylate proteins and hexose kinases phosphory muscular effort.

ment which does not take account of the attenuation of the incident beam as it passes through the crystal nor the interference between the incident beam and multiply diffracted beams. In theory which can be applied to very thin or very small crystals. he belose.

becaused theory of X-ray diffraction (Phys.). A treatbecaused the state account of the attenuation of

tions of various parts of a moving system are related.

Lasanatic viscosity (Phys. Erg.). The coefficient of viscosity of a fluid divided by its density. Symbol v. Thus binemetics (Maths.). That branch of applied mathematics which studies the way in which velocities and acceleraone another to allow motion to take place in combina-tion. It becomes a mechanism when so constructed as to v = 1/p. Unit in the CGS system is the stokes (cm2 s-1) allow constrained relative motion between its links.

Messelgis (Med.). Feeling of pain on movement.
Messcope (Image Tech.). US term for the picture tube in

a TV programme. Also referecording.

**Messin (Biol.). A protein of wide distribution in eukaryots which is responsible for the movement of organelles Linescoping (Image Tech.). US term for film recording of

to which it is attached along microtubuks.

Inneads (Behar.). A simple response to environmental animuli in which the animals response is proportional to be intensity of stimulation; it involves a change in speed the intensity of stimulation; it involves a change in speed of movement or rate of turning. Unlike a tank, however, the animal's body is not oriented to the stimulus although the effected movements often produce a change of position relative to it. Cf. tanks.

Inhosts energy (Phys.), Energy atting from motion. For a brinche of musa m moving with a velocity with it is not made of musa in woring with a velocity will it well that the motion of mental I, velocity and for a body of mass M, moment of inertial I, velocity

of centre of gravity " and supplier velocity w. it is
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kinetic friction (Phys.). See friction. kinetic heating (Arro.). See dynamic heati

bardment of the walls of the containing vestel courses the pressure exerted by the gar. If it is assumed that the size of the molecules is small compared with their mean simple explanation of the gas laws and yields useful kinetic pressure (Aero.). See dynamic perseuve.

kinetics (Med.). The study of the rates at which chemical

reactions and biological processes proceed.

kinetic theory of gasee (Phys.). A theory which accounts
for the bulk properties of gases in terms of the motion of
the molecules of the gas. In its simplest form the gas spacing and that the molecules do not exert forces on each other except on collisica, then the theory gives a results concerning gascous viscosity and thermal conducmolecules are conceived as clastic spheres whose bom-

kinetochore (Biol.). Paired structurts within the centro-meric region of metaphase chromosomes, to which spindle microtubules attach. They lie on each side of the primary constriction, and when viewed with the electron microscope appear as a trilaminar plate with microthesin (Bot.). 6-furfurylaninopurine. Synthetic plant growth regulator of the cytokinia type.

tubules entering at regular intervals. kinetodesma (Zool.). See kinety. kinetosome (Bot.). See basal body. kinetosomes (Zool.). See kinety.

comprising the kinetosomes (the basal granules of the cilia and flagella) and the kinetodosma (a fine strand running from the kinetosomes). In Flagellata the line of cell division is parallel to the kinetia (symmetrical division), and in Ciliata the plane of cleavage cuts across tinety (Zool.). A unit of structure in the Protozoa

the kinetia (percentien division).

Ling closer (Build.). A three-quarter brick used to maintain the bond of the surface. kingdom (Bot.). Higher taxonomic rank; composed of number of divisions.

wide trench to enable two short struts (butting on opposite sides of the pile) to be used, instead of one long one, for keeping the poling boards of opposite sides of king pile (Cir.Eng.). A pile driven down the centre of a

articulated to an axle beam or steering head; it is inclined to the vertical to provide caster action. Also called suvivelpin. For light vehicles, the king pin is now usually replaced by a pair of ball joints.

Ing post (Build.). A vertical timber the connecting the ridge and the tie-beam of a roof, shaped at its lower end ting pin (Autos.). The pin by which a stub axie is the trench in position.

to afford bearing to two struts supporting the middle points of the rafters. Also broack-post, joggk-piece,

and tie-beam of a couple-close roof, to prevent sagging of the tie-beam when it is required to support ceiling loads. king's seul (Med.). An old name for scroftsla. Kingston valve (Eng.). A sea-valve filted to a ship's side ting rod (Build). A vertical steel rod connecting the ridge loggie-post, king-piece, middle-post.

for the purpose of admitting water to circulating pumps, or flooding or blowing out ballast lanks.

kingswood (For.). See Brazilian kingswood (For.) and derrick tower ganity, that one of the three timber towers through which the weight of the derrick itself is transmitted directly to the foundation

kining (Afed.). A class of vasoactive peptides that are tinin (Bor.). See cytokinin.

associated with local regulation of blood flow, e.g. bradykinin.

andden increase of reverse current at a certain voltage in a Zener diode, or the region where a negalive-resistance device shows increasing current with decreasing applied tink (Electronics). An abrupt change or reversal in the slope of a characteristic curve, e.g. the change from forward to reverse bias in a semiconductor diode, the

ere E is the continue radiated at a temperature position to be a continue to be relocated to light, a the base of the continue and a Boltzmann's continue planças (For.). A log of hardwood timber roughly sawn of the continue of the continue

(250 mm) between opposite faces.

plene (Build.). A wood-working tool used for the purpose of smoothing surfaces, reducing the size of wood and, in specialized forms, for grooving, rehating, and other

plane (Mathr.). A flat surface; one whose radii curvalure are infinite at all points.

gation, the ratio of the electric field strength which would result from propagation over an imperfectly conducting earth to that resulting from propagation over a perfectly plane baffle (Acous.). Plane board, with a bole, at or near the centre, for mounting and loading a loudspeaker unit. plane aarth factor (Phys.). Electromagnetic wave propaconducting plane.

plane-fron (Build.). The cutting part of a plane, which actually shapes the work.

plane of collimation (Surv.). The imaginary surface swept out by the line of collimation of a levelling instrument, when its telescope is rotated about its vertical axis.

plane of polarization (Phys.). The plane containing the incident and reflected light rays and the normal to the reflecting surface. The magnetic vector of plane polarized light lies in this plane. The electric vector lies in the plane of vibration which is that containing the plane-polarized reflected ray and the normal to the plane of polarization. The description of plane-polarized light in terms of the plane of vibration is to be preferred as this specifies the plane of the electric vector

plane of saturation (Civ.Eng.). The natural level of the pround water.

plane of symmetry (Crystal.). In a crystal, an imaginary plane on opposite sides of which facet, edget, or solid angles are found in similar positions. One half of the crystal is hence a mirror image of the other.

plane of symmetry (Maths.). See symmetry.

plane polarization (Phys.). When the vibrations of a irransverse wave are confined to one direction, the wave is said to be plane-polarized. For electromagnetic waves the direction of the electric vector of a plane-polarized wave is the plane of vibration; the magnetic vector lies in a plane at right-angles to this. Light reflected at the Brewster angle is plane-polarized. Polarization of radio waves and microwaves occurs as a result of the way these waves are

transmitted from aerials, planer (Print.). A flat piece of wood or rubber which is placed on a forme of type and tapped with a mallet to level the surface.

similar to those used for turning, clamped vertically in a block pivoted in the clapper box on the head. plane afock (Build.). The body of a plane holding the Maner tools (Eng.). Planing machine cutting-tools,

plane surveying (Surv.). Surveying which makes no correction for curvature of earth's surface. plane-tron in position.

planat (Astron.). The name given in antiquity to the seven heavenly bodies, including the sun and moon, which were thought to travel among the facel stars. The term in now restricted to those bodies, including the Earth, which revolve in elliptic orbits about the sun; in the order of distance they are: Mercury, Venue, Earth, Mars, Jupiter, Sauur, Uranus, Neptune, and Pluto. The two planets, Mercury and Venus, which revolve within the Earth's orbit are designated inferior planets, the planets Mars to Pluto are superior planets. Planets reflect the sun's light and do not generate light and heat.

about a vertical axis and clamped is position. An aideade completes the essential parts of a plane table. It is set up at ends of a suitable baseline where required survey putes and he need from there and. table (Surv.). A drawing board mounted on a tripod so that the board can be levelled and also rotated

device displays the apparent motions of the heaving bodies on the interior of a done which forms the control the auditorium.

Ameliary section (Phys.), See Bohr thesey, ameliary gear (Eng.). Any gear-whoel whose sain planelarium (Astron.). A building in which an optical

planetary electron (Phys.). See Bohr theary, planetary gear (Eng.). Any gear-wheel whose describes a circular path round that of another whe the bevel wheels carried by the crown wheel of allies planetary nebula (Astron.). A shell of plowing pa There is no connection with planets: the name derival from the visual similarity at the telescope between the disc of such a nebula and that of a planet. They represe mattive than the Sun. Some thousands are known in

plane-life (Build.). See stewn-the.
Plane-life (Astron.). See saloor planet.
Plane-lokery (Geol.). The study of the composition, oning
and distribution of matter in the planets of the solution.

Mane wave (Phys.). One for which equiphase surfaces as

Hanigraphy (Radiol.). See tomography.

closed curve, whose area is then given to scale by the plandmeter (Erg.). Integrating instrument for measuring mechanically the area of a plane figure, e.g. an indicator diagram. A tracing point on an arm is moved round the

planing bottom of a small wheel supporting the arm.

planing bottom (Aero.). The part of the under surface of a
fiving-bost hall which provides bythodynamic lift. "tr.
planing mechane (Eng.). A machine for producing large
flat surfaces. It consists of a gear-driven reciprocating
work-table sliding on a beavy bed, the stationary tool being carried above it by a saddle, which can be travened across a horizontal rail carried by uprights. See clayer

A rolling mill. Planlahing (Eng.). Giving a Saish to metal surfaces by Pleadsher (Erg.). (1) Hammer or tool for planishing (1)

waters of sear, nvers, pours, and animals which are attached to, or crawl upon, the bottom; especially minute organisms and form; the form of the country of (Ecol.). Animals and plants floating in the waters of seas, rivers, ponds, and lakes, as distinct from possessing weak locomotor powers.

planning grid (Arch.). Squared grid scaled in medalas
used in designing for modular construction.

Plano-convex (Image Tech., Phys.). Said of a lens with one surface flat and the other curved.

printing image is on a level win the plate, which is specially treated to accept int while the surrounding area seject it. See collectyre, lithography planogamete (Bot.,Zool.). A motile or wandering gamplanographic process (Print.). Process in cic; a zoogamete.

The surrounding terrain is thus painted with relevant teffecting objects, such as ships, aircraft, and physical features. Abbrev. PPI. See arisewth stabilized PPI. reject it. See collectyre, kithography.

Planozygote (Bot.). See zoospore.

Planozygote (Bot.). A motile zygote.

Planozygote (Bot.). A motile zygote.

Plan-position incleator (Rodar). Screen of a CRT with an intensity-modulated and persistent radial display, which relates in synchronism with a highly directional ances. plant (Bot.). A photosynthetic organism or one related to it. It will always include the seed plants, almost always the peridophytes and bryophytes, usually the algue and the fung and sometimes the bacteria also.

Plant (Eng.). (1) The machines, tools and other appliance requisite for carrying on a mechanical or contructional

business; the term sometimes includes also the building and the site and, in the case of a railway, the rolling stock.

(2) The permanent appliances needed for the equipment of an inelitation.

blands (Zool.). The sole of the feat in the tree

mated mounding (Build.). A moulding cut out of a sparate strip of wood of the required section and secured Hen (Build.). A slate size, 330 x 280 mm, 13 x 11 in. the surface to be decorated.

pass plate (Elec.Eug.). See formed plate. hin Cf. elgitigrade, weguilgrade. maing (Build.). The operation of forming a plant

sen supplied if the generator or generating station had been operated continuously at its maximum continuous umber of kWh supplied by a generator or generating tation to the total number of kWh which would have test load tector (Elec.Eng.). The ratio of the total

colours coolern and an inner mass of endodern cells. secolayer preparation due to infection with a virus. sepocially Coclenterata; it consists of an outer layer of jast pathology (Bot.). See phytopathology.

pages (Min.Ext.). White-enamelled saucer-shaped disk treatment. It has taken the place of the old vanning shovel. A sample is gently manipulated on it with added to the surfaces of teeth.

water, to separate the light from the heavy constituents.

seashee (Build.). The process of intertwining branches in

seashee (Build.). The process of intertwining branches in

seashee (Build.). Protoplasm, especially in compound terms.

thema (Electronics). Synonym for the positive column in

n germ plasm.

and other organic compounds, in which the cells of the certain constituents (e.g. fibrinogen and cells) and istern (Med.). The watery fluid containing salts, protein blood are suspended. When blood coagulates it loses

pasma (Min.). A bright-green translucent variety of expuccystalline silica (chalcedony). It is used as a explocivement of semiprecions from. becomes serum.

pleases (Phys.). Ionized gascous discharge in which there

is no resultant charge, the number of positive and regative ions being equal, in addition to un-ionized reactives or atoms.

*Redecudes or atoms.

*Redecudes or atoms.

*Redecudes of atoms.

*Redecu

pions are recognizable by a basophilic cytoplasm with a putte-nuclear vacuole, and an eccentrically placed wather with a clock face appearance. Plasma cells are as a known to revert to resting B-lymphocytes, but rather to become enhausted and die. They are prominent in sites of intensive antibody synthesis. Plasma cell tumours cocur and are termed plasmacytomas or myelomas.

Socur and are termed plasmacytomas or myelomas.

Jasma cells, which is often preferentially localized in the bone marrow and where it produces typical erosion of the Heat is not obtained by a chemical reaction; the process can therefore be used to cut any metal.

Light and the state of the state of differentiation of B lymphocytes into ecle wholly devoted differentiation of B lymphocytes into ecle wholly devoted to synthesis and secretion of immunoajobulins. They be any early highly developed endoplasmic reticulum and they are very highly developed endoplasmic reticulum and the properties of the prominent Golgi apparatus, and in stained preparatus.

strains of mice they can be caused to appear regularly mino acid sequence missing. Such tumours arise apponancously but rarely in several species, but in certain bone marrow and where it produces typical erosion of the local bone (hence the term reyeloms). Plasmacytomas though this may sometimes have sections of the normal following intraperitoneal administration of mineral oil ners mestomist are widely used to study immunostly continue to secrete an immunoglobulin product, al

pleama heating (Nuc.Eng.). In furmay be heated by ohmic heating, compression by magnetic fields, injection of high energy neutral atoms, and by cyclotron resonance heating.

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cell which regulates the passage of molecules between the cell and its surroundings. The plant cell wall is outside the plasmalemma. Plasma membrane is the commoner

bon chain is bound to a glycerol carbon by an unsaturated ether bond rather than an ester link. Masmatogen (Biol.). Phosphatide in which a hydrocarterm for animal cells.

membranes it consists of a lipid bilayer traversed by proteins. Plasmalemma is the commoner term in botany. pleams mambrans (Biol.). The bounding membrane of cells which controls the entry of molecules and the interaction of cells with their environment. Like most cell

plasma-, plasmo-, plasm (Gentl.). Prefix and suffix from GK, plasmo, gen. plasmatos, anything moulded.

GK, plasma temperatura (Nuc.Eng.). Temperature expressed plasma temperature or electron to degrees K (thermodynamic temperature) or electron volts (kinetic temperature). I Key = 10000 K.

plasma teneth (Palys.). One in which solids, liquids or plasma teneth (Palys.). One in which solids, liquids or plasma teneth (Palys.).

pact results in very high temperatures. Used for cutting lube, with consequent ionization; de-ionization on imand depositing carbides.

plasmin (Med.). A substance in blood capable of destroying fibrin as it is formed. some. Often carries genes determining audisiode resistance. Much used in recombinant DNA procedures. plasmid (Biol.). A genetic element containing nucleic acid and able to replicate independently of its host's chromoplasminogen (Med.). The precursor of plasmin in

plasmodasma (Bor.). A fine tube of protoplasm which connects the protoplasts of two adjacent cells through the intervening wall. See also primary pit-field, symplast. plasmocyte (Zool.). See leucocyte.

kets) protoplism, which moves in an amocboid fashion and constitutes the thallus as in the Myzomycetes. Cf. plasmodium (Bot.). A multinucleate mass of naked (wall-

adj. plasmodial. pjasmogamy (Biol.). Fusion of cytoplasm as distinct from pseudoplasmodium. plasmodium (Zool.). A syncytium formed by the union of uninucleate individuals without fusion of their nuclei.

karyogamy (fusion of nuclei); in some fungi it may result in a beterokaryon. See also alkaryophase. fusion of nucleoplasm; plastogamy. gametes in a sexual reproductive cycle. In most orga-nisms it is followed more or less immediately by

plasmold (Phys.). Any individual section of a plasma with a characteristic shape.

plant cell shrinks away from the wall following water loss due to exposure to a solution of higher osmotic pressure, the wall being permeable to the solute but the plasma-kemma not. Cf. cytorrhyda. plasmolysis (Bot.). Process in which the protoplast of a

with paper facings, used as a base for plaster or providing paster (Build.). A general name for plastic substances which are used for coating wall surfaces, and which set hard after application. See also acoustic plaster. plaster board (Build.). A building board made of plaster

stuff made by dissolving pure lime in water and passing it through a fine sieve. (Eng.). Small, precision parts of planter mould cealing (Eng.). Small, precision parts of plastarar's putty (Build.). A preparation similar to flue . finish of its own.

destroyed when the casting is removed.

Jandor of Parla (Chem.). Parly dehydrated gypuum.

2CaSo., H.O (hemihydrate). When maned with water, it non-ferrous alloys are cast in plaster moulds which are

and quickly solidifies, expanding slightly: BEST COPY AVAILABLE

VOCABULARY # 2

	VUCABULANI # 2
Audit	
· -	
Selects	
_	
	•
Gate	
-	
Green	
•	
Slip	
Grog	
Slug	
Ciug	





ZIRCOA COMMUNICATIONS ON THE JOB!

OBJECTIVES

SESSION 7

- Identify and select homophones and homographs
- Demonstrate ability to draw logical conclusions
- Read and interpret job-related instruction
- Practice job-related Vocabulary Improvement

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FOLLOWING INSTRUCTIONS

How many times have we heard or used the old adage "when all else fails read the directions!"? These words are important. Yet how often, especially at work, do we follow this advice? Not relying on directions or instructions for tasks that are routine may be the quickest way of doing something. Using these old habits may prove dangerous when a new process, procedure or machine sits in front of you.

Encourage participants to discuss this adage. Do they live their lives by it or totally ignore the instructions? These differences can be based on an individual's preferred learning styles, their upbringing, their mentors, trainers, company values and/or company environment.

WHY FOLLOW INSTRUCTIONS?

BRAINSTORM THESE RESPONSES AND ANY OTHERS !!

Safety for self injuries etc.

Safety for others next person to get or use

equipment or product

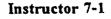
Safety for equipment responsible for costly breakdowns

or repairs

Safety of the process costly defects/rejects next

customer in process (internal or

external)





TECHNICAL INSTRUCTIONS

It is common knowledge that many technical manuals and instructions are poorly written and difficult to follow. This leads to their lack of use. Many companies try to rewrite procedures and instructions to make them easier to use and increase the usage of these written materials.

NOTE:

It may be helpful to talk about the fact that Zircoa is currently rewriting all Standard Process Procedures (SPPC s). This is supposed to be done in teams that include employees. Input and insight from front-line workers in theory should help to increase usage of SPPCs on a daily or routine basis. Many supervisors are writing these documents on their own at high and complex reading levels which may sabotage their use.

Technical manuals and standard process procedures will be explored in later sessions.



STEPS TO SIMPLIFY INSTRUCTIONS

Instructions may be written in an orderly easy to read format. These usually include numbers, a logical sequence and easy to understand language.

Example:

- 1. Complete all information on form.
- 2. Sign and date form.
- 3. Mail form to this address _____, in envelope provided.

The form may end up being impossible but the directions are clear.

In most cases the order in which the steps are preformed is very important. What if step 3 above was performed before steps 1 or 2? Often a routine task (esp. at work) becomes so automatic that the steps are hard to explain. When you think of the steps of a procedure, explain and order the steps as if you were guiding a person who had never done the task. Keep their safety in mind! The next set of instructions need to be placed in the proper order. Give it a try.



ACTIVITY 1

Have Participants place number order in blank space. Discuss: Same order? What if 2 comes after 4 and so on. Are there more steps? Is this specific enough? Do we realize that there are so many steps in such a simple procedure until we try to explain it- or TEACH IT?

TO CHANGE A LIGHT BULB TO A HIGHER WATTAGE:

- 1. Obtain higher watt bulb.
- 2. If old bulb is still lit, turn it off and let it cool. Don't touch hot bulb!
- 3. Leave power to socket off.
- 4. Gently hold bulb and unscrew in counter clockwise motion.
- 5. Place old bulb in a safe place
- 6. Take higher wattage bulb and place into the socket.
- 7. Hold bulb gently and screw clockwise into the socket until tight.
- 8. Turn on power to socket.



ACTIVITY 1

Place these instructions in the proper order. Fill in the correct number of each step in the blank.

TO CHANGE A LIGHT BULB TO A HIGHER WATTAGE:

 Take higher wattage bulb and place into the socket.
 Turn on power to socket.
 Gently hold bulb and unscrew in counter clockwise motion.
 Obtain higher watt bulb.
 Place old bulb in a safe place
 Leave power to socket off.
Hold bulb gently and screw clockwise into the socket until tight.
 If old bulb is still lit, turn it off and let it cool. Don't touch hot bulb!



STEPS TO SIMPLIFY INSTRUCTIONS (CONT'D)

So far we have looked at instructions that have easy to identify steps. Instructions also come written in paragraph form. These can look very confusing and overwhelming at first. Any set of instructions can be reworked to make them easier to follow. You may already have a method that comes in handy. It may almost be an automatic thinking process.

Here is a method that separates instructions into manageable parts. This method combines the memory systems of association and classification that were presented earlier in this course. It also presents the word **PRAISE** as a mnemonic or memory assisting device. The word PRAISE helps you remember the steps in order. It also reminds you to give yourself credit or **PRAISE** after you successfully use this method.

remi	nds you to give yourself credit or PRAISE after you successfully use this method.
1)	ositive, confident attitude toward being able to accomplish this new or different task or set of instructions. Give yourself credit for past accomplishments.
2)	R ead all of the instructions before beginning any of them. This gives you the whole picture before bolting headlong into one step.
3)	A sk yourself and be able to answer
	What do I need to accomplish? What am I being asked to do here? What is the desired result or finished product? Why is it important?
4)	dentify words that are new, technical or unfamiliar. Use your new and improved dictionary skills.
5)	S pecial equipment needed? Gather any:
	 equipment (calculator, gloves, cart) materials (procedure manuals, blueprints, batch ticket) information (specifications, computer printouts) needed to perform the task.
6)	E asy action words singled out that are used in the instructions. Give them special attention. These will be red flag words signaling ACTIONS to take! Example: load the cart.



insert the cutting tool. record the weight.

STEPS TO SIMPLIFY INSTRUCTIONS (CONT'D)

After completing the six PRAISE steps remember to:

• Complete each step of the instructions in the correct order.

If you will use these instructions often:

• Create your own set of instructions to help you remember the steps.

If the instructions are in paragraph form use:

• PRAISE Step 6 - Easy Action Words to help break it up into individual steps. Make one step to a line with it's own verb.

ACTIVITY 2 Try it!

Use the Zircoa instruction paragraph below to try PRAISE Step 6 - Easy Action Words:

Vii	The centre cap and the piston assembly should now be removed from the low pressure cylinder. By gripping the low pressure piston retaining plate the nyloc nut retaining the high pressure piston can be removed. The piston rod can now be withdrawn from the seal in the centre plate. Care should be taken not to scratch or damage the surface of the piston rod.



CONTEXT

Define and help participants explore context in reading materials. Many times, while reading, an unfamiliar word crops up. Often it is possible to figure out it's meaning by gathering clues from "context". For example: while reading a novel, newspaper, or magazine article, a word you've never seen appears. Do you stop to look it up as was suggested in the Dictionary Module? To quickly go on reading, the reader often defines the word by figuring out it's meaning from the words and thoughts around it. This is the context of the sentence which helps determine the meaning of a strange or unknown word.

The third method of finding synonyms is the handiest for everyday reading and also takes us into problem solving and drawing inferences from all reading.

USING CONTEXT AND DRAWING LOGICAL CONCLUSIONS

(Participants have blanks)

To draw logical conclusions requires " active reading " in which a dialogue takes place with the author. The reader is answering questions while reading based on:

- 1) knowledge
- 2) experience
- 3) sound reasoning

These three skills added together = decision making which is the crucial basis for technical reading.

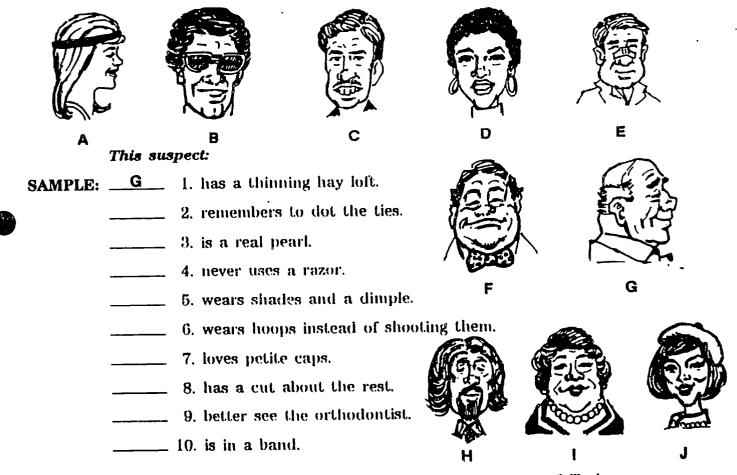
ACTIVITY 3 Context clues

Participants must be "detectives" and use context clues to identify the "suspects".



ACTIVITY 3

To be a successful technical reader, you must be a "detective" and find clues in your reading. Many descriptions and instructions are sketchy and hard to understand. In this activity match the descriptions to the suspects. Fill in the correct letter for each match.



Did you have trouble matching these decriptions to the suspects? To be successful, you had to carefully read the brief descriptions; then search for clues to link them to the illustrations. When reading technical information, even if it is poorly written, you must find clues which improve communication between the writer and the audience.

From: READING AND UNDERSTANDING TECHNICAL INFORMATION by Richard Marsh





CONTEXT AND COMPREHENSION

ACTIVITY 4

Comprehension is closely tied to inferring from context.

Have participants do the reading and answer the questions. They should try to answer the questions at least the first time through without looking back at the story. Then they may refer back to avoid random guessing. The comprehension questions in this reading must be gained by inference.



ACTIVITY 4 How Grandpa Came into Money

lie was a sweet man, my grandfather, but when the brains were passed out he must have been sumewhere else. I still respect how Grand-mother could raise a family on his earnings.

Perhaps you can understand what it meant when, one fine day, Lady Luck smiled on Grand-father. He got himself in a train wreck.

Now, if something like that happened to you (and you lived through it) you had it made. The railroad would pay. So all of the lucky people on the train knew exactly what to do: they began to groan loudly and twist about un the ground while waiting for the doctors and stretchers to come.

All but Grandfather!

Never in his life had he missed a meal and he was not going to start now. No sir! Not for a little trainwreck. So he cut himself a walking stick and set out for home—a three hour walk.

In the meantime, the news of the wreck had already reached our town and the news had reported, "No deaths."

I cannot describe the many looks that passed across my grandmother's face when she saw her husband come strolling in the door, covered with dust, a bit tired from his long walk, but safe and smiling for he was just in time for dinner. First came joy at seeing that her man was not limit. Then the joy turned into anger.

Grandfather had passed up his one and only golden chance.

So Grandmother turned into a kind of wild storm. Before he knew what was happening, he found himself without his pants and in bed. His complaints did him no good. Grandmother slapped a wet towel on his head while Mother went to search for the only medicine we had in the house—castor oil!

Grandfather cried out in fear and tried to hide under the blanket, but Mother dosed him

anyway. Poor man! The only thing he really needed was his dinner. But what could he or anyone else do once his wife and daughter had made up their minds.

And then came the time of waiting. The two women did all they could do to keep Grandpa in bed and conched him carefully on what to say when the railroad people came. Grandpa nodded and said he would do as he was told. However, he bribed one of us children to find his pants for him and got out of bed anyway.

And out of bed he was when the insurance people from the railroad came to our town. Pants, boots, and all, grandpa was stuffed into bed and the covers were pulled up to his chin. The shades were lowered, the castor oil was placed by his bed, and the insurance people were brought in.

From the first minute it was clear that Grandpa had forgotten all of the careful coaching. He beamed a welcome to the insurance people and told them how well they looked. He then went on to talk about the weather and crops. When the railroad doctor was able to get a word in and asked him what injuries he had gotten in the train wreck, my grandfather smiled and said, "There's really nothing at all wrong with me that 100,000 dollars couldn't cure."

Mother promptly fainted. Grandmother screamed and ran out of the room. The insurance men doubled up with laughter.

After they had stopped laughing and revived my poor mother, the insurance men gave Grandpa 5,000 dollars—making him the richest man in our little town.

But to his dying day, Grandpa could never understand why the insurance men had given him the money.

Adapted from "How Grandpa Came into Money" by Else Zentner.



COMMUNICATIONS ON THE JOB I

SESSION 7

About the Story. Choose the best answer from the four choices and write it on the line.

1. Who is telling the story in "How Grandpa Came into Money"?	
(a) Grandpa	
(b) Mother	
(c) the granddaughter	
(d) the grandmother	
2. What does Grandpa seem to like best?	
(a) farming	
(b) food	
(c) money	
(d) train rides	•
3. The other people on the train were	,
(a) badly injured	
(b) faking injuries	
(c) in a state of shock	
(d) killed	
4. The grandmother's first seeling when she sees Grandpa coming in the door is	
(a) calm	
(b) happiness	
(c) rage	
(d) sadness	
5. Grandpa is given castor oil because	
(a) Grandmother is angry with him	
(b) he is ill from the train wreck	
(c) he needs a little castor oil now and then	
(d) there is no other medicine to give him	
6. When the insurance men come to the house,	
(a) Grandpa is being given a dose of castor oil	
(b) Grandpa is eating dinner	
(c) Grandpa is nude	
(d) Grandpa isn't where he's supposed to be	

ACTIVITY 5

Use the technical reading with key words missing. This reading shows the participants how drawing logical conclusions from context is done almost automatically in reading. They are asked to fill in the blanks with the correct word.

The terms #10 and #11 are antonyms and #7 and #8 are synonyms or synonymous. These word groups, which help a reader draw inferences from context, will be discussed in the next session.



7.	Which of the following is not part of Grandmother's plan to convince the insurance men that
	Grandpa has been injured in the train wreck?
	(a) She lowers the shades.
	(b) She pulls up the covers.
	(c) She puts Grandpa in bed with his clothes on.
	(d) She puts castor oil by his bed.
8.	When Grandpa answers the insurance men's questions about his injuries, the men
	are
	(a) amused
	(b) angry
	(c) confused
	(d) disgusted
9.	Why did the insurance men give Grandpa the money?
	(a) He has such an awful wife.
	(b) He needs it.
	(c) He is so humorous.
	(d) We don't really know why.
0.	The family in this story lives
	(a) in a city
	(b) in a town
	(c) on a farm
	(d) on an island
	·
	Explain how your answers depended on the context of the story:



ACTIVITY 5

<u> </u>
0
remely machine. It can, however, be u, as the user, to make sure that this does ho carry out work directly related to the pany management and others within the tool. Everyone must be conscious. can be avoided. Serious accidents and t can be avoided if everyone understands paper as well as the general rules
measures do not encompass all situations g to chip-removing machine tools.
glarge degree of and
tool for cutting operations can either be
6
7
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9
10
11



ZIRCOA VOCABULARY # 3

Nozzle				
-				
Process			<u> </u>	
•				
Clinker				
		 		
Ware		 		
Slurry		 		
Calipers				
Grain			<u> </u>	
	· · · · · ·			



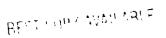
ZIRCOA COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 8

- Differentiate between the meanings of common prefixes and suffixes
- Identify and select synonyms, antonyms, homophones and homographs
- Demonstrate ability to read technical manuals
- Practice job-related Vocabulary Improvement





ZIRCOA COMMUNICATIONS ON THE JOB I

OBJECTIVES

SESSION 9

- Read, analyze, and prepare job-related memos, processes and procedures
- Practice job-related Vocabulary Improvement

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COMMUNICATIONS ON THE JOB I POST - ASSESSMENT

1)	Name the fou	ır Preferred Learning Style	categories re	presented by these initials:
٠		V		
		A		
		κ		
		Т		
2)	Name one of	the three components of	effective learn	ning.
3)	Mark each s	tatement about listening Ti	rue or False:	
	· 	People tend to pay attention to what interests them.		When a listener's emotional level is high, he or she will be an effective listener.
		Hearing and listening are the same.		Listening is a natural process.
		Most people have a short attention span and have trouble		Listening is a skill. Listening requires little energy; it's "easy".
		concentrating on the same thing for too long.		Giving advice and telling the speaker what to do is not a listening skill.
		The speaker is totally responsible for the success of communication.		Speaking is a more important part of the communication process than listening.



4)	List below 4	techniques	that help peo	ole learn more effe	ectively:	
5)	Describing a	a persons be kind of a per	havior is mor son you think	e helpful than tellir they are.	ng True	False
6)	When a per they are us	rson labels a ing an "I-Rat	behavior god ional Approad	d or bad, right or the bad, right or the bad, right of the bad, right or the bad, right of the bad, right or the bad, ri	wrong, on. True	False
7)	Giving a pe	rson praise l	nelps them w	ork better.	True	False
8)	Roleplaying	j is useful in	training sessi	ons.	True	False
9)	The diction	ary is consid	ered a " powe	er tool ".	True	e False
10)	Phonics sk	ills are an im	portant part o	f adult reading.	True	e False
11)	Name two types of dictionaries that are useful everyday.					
			<u>.</u>			
12)	Name 2 co	mponents of	a dictionary	page.		
•						
13)	How many	consonants	are in the En	glish alphabet? _		
14)			e: (circle one			
,	consonant	-	vowels		sonants and vo	owels
15)			ne short e s	ound:		
13)			fret	Pete		
	she	verse				
	bench	these	press	wed		
16)	A person's	attitude is a	in important p	art of the reading	process. Tru	ie False

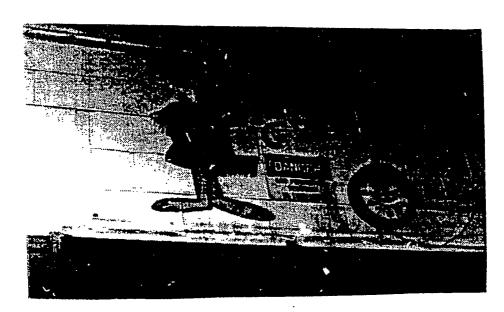
17)	Name two of the four major components of Reading.		
,			
18)	A person should always try to maintain the same reading speed no matter what they are reading.	True	False
19)	Reading is learned only at an early age.	True	False
20)	A person must read every word to be a "good" reader.	True	False
21)	If you read very fast you should still try to remember everything you read.		False
22)	Name three good reading habits.	÷	
23)	One word can have several different meanings.		False
24) 25)	A homophone is a	True	False
26)	What does CNC stand for?	_	
27)	What does SPC stand for?		



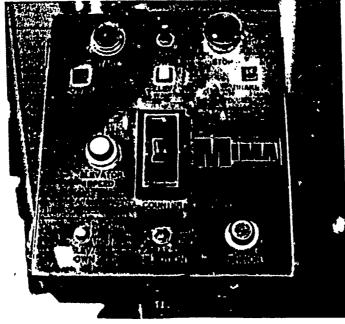
28)	Read the following:		
	Therefore, qu	uality product at a fair price is the goal of any manufacturing plant. ality control must be an important anect of Zircoa's process. y can be controlled in two ways.	
	What is the m	ain topic of this reading:	
		: :	
29)	Define the fol	lowing Zircoa terms:	
	Slurry		
	Audit		
	Selects		
	Proprietary		
	Process		



30) What is the definition of the LARGE word this cute guy is yelling?



31) If you wanted to make this go faster, which button would you push?



7277

Communications on-the-job

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TRW COMMUNICATIONS ON THE JOB II SESSION OVERVIEW

10 2-Hour Sessions

Session 1

Self-Awareness and Personal Learning Styles Pre-Assessment

Session 2

Successful Learning Strategies Using the Dictionary

Session 3

The Process and Types of Reading Active and Passive Reading Skimming and Scanning Technical Vocabulary Building System

Session 4

Homophones and Homographs
Previewing
Job-related Vocabulary Improvement

Session 5

Prefixes and Suffixes, Synonyms and Antonyms Identifying Main Ideas, Topics, and Details Job-related Vocabulary Improvement

Session 6

Following Instructions, Drawing
Logical Conclusions
Reading and Writing: Memos, Processes and
Procedures
Job-related Vocabulary Improvement

Session 7

Active Listening Skills
Job-related Vocabulary Improvement

Session 8

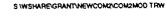
How to Deal with Difficult Communication Situations Role-playing Exercise Job-related Vocabulary Improvement

Session 9

Identifying codes and symbols on schematics and blueprints
Job-related Vocabulary Improvement

Session 10

Review/Wrap-up Post-Assessment Evaluation





COMMUNICATIONS ON THE JOB II PRE - ASSESSMENT

attention to what interests them. Hearing and Listening is a natural listening are the same. Listening is a skill. Most people have a short attention span and have trouble concentrating on the same thing for too long. The speaker is totally responsible for the success of for the success of speaker listening level is high, he or she be an effective listener. Listening is a natural process. Listening is a skill. Listening requires lenergy; it's "easy". Giving advice and teleficial the speaker what to do not a listening skill.	Name the f	our Preferred Learning Sty	le categories i	represented by these initials:
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than instanting.		totally responsible for the success of		Speaking is a more important part of the



4)	List below 4 study techniques that help people learn more effectively:							
						_		
5)	Describing a		ehavior is more son you think	e helpful	than telling	True	False	
6)	When a pers they are usin	True	False					
7)	Giving a per	son praise	nelps them wo	rk better	•	True	False	
8)	Roleplaying is useful in training sessions.						False	
9)	The dictionary is considered a * power tool *.						False	
10)	Phonics skills are an important part of adult reading.						False	
11)	Name two types of dictionaries that are useful everyday.							
							_	
12)	Name 2 cor	nponents of	a dictionary p	age.				
13)	How many	consonants	are in the Eng	glish alph	abet?			
14)	The letters	w and y are	e: (circle one	answer)				
	consonants		vowels		both consonants	and vov	wels	
15)	Circle the w	vords with th	ne short e so	und:				
,	she	verse	fret	Pete				
	bench	these	press	wed				
16)	A person's	attitude is a	in important pa	art of the	reading process.	True	False	

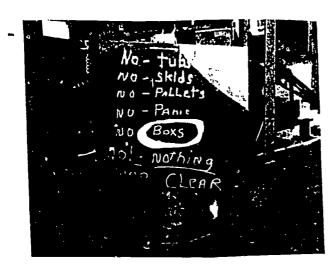
17)	Name two of the four major components of the Reading Process.		
18)	A person should always try to maintain the same reading speed no matter what they are reading.	True	False
19)	Reading is learned only at an early age.	True	False
20)	A person must read every word to be a "good" reader.	True	False
21)	If you read very fast you should still try to remember everything you read.	True	False
22)	Name three good reading habits.		
23)	One word can have several different meanings.	True	False
24)	A homophone is a		
25)	Asking a co-worker is an acceptable way to find out what a new technical word means?	True	False
26)	What does CNC stand for?		
27)	What does SPC stand for?		



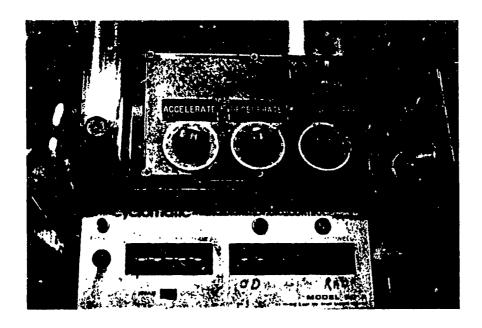
28)	Read the following:								
	Producing a quality product at a fair price is the goal of any manufacturing plant. Therefore, quality control must be an important aspect of TRW's process. Product quality can be controlled in two ways.								
	What is the n	nain topic of this reading:							
29)	Define the fo	llowing TRW terms:							
	Dresser								
	Shear								
	Collet								
	Tolerance								
	Process								



30) What is the proper spelling of the circled word on this sign.



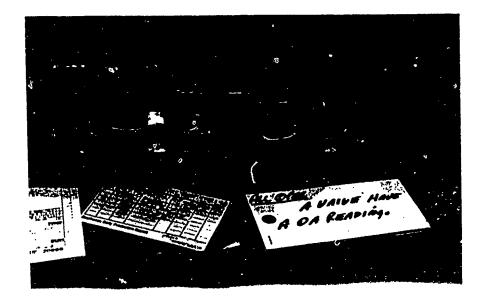
31) If you wanted to make this go faster, which knob would you turn? (circle one) left center right







25) Is the verb in the sentence on the white ticket correct? Please write the correct verb on the line.



TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 1

- Self-Awareness and Personal Learning Styles
- Pre-Assessment



THE TRAIN

What does "The Train" tell you about the power of your mind?
-
Have you heard of any other examples of people deciding something contrary to "fact with dramatic results?
•
To what extent do you feel you control your attitudes? What circumstances do you fe take control away from you, and what would it take to get it back?



1-1

SOME REASONS WHY WE ASSUME WE CAN'T LEARN

•	Past Conditioning - we were told we couldn't learn or that we weren't good
	at a particular subject or subjects.

- Stereotypes How often have we heard statements like "He's a lathe operator, great mechanical ability, but his verbal skills aren't too good." or "She's wonderful at communicating with others, but technically, I don't think she has it"? In many cases, these statements reflect stereotypes present in our society and our companies. It's easy to buy into them, and create self-fulfilling prophecies so that we fit the stereotype.
- Other People's Perceptions of Us Often, we're labelled, usually early in life. "He's the artist" or "She's the smart one" or "He has the mechanical mind." What happens is that we often get pigeon-holed. We also assume that we can only be good at what people tell us we're good at. Or conversely, we assume that we're poor at whatever people tell us we're poor at. We tend to live up (or down, as the case may be) to other people's expectations.

ther reasons why p	eople assum	e they can't	learn:	



1-2

SUCCESSFUL LEARNING EXPERIENCE

Describe	a recent s	uccessful	learning ex	perience.		
		•				
					_	
			nis particula			
			•			



SOME MOTIVATING FACTORS

•	Money - People will often learn new skills in order to gain a promotion of
	to get a new higher-paying job.

- Comfort People are motivated to learn new skills if it will make their jobs easier.
- Safety/Health If a skill is necessary to their safety or health, people usually view that skill as an important one to learn.
- Status People will often learn new skills if they believe it will increase their status with their supervisor, their co-workers, and/or family and friends.

What factors motivate me?								



PERSONAL LEARNING STYLES

- Visual Learns best through observation or studying graphs or charts. If you feel you learn a lot from demonstrations or you like to look at graphs, drawings, charts, maps, etc. in order to understand something, you may be a visual learner.
- Auditory Learns best through listening. If you get a lot from lectures or like to listen to educational audiotapes at home or in your car, chances are you're an auditory learner.
- Kinesthetic Learns best through movement or while moving. If you like to walk around or knit or tinker while listening to educational material or if you feel you're pretty good at picking up new sports moves after just one or two tries, it's a good possibility that you're a kinesthetic learner.
- Touch Learns best through touch or "hands-on" experience. If you're the type of person who wants to just start operating a piece of equipment, or who wants to touch or feel objects to get a better sense of them, you're most likely a touch learner.
- Olfactory Learns best through smell or taste. If you often associate things with a particular smell or taste, you very well might be an olfactory learner.

PREFERRED LEARNING METHODS

- Print/Individual Learns best through reading and writing. If you love to read and feel you learn a lot from manuals, magazines and books, you may be a print-oriented learner who likes to learn things on their own.
- Interactive/Group Learns best through talking things out with other people. If you feel you learn a lot from small group discussions or by bouncing ideas off people, you may be an interactive learner.



WHAT KIND OF LEARNER AM I?

Learning Style Inventory

Check below the techniques through which you think you learn best.

1. motion pictures	15. slides
2. lecture, information-giving	16. records
3. group discussions	17. question-answer sessions
4. reading assignments	18. independent reading
5. role playing with you as a participant	19. physical motion activities
6. project construction	20. model building
7. odor discrimination activities	21. scented materials (i.e., scratch & sniff)
8. television programs	22. graphs, tables, and charts
9. audiotapes	23. recitation by others
10. participant in panel discussion	24. interviews
11. written reports	25. writing
12. nonverbal/body movements	26. participant in physical games
13. drawing, painting, or sculpting	27. touching objects
14. tasting	28. photographs



WHAT KIND OF LEARNER AM I?

Learning Style Inventory Interpretation

Circle the numbers you checked on the Learning Style Inventory. Find the row where the most numbers are circled and identify the learning style to the right of it. Most likely, that's your dominant learning style. It is possible to have 2 learning styles with the same or almost the same number of circles. In that case, you probably utilize both learning styles equally well.

NUMBERS	LEARNING STYLE
1, 8, 15, 22, 28	VISUAL
2, 9, 16, 23	AUDITORY
3, 10, 17, 24	INTERACTIVE/GROUP
4, 11, 18, 25	PRINT/INDIVIDUAL
5, 12, 19, 26	KINESTHETIC
6, 13, 20, 27	TOUCH
7, 14, 21	OLFACTORY

LEARNING STYLES ACTIVITY

Tony works for the Excellent Products Company operating a drill press. Recently, his company automated all the drill presses in the plant. Tony, along with all the other drill press operators must now learn to operate the automatic controls. Tony has been running the drill press for 5 years. Because he feels that the automation will make him more productive and allow him to learn new skills, he's sure he can learn to work with the automatic control system. The big question, of course, is how?

Tony's supervisor, John, brings him a copy of the big, thick manual that came with the new machinery.

"Everything you need to know is right in there," says John. "Read it."

Tony tries to read it. But it seems boring to him. What he does find useful are the drawings and charts. After a week of trying to read the manual, Tony decides to talk to John.

"I could look at this manual from now till retirement and never learn what to do. I need someone to show me how to use this thing!"

John said he understood and the next day, he worked with Tony. John patiently explained everything he knew about the machine to Tony. Tony kept wanting to push the buttons and check out the information for himself. Sometimes, although Tony didn't admit it to John, he felt lost by John's explanations.

When he was done explaining everything to Tony, John asked him to repeat the steps for certain operations. Tony couldn't do it successfully. "Walk me through it," he kept saying.

"I just did," insisted John.

"Well, if I could just try it one time, then I think I'll be able to remember it better," said Tony.

"No," said John, "Until you learn what to do, we can't take a chance on damaging the new machinery."

John walked away rather exasperated. Tony was left feeling very frustrated. "If I could just watch someone operating one of these babies, then I could pick it up," he thought.



LEARNING STYLES ACTIVITY (cont'd)

The next day, Tony decided to take another route to learning the automated controls. He talked to some of the other drill press operators and found that one of the younger operators, Nancy, was skilled at operating automatic controls because of some vocational training.

Tony asked Nancy if he could watch her in action. "Sure," Nancy said.

That afternoon, Tony went over to Nancy's drill press. she first explained what she was going to do, then did it. Tony kept track of the buttons she pushed and in what order. "Can I try it?" he asked when she was done with the demonstration.

Of course, said Nancy. *I'll cancel the program I just did and you can start from scratch.*

"Thanks," said Tony. He approached the controls. He was amazed when he remembered practically the whole sequence of events. Nancy just had to prompt him a couple of times.

See, nothing to it, said Nancy when he finished successfully.

"Yeah, nothing to it," said Tony. "Wonder why it seemed so hard yesterday?" he thought.

Every day for a week, Tony worked with Nancy until he had all the basic operations down. John came by and saw Tony operating the automatic controls with skill and ease. "Really dug into that manual, didn't you, Tony?" he said. "I was beginning to think you were a hopeless case. Good job."

What kind of learner is Tony? Is there more than one style you can identify for him?

What kind of learner do you think John is? What kinds of problems did this cause between John and Tony?



LEARNING EFFECTIVELY

In order to learn effectively, you must

- Believe in yourself.
- Be motivated.
- Be aware of your personal learning style and take advantage of it, whenever possible.



TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 2

- Successful Learning Strategies
- Using the Dictionary





313

FOUR STUDY SKILLS TECHNIQUES TO HELP YOU LEARN MORE EFFECTIVELY

- Organization
- Concentration
- Notetaking
- Memory improvement



2-1

ORGANIZATION

In order to be successful in this class (and others), it's important to:

- Set a goal
- Plan how to reach that goal
- Act upon your plans



PERSONAL COMMUNICATIONS GOALS

It's important to set personal goals for this course. Take a few minutes and write down a communications goal that you would like to accomplish in Communications on the Job.

MY PERSONAL COMMUNICATIONS GOAL IS:								
		-		_	•			



WHAT IS CONCENTRATION?

Concentration is:	
Consider the postage stamp. until it gets there.	It secures success through its ability to stick to one thing
	Josh Billings



CONCENTRATION ACTIVITY

Pat Hawkins is about 2 weeks into his training program. He's started with Basic Math, a subject he feels he's never been good at. His supervisor told him that Math skills will become more important as improvements to the equipment are made at work. But Pat feels that he's survived this long without math skills, why should he learn them now?

When Pat comes into the learning lab, he picks up the resources he needs, takes off his coat and wanders over to a workstation, thinking to himself, "Oh, here comes 2 hours of boredom. I'd rather be home, eating dinner with my family, or bowling with the guys."

After arranging his resources and notebooks, he decides he needs a cup of coffee. So, he goes to the coffee machine. In the dining room, a TV is on with the news. He watches the news for 10 or 15 minutes while he sips his coffee. On his way back to the learning lab, he thinks about the news events he just saw and wonders "what the world's coming to."

He goes back to his workstation, realizes he didn't bring a pen or pencil, so he goes into the office to get one. He chats for 5 minutes with one of the secretaries.

Then, he returns to the workstation and looks at his watch. A half hour has passed already. "Good," Pat thinks, "Only one and a half more hours of this." He works 2 or 3 problems. Then, he starts to think about the argument he and his wife had this morning. It's been bugging him all day. He knows he needs to talk to her again more calmly and rationally. He starts planning what he'll say to her.

Then, Pat realizes he's cold. He's only wearing a short-sleeved T-shirt. He rubs his arms and then gets up to get another cup of coffee. In the dining area, he sees one of his coworkers. They start talking about the day's events at work and how tough it is to work and go through this training at the same time. Pat glances at his watch. Only about 45 minutes left to study.

He goes back to his workstation. He reviews his notes and tries to go through the examples, but he keeps thinking about what he'll say to his wife when he gets home. He hits an example problem that makes no sense to him. After going over it a couple times, he looks at his watch. Only 15 minutes left.

"Well, I'm going to call it a day--this is a good stopping point," he says to himself and leaves. On his way out the door, he shakes his head and thinks, "It's going to take me forever to get through this Math class, 2 hours is hardly enough time."



WHAT BREAKS OUR CONCENTRATION?

Some examples: u	uncomfortable chairs, lighting, noise
OTHERS:	
INTERNAL DISTF	RACTIONS
Some examples:	personal problems, daydreaming
OTHERS:	
PHYSICAL FACT	ORS
Some examples:	hunger, thirst, tiredness, illness
OTHERS:	
MENTAL FACTO	DRS
Some examples:	boredom, negative attitude



WAYS TO INCREASE CONCENTRATION

•	Keep your goal in mind.
•	Develop an interest in and a positive attitude about the material.
•	Eliminate or minimize distractions beforehand.
•	Think about successes you've had or success you're determined to have. Then, get to work.
by telling yourself	N HINT: You can will yourself to concentrate and then practice. Start to concentrate for just 5 minutes. Then you can gradually increase time. Soon, concentration will become a good habit.
What can Pat Ha	wkins do to change his study session?



CONCENTRATION ACTIVITY - GOOD MODEL

Pat Hawkins is about 2 weeks into his training program. He's started with Basic Math, a subject he feels he's never been good at. His supervisor told him that Math skills will become more important as improvements to the equipment are made at work. Even though Pat feels he's survived this long without math skills, he knows that more is going to be expected from him on the job when the new equipment is installed. He knows it's going to be a struggle, but on the way to the learning lab, he mentally prepares himself to learn and succeed at Basic Math.

Before he leaves work, Pat makes sure he has everything he needs - his notebook, a pencil and eraser, a snack of crackers, cheese and fruit, and a light sweater.

When he arrives at the learning lab, he takes off his coat and puts on the sweater. He takes his notebook to the dining area, eats his snack, has something to drink and goes over his notes from the last session, ignoring the news on the TV. As he walks back to the learning lab, he feels prepared. He checks out the resources he needs and goes to a workstation where he feels comfortable.

The argument that he had with his wife this morning comes into his mind. It's been bugging him all day. He tears off a piece of notebook paper and writes down what the argument was about and his solution, talk to her calmly and rationally. "I'll think about what I'm going to say in the car on the way home," he tells himself. Then, he gets down to business.

First, he reviews his notes, making sure to work through the example problems. There's one in particular that gives him some problems, so he marks it to ask the instructor about in the next class session.

Now, he's ready to tackle problems. He works through the problems in the first section of the software. Before starting the second section, though, he decides he needs a short break. He looks at his watch, about 45 minutes left, enough time for a 10-minute break.



CONCENTRATION ACTIVITY - GOOD MODEL (cont'd)

He goes into the dining area where he sees a co-worker. He chats with him about the day's work events but lets him know that he can't talk long because he wants to finish the next section before leaving today. The co-worker comments on his motivation and persistence. "It's hard," Pat tells him, "but I look at it as an opportunity. I don't know how all this will fit together with our jobs, but I think I'll be better prepared for the new equipment if I learn this now." Pat keeps track of the time and at the end of 10 minutes, he tells his co-worker he has to go.

He returns to the workstation and works the problems in the second section of the software. Walking out of the building, Pat has a sense of confidence in his ability to learn. And when he gets in the car, as promised, he starts thinking about what to say to his wife. He feels that he'll be able to work out the situation with her, now that he let it simmer in the back of his mind for a while and came to it fresh.



NOTETAKING TIPS

- Listen actively Good listening skills are important for taking good notes.
- Don't try to write down every word the instructor says Abbreviate when possible and summarize. The most valuable notes to you are the ones in your own words.
- Be neat and organized After all, what good are a bunch of messy, sloppy words that you won't be able to understand later? On the other hand, don't get too hung up on neatness. A word crossed out here or there or an arrow or two is OK, as long as it's understandable.
- Review your notes daily Preferably, review them right after class. Just a quick 5-10 minute review will help you to retain the material a lot longer.



NOTETAKING EXAMPLE

Vocabulary Words

Word	Pronunciation	Meaning	My sentence
Variable	Vâr ë e bel	Measurable quantities such as dimensions or weight	Two variables that I need to check are the diameter and thickness of the valve tip.
Probability	pröb e bil i tē	The chance that something will or will not happen	The probability of process problems increases when we use a new material for the first time.



NOTETAKING EXAMPLE

Using the Dictionary

Recall Words	Notes	Examples
Spelling	Spelling - entry word shows - sometimes more than 1 sp more common sp. given 1st.	theater or theatre
Plurals	Plurals - most nouns show by -s or -es - irregular plurals in dict shown by pl. before plural form	mouse - pl. mice



MEMORY IMPROVEMENT

Three Types of Memory

- Visual
- Auditory
- Kinesthetic

MY STRONGEST TYPE OF MEMORY IS:



GENERAL TIPS TO IMPROVE YOUR MEMORY

•	Interest -	It's much easier to remember information about what interest you.
•	Selection -	It's a lot easier to remember the important points made, rather than to try and remember all the details given.
•	Attention -	You need to give your full attention to something that you want to remember.
•	Understanding -	If you understand something, you'll remember it a lot easier.
•	Intention to - Remember	You need to tell yourself that you want or need to remember something.
•	Confidence -	Have a positive mental set see yourself as a person with a good memory.
•	Association -	Connect things in your mind.
•	Background of - Experience	You'll more easily remember new things about a topic if you already know something about that topic.
•	Organization -	Group things you have to remember in a logical fashion.
•	Practice -	The more you practice, the better your memory will be.

MEMORY SYSTEMS

- Observation The more and better you observe or study something, the easier it will be to remember.
- Visualizing/ Picturing something helps us to remember it
 Imaging better. Concrete items are easier to visualize than abstract ideas.
- Association It's easier to remember new information when you associate it with something you already know.
- Substitution Think of and picture a word or group of words that sound like or remind you of what you want to remember. This technique works well for abstract concepts.
- Classification Divide items into logical groups. It's much easier to remember three or four groups of four to six items each than one large group of twenty to twenty-five items.
- Mneumonics- A self developed system, that will differ in each case, the learner devises a " mneumonic " to recall longer lists, words, etc.



MEMORY EXERCISE

Use the substitution technique to memorize the ten memory principles. Each is listed below with a space next to it for you to draw a picture or write a word which will help you remember each item. After you've completed your substitutions, take a few minutes to memorize, then flip this page over and surprise yourself at how well you remember the ten memory principles.

1.	Interest	
2.	Selection	
3.	Attention	
4.	Understanding	
5.	Intention to Remember	
6.	Confidence	
7.	Association	
8.	Background of Experience	
9.	Organization	
10.	Practice	



USING THE DICTIONARY

Keep	a dictionary	within easy	reach	

Practice alphabetical order

Two ways that might help:

If the word begins with b, look toward the front
If the word begins with m, look toward the middle
If the word begins with s, look toward the back of the dictionary

Another method groups the letters of the alphabet into sections:

- 1. A B C D E F G
- 2. H I J K
- 3. L M N O P
- 4. Q R S T U V
- 5. W X Y Z

Now practice picturing these sections in your mind. The next time you need to look something up in the dictionary, the phone book,the glossary of a manual, or a street name on a map, try to picture these sections.



PRACTICE PUTTING WORDS IN ALPHABETICAL ORDER

Keep the alphabet and the techniques above in mind when alphabetizing words, names etc. Practice with putting words in order helps when finding a word quickly.

Alphabetize these TRW words.	
valve	
idlers	
extrude	
chrome	
profile	
forge	
wheel	
blend	
gage	
angular	
shaved	
jam	
mike	
dresser	
taper	
hub	



PRACTICE

If words all begin with the same letter, then the second letter determines the alphabetical order.

Circle the letter or letters in the words that determine how these words were ordered:

"G" List

gage
generator
girder
girth
grind

grinder

groove



ACTIVITY 1 This activity will give some hints, techniques and practice with putting words or names in alphabetical order. Some people seem to have an easier time with this. It is a skill that can be reviewed and improved.

Alphabetize a set of TRW Employees Daily Production Reports.

HINT: Separate (and alphabetize) these names in groups then rearrange them in alphabetical order.

Example:

- Names beginning with * Robb*
- Names beginning with "Robert"Names beginning with "Robi"
- Names beginning with "Rod" and so on...

IMPROVE YOUR READING: IMPROVE YOUR JOB by Jeanne M. Miller



SKILL 16: POWERHOUSE, POWER TOOL

The Dictionary

15 Ways a Dictionary Can Energize Your Reading

P Guide Words	→ sinister/siren
(1st & last words on .	
a page)	win-la-ter (min'i ster) adj. (< L. sinister, left hand) 1. threatening harm, evil, or trouble 2. bad, wicked, evil 3. orig.,
Word Meanings	of or on the left side Syn. base, disastrous, foretelling deager
(definitions)	aluk (slugk) vi. [OE. stman 1. to fatl
Read all the meanings	doubteld glowly 2. to become parting of
given. Then choose the	come lower or weaker in value 4. to sp- come lower or weaker in value 4. to sp- pear to qo down, as the sun 5. to pass
most suitable one for	
your use.	
	make go down, under, lower, or weeker 2. to dig a well 3. to mend (a bell) in-
Pronunciations \	to a hole or pocket in golf, billiards, basketball, etc. 4. to invest money
	n. 1. a begin with a drainpipe 2. a case- pool or sewer 3. Printing the extra
☑ Syllabication / / / / / / / / / / / / /	Inpace left at the top of the page for the
(division of words into	Reginnings of a chapter, atc. Idiom slok or swim. to fail or succeed, depend-
syllables or parts)	Ing on one's own efforts
	sink-ar (sing ker) n. 1. a person or thing
☑ Accents	that sinks 2. a weight used to mink a finhing line 3. [Colloq.] a doughnut
	sinking fund a fund used to extinguish s
☑ Spelling /	debt
(+ verb and adjective	-I
forms, plurals)	Sino- [< LGk. Sinai] a combining form, mean- ing Chinese and (such as Sino-Japan-
	end meaning Chinese and Japanese)
☑ Word Origins	bent, curved 1. winding: bent in and out
(etymologies)	bent, curred 1. Winding built in and a serve are in a serve are in a serve margin, like some
	Jonven
Parts of Speech	
☑ Synonyms // // // // // // // // // // // // //	Sioux (800) A. pl. Sioux (800, 800x) [< Pr., ahort for Nadowessioux < Ojitwa Madowessiu
(See SKILL/23)	enemy/lit. little enekel a mamber of uny
	of various American Indian peoples, sep. of the Dakota triba adj. perteining to
☑ Idioms / / /	this tribe.
· / / /	mire (mir) n. [< L. senior, comp. of senex,
☑ Capitalization	old: 1. a father or ancestor 2. title of respect used to address a sovereign or
	king 3 drchaic an important person, or
Usage Labels	one in a position of authority sir-es (se re') interf., often used with
	no or yes
☑ Subject Labels	ei-ren (sī'ren) n. (< Gr. Seiren) 1. Gr. &
' /	Pomen Noth, any one of a group of see
Illustrations	nymphs, represented as part bird and part woman, that used their singing to lurs
	sailors to their destruction 2. s seduc- tive woman 3. s whistle or similar de-
Mythology	vice used as a warning signal
/··/············	

\$ \WSHARE\GRANT\NEWCOM2\COM2\SES2\TRW

2-21

Choose the right dictionary for the task

Types of dictionaries	
1)	
2)	
3)	
4)	
5)	

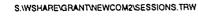


TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 3

- The Process and Types of Reading
- Active and Passive Reading
- Skimming and Scanning
- Technical Vocabulary Building System





What is it? Questions asked by the reader. Passive Reading What is it?

Why do people read passively?	



THE READING PROCESS

THE 4 COMPONENTS OF READING

Define:	
Vocabulary	
Comprehension	
Speed	
Concentration	

ACTIVITY 1 Take an inventory of your reading skills!



ACTIVITY 1

READING SKILL INVENTORY

Consider the four areas of reading we have discussed:

VOCABULARY	COMPREHENSION	SPEED	CONCENTRATION
Which is the ar	ea in which you have th	e most strenç	gth?
The most impo	rtant area of my reading	that I feel no	eeds improving is:
The area of my	reading that I would m	ost like to im	prove is:
This course will especially on treading skills.	ll give participants an ove he job. Many different Write down a goal for in	erview of stra courses exis mproving you	tegies to improve these skills to focus on improving you or reading in the near future.



Reading Skills

A positive attitude		
Personal goals		



Different Reading Rates

Study speed		
"Normal" speed		
Skimming and Scanning		



Stages of Reading

Learni	ng to Read
	Stage 1
	Stage 2
Readi	ng to Learn
	Stage 3



"Good" Reading Habits

Concentration		
	-	
Setting a Purpose		
Setting a context		



RAPID READING

- 1. Understand why it's important to read rapidly.
- 2. Recognize rapid reading as a selective process.
- 3. Understand when to use each of the two rapid reading methods.
- 4. Understand how to use each of the two rapid reading methods.

TWO METHODS OF RAPID READING

- 1. SKIMMING
- 2. SCANNING



SKIMMING AND SCANNING

SKIMMING

WHEN

you are required to determine the main idea through attention to signals the writer uses. Use these techniques when skimming.

HOW

- Note titles and subtitles
- Read introduction and conclusion
- Read boldface type and italics
- Look at illustrations, charts, graphs and figures



SCANNING

WHEN

you are required to locate specific detail mixed in with many other details. Use these techniques when scanning.

HOW

- Read down the page (rather than across)
- Using a reading aid, such as a bookmark, to help keep your place if you need it
- Read table of contents and index to locate general information areas
- Read section and column headings to locate specific information areas

TRY IT! SCANNING DRILLS



According to the chart below, what taxable investment is equivalent to a 5.50% tax-exempt bond, for the \$16,000 to \$20,000 bracket?

If your net taxable income (joint return)	\$8.000 is to \$12.000	\$12,000 to \$16,000	\$16.000 to \$20.000	\$20,000 to \$24,000
a tax exempt bond paying	is equivalent to a taxable investment paying			
4.00%	5,27%	5.52%	5.78%	6.17%
4.25%	5.61%	5.86%	6.14%	6.56%
4.50%	5.94%	6.21%	6.50%	6.94%
4.75%	6.27%	6.55%	6.86%	7.33%
5,00%	6.60%	6.90%	7.23%	7.72%
5.25%	6.93%	7.24%	7.58%	8,10%
5,50%	7.26%	7.59%	7.95%	8.49%
5.75%	7.59%	7.93%	8.31%	8.87%
6.00%	7.92%	8.27%	8.67%	9.26%
6.25%	8.25%	8.62%	9.03%	9.64%
6.50%	8.57%	8.96%	9.39%	10.03%

Data: J. B. Hanaver & Co.

Answer: seven and ninely.five one hundredihs per cent



According to the index sample below, on what page of the book would you find a discussion of the uses of polyethylene?

Parity, law of, disproven, 47 Particle accelerators. See Atom-smashers Particle theory of matter, 12, 125-126 Particles. See Atomic particles Pascal, Blaise, 54, 56, 76 Pauli, Wolfgang, 125 Peking man, 12 Perey, Marguerite, 129 Perier, Floria, 54 Periodic table of elements, 36-38, 124, 127 Petroleum, 73 Phenolics, 112 Philosopher's Stone, 15, 19, 21, 26 Phlogiston theory, cartoon 31, 32-33 Phosphates, 140 Phosphorus, 26, 30, 140; white, discovery of, Photon, 154; creation and decay of, 155 Physics, modern specialties, 10, 41; education and careers, 41, 48 Pi mesons, diagram 154, 156. See also Pion Pictet, Raoul, 59 Pile, nuclear, 173 Pion (pi-meson), 156, 157 Pitchblende (uranium ore), 8, 120, 141 Planck, Max, 124 Plasma particles, 176; controlled fusion of, as potential power source, 10-11, 177-178; fusion of, diagram 174, 176-177, 177; generation of electricity, 179; in nature, 45, 176; possible confinement of, 11, 45, diagram 178, 179; record temperatures achieved, 11 Plasma state of matter, 10, 45, 176, 179 Plastics, 108, 175; production, 110-111, 114, 115; raw materials for, 112; uses of, 112-113, 116 Platinum, 134, 135, 143; uses of, 135 Plutonium, 126, 148; high fissionability, 172-173, 174 Pneumatic air hammer, diagram 54

Polonium, 140, 141; discovery of, 120, 141; radioactivity, diagram 120, 141 Polonium 212, half life, 170 Polyesters, 112 Polyethylene: production, 115; uses of, 113 Polyfluorocarbons, 112 Polymerization, 108, 110-111, 112 Polymers, 107-108, 111, 112 Polyolefins: raw materials for, 112; uses of, 112 Polystyrenes: production of, 110-111; raw materials for, 112 Polyurethanes: raw materials for, 112; uses of, 113 Polyvinyl chloride: production of, 110-111; uses of, 113 Positron, 154-155, diagram 154; creation of, 155 Potash, 129. See also Potassium Potassium, 36, 128, 129; radioactivity, 129 Potassium aluminum sulphate. See Alum Powell, C. F., 156 Praseodymium, 147 Prehistoric man, acquaintsnce with and use of matter, 12, 30, 134, 137; bronze, 10; minerals, 12, i3; transformations of matter, 13 Pressure cooking, 80, 81 Pretiosa Margarita Novella, 12 Priestley, Joseph, cartoon 31, 33, 56 Principia, Newton, 30, 75 Principles of Chemistry, Mendeleyev, 36 "Probability" waves, 158 Promethium, 37, 146; oxide, 146 Protactinium, 148; oxide, 148 Protium, 153 Proton(s), 10, 12, 16, 151, 154; bombardment of atoms with, 161-162, 163-164; charge, 152; determine atomic numbers of elements, 38, 126; held by nuclear force, 155-156, 157, 170 Pupin, Michael, 180

Ansart: page one hundred thirteen



#

Polarization, 74

Fallacies about Reading

Become

Facts about Reading

Discuss responses and where these fallacies come from. Did the information in this session help turn these fallacies into facts?

Reading is learned only at an early age?

True False

You should read all material in the same way?

True False

A person has to read every word to be "GOOD" reader?

True False



3-13

JOB RELATED VOCABULARY IMPROVEMENT

Building job related vocabulary starts with words that you already know. Words and terms used on the job may look like words you use outside of work everyday.

That's important to remember. Start by thinking of the definition that you have used outside of the job. Then think of the way you have either read or seen the word at work. This will also give you a clue to it's job related meaning.

Use your new and tuned up dictionary skills. You probably have a "regular" dictionary on hand. Look the word up there. Review the definitions given. Separate the everyday uses from any that may be close to your job related use of this word. You used to be creative in finding the way the definitions fit. This dictionary may not reveal a definition that is job related. That will tell you that your word has a special technical meaning.

This dictionary may not reveal the job related definition of your word. You now need to find a new source for definitions. Let's take a look at some possibilities. Could you find a Technical Dictionary? Would a manual with a glossary help? What about asking a "seasoned" co-worker? Take a few moments to discuss these methods with the class. Rank them in the order that the class thinks would help find the most correct definition.

1	
2	
3	
Discuss what is good and bad about each method:	



OVERVIEW OF JOB VOCABULARY WORD SEARCH

Steps in review:

- 1. Think of "regular" use
- 2. Look up the "regular" definition
- 3. Find:

S.WSHARE/GRANT/NEWCOMM2/COM2SES3.TRW

- a. job related dictionary
- b. manual with glossary
- c. co-worker with the definition

CLASS ACTIVITY

Do Steps 1 & 2 and write down definitions for the following words. Use the space below.

Plant	1	
	2	
Valve	1	
	2	
Jam	1	
Jaili	2	
Mean	•	
	2	

You will continue on to the next steps with your assignment! GOOD LUCK!!



3-15

TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 4

- Homophones and Homographs
- Previewing
- Job-related Vocabulary Improvement



HOMOPHONES	
Define:	<u>·</u>
EXAMPLES:	To review the spelling and meanings of these homophones.

- aloud=with the voice
- allowed=permitted
- board=a flat piece of wood; a group of administrators
- bored=tired of a dull activity
- billed=charged
- **build**=construct
- cite=to summon to appear in court; to quote or refer to a passage
- sight=act of seeing
- site=place
- close=shut
- clothes=dress
- complement=something that completes
- compliment=expression of courtesy
- **descent**=downward motion; ancestry
- dissent=disagreement
- lean=to bend the body or rely on another
- lien=acclaim on property as security against payment of a debt
- naval=related to ships, the navy
- navel=depression in the middle of the stomach from the umbilical cord
- pore=opening
- pour=cause liquid to flow

IMPROVE YOUR READING: IMPROVE YOUR JOB by Jeanne M. Miller

S WSHAREIGRANTWEWCOMM21COM2SES4 TRW

4-1



- pride=self-esteem
- pried=showed inquisitiveness; moved with a lever
- principal=a main person or thing
- principle=basic truth or rule of conduct
- soar=rise high
- sore=painful, tender
- stationary=not moving
- stationery=writing materials
- their=belonging to or done by them
- there=place
- they're=contraction of they are
- threw=tossed
- through=in one side and out the other

NOTE: Don't confuse through with thorough, which means complete!

- to=in a direction toward
- too=also; more than enough
- two=the second number
- vial=bottle
- vile=wicked
- viol=musical (stringed) instrument

IMPROVE YOUR READING: IMPROVE YOUR JOB by Jeanne M. Miller



ACTIVITY 1

Use the review list of homophones to fill in the blanks with the correct words to complete these sentences.

١.	The new drapes willthe conference room.
2.	The futureof the firm's headquarters is still undetermined.
3.	Theof racial equality will be fostered in this workplace at all times.
4.	The lab technician will nowthe serum into the
5.	Workerover relocating was reducing the department's morale.
6.	The sales assistants promptly orderednewfrom Office Supply.
7.	The bank was forced to put aon the company's new parking structure.
8.	Each month I willexamples of employee innovation in the company newsletter.
9.	Produce prices willbecause of the Florida freeze.
10.	Hethe department \$300 for the copy paper.

IMPROVE YOUR READING: IMPROVE YOUR JOB by Jeanne M. Miller



4-3

HOMOGRAPHS

ıking do	wn the word Homograph can help to explain it's meaning.
ne:	
MPLE:	A tear you shed over a tear in your shirt is a good example.
There	are basically three types of homographs.
1)	Some homographs are not related at all in meanings:
	băss= a type of fish bāss= the lowest singing voice or musical instrument.
	• These tend to be Anglo-Saxon in origin and one syllable in length.
Othe	r Examples:
2)	Others are distantly related by root words but have diverged in meaning:
	de'sert= dry, barren land desert'= abandon
Othe	r Examples:
3)	The majority of homographs have the same basic meaning but are pronounced differently. The syllable stress may vary or the vowel sound may change. Their use as parts of speech may also vary.
	rēad= to process written words rěad= past tense of read
Othe	r Examples:



PREVIEWING

/vnat is ———	previewing?		 		
 Previev	wing gives a:		 	 <u>.</u>	
1) _			 	 -	_
2) .					
3) .					
		.	 -	 	
Why P 1)	review?	_	 		
,			 	 _	
2)			 		
2)3)4)					



HOW TO PREVIEW

* Articles

Read title

Read headings if there are any.

Read first several paragraphs.

Quickly read the first sentence of each of the remaining paragraphs

Read final few paragraphs.

ACTIVITY 6

Handout: SPC Article



HOW TO PREVIEW

* Chap	oters
	Read title
	Read headings and sub headings
	Look for and read:
	Objectives
	Introduction
	Summary

ACTIVITY 7 Text Books



HOW TO PREVIEW

* Manuals

Skim preface or introductory section

Look over Table of Contents

ACTIVITY 8 TRW Manuals



VOCABULARY #1

Shear .					
Gage				 	
augo					
÷				 	
Burrs				 	
					 ,
Taper				 	
	<u>-</u>		<u> </u>	 	
Blend					
Ole con an					
Chrome		_		 	
				 	 _
Forge				 	



TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 5

- Prefixes and Suffixes, Synonyms and Antonyms
- Identifying Main Ideas, Topics, and Details
- Job-related Vocabulary Improvement



WORD STRUCTURE

Word parts defined:		
prefixes	 201_	
roots		
suffixes	 <u></u>	



5-1

ROOTS

The parts of words that were just presented are important keys to discovering the meanings of words. The root is the only essential part of any word. If the other parts can be removed, they are most likely prefixes or suffixes. As was pointed out before, those word parts cannot stand alone. Because the English language is made up of root words from other languages, such as Greek and Latin, the root word that ends up standing alone may not actually make sense unless it's derivation is understood.

The easiest way to understand roots is to see them and review their meanings. The following roots and their meanings can provide participants with the keys to unlock the meanings of many words, even in more difficult and technical readings.

WORD PART	MEANING	EXAMPLE	YOUR EXAMPLE
audi	to hear	audio	
auto	self	automobile	
io	life	biology	
aide	to kill	pesticide	
cred	to believe	credit	
dic	to speak; tell; say	dictate	
duc	lead; make; shape	reproduce	
сар	take or seize; hold	capacity	
(capt)		captive	
fac	do, make	facsimile	
fer	bear or carry	transfer	
graph	write	paragraph	
logos	speech or science	prologue	



5-2

(ology)	study of	microbiology	
luc	light; shine	translucent	
		luminous	
miss	send	dismiss	
(mit)		remit	
path	suffering; emotions	r _i athetic	
phobia	fear	zoophobia	
phono	sound	megaphone	
port	carry	portable	
scribe	write	scribble	
(script)		Scripture	
spec	look	spectator	
vers	tum	conversion	
vita	life	vitality	
(viv)		vivify	



PREFIXES

This section will explore only some of the most common prefixes.

Some prefixes have only one meaning while others may have multiple meanings. Prefixes that always mean NOT: ____ acid ____ sense ____ smoker ____ drinker ____ union _____ fat ____ coated ____ protected ____ approved ____ accepted ____ ordered _____ finished In some dictionaries these words will not be defined because the meanings are simply a sum of the prefix and the root word. **HANDOUT** Prefixes in the Dictionary Prefixes that mean NOT but have more than one meaning: = NOT in these words:

_____ trust _____ honest ____ similar ____ = LACK OF/ OR OPPOSITE OF _____ favor ____ regard _____ array

ACTIVITY 1

Look at the list of words. Think about what each word means. Circle each word in which DIS means LACK OF OR OPPOSITE OF:

1)	discomfort
----	------------

6) disagree

2) disallow

7) disassemble

3) disadvantage

8) disrobe

4) disarm

9) dismount

5) disobey

10) disorder



Other multiple meaning Prefixes:

IN =			
	active complete		
IN =	or		
	lay close	scribe sert	
= IM	When it comes be meanings as	efore b, m, and p. It has the sam — ·	ne two
IM =		pure morta	ıl
IM =	or	bed press	
= W	RONG OR WRONG	GLY / OR BAD OR BADLY	
	spell rule inform	spell wrongrule badlygive wrong information	
= A	NEW / AGAIN / BA	ACK .	
	invest		



S WSHAREGRANTWEWCOMM2/COM2SESS TRW

Other Prefixe	es and their meanings:	
	= BETWEEN	
	departmental scholastic	
	= WITHIN	
	mural state	
	= OUT FROM, AWAY	
	cise port wife	
	= OVER OR ABOVE NORMAL	
	active critical	
	= BEFORE	
	cooked fix !!!	
OTHERS:	<u></u>	
	5.7	



SUFFIX	ADDED TO	MAKES	MEANS
	noun		without something help top
		adjective	somewhat like something fool boy
	noun		full of help pour smoke
		adverb	like a something ghost precise
			state of being something
	verb		employ



SYNONYMS

What do synonyms do for	our language ?	
1)		
2)		
3)		
Common synonyms:		
modify=change	measure=gauge	plant=factory
modify=change automobile=car	measure=gauge cast=form	plant=factory work=labor
	cast=form	
automobile=car Sources for finding synor	cast=form	work=labor
automobile=car Sources for finding synor 1)	cast=form	work=labor



ANTONYMS

Define:			
EXAMPLES	:		
Others:			
	succeed - fail help - hinder specific-general	erratic - regular usable- scrap revenue- expenses	

PRACTICE: Use dictionaries to find antonyms.



Non- Fiction Structure			
What is non-fiction (circle one)	fantasy	or	fact?
Activity 1			
Торіс			
Define:			
			
Questions to ask:			

Activity 2



ACTIVITY 1

Each person read the following and then discuss the questions with the group.

Nevertheless, saving is primarily done by an entirely different group: by individuals, by families, by households. An individual may wish to save for a great variety of reasons: to provide for his old age or for a future expenditure (a vacation or an automobile). Or he may feel insecure and wish to guard against a rainy day. Or he may wish to leave an estate to his children. Or he may be an eighty-year old miser who enjoys the act of accumulating wealth for its own sake. Or he may already have signed himself up to a savings program because an insurance salesman was persuasive. Or he may desire the power that greater wealth brings. Or thrift may simply be a habit, almost a conditioned reflex, whose origin he does not himself know.

Vhat is the general topic of thi	s reading selec	ction?	
		·	-
		<u> </u>	
A more specific topic might be	:		
A more specific topic might be	:		



ACTIVITY 2

DIAL INDICATORS

The principle of direct reading form a pointer and a graduated dial delivers the accuracy and speed needed in our plant's inspection and manufacturing operations. The dial indicator is used on all types of special and standard gaging equipment. Some dial indicators are direct reading and others serve as comparators showing plus or minus variations in size.

A dial indicator by itself can do nothing. It must be mounted and set properly before it can be used in checking or measuring work.

The specific topic is:			



Main Thought Define: Where is the main thought?

- Activity 3 Finding specific topics and main thoughts
- Activity 4 Finding specific topics and main thoughts



ACTIVITY 3

COMMON AND SPECIAL CAUSES

Dr. Walter Shewhart of The Bell Laboratories, while studying process data in the 1920's, first made the distinction between controlled and uncontrolled variation, due to what we call common and special causes. He developed a simple but powerful tool to dynamically separate the two - The Control Chart. Since that time, Control Charts have been used successfully in a wide variety of process control situations, both in the U.S. and other countries - notably Japan.

Several types of control charts have been developed to analyze both variables and attributes. However, all control charts have the same two primary functions and are prepared and analyzed according to the same basic outline. The two functions are:

- To signal the presence of special causes of variation so that corrective action can be taken to bring the process into a state of statistical control.
- To give evidence whether a process has been operating in a state of statistical control so that a meaningful assessment of its capability to meet engineering specifications can be made.

 	-		
		<u> </u>	



ACTIVITY 4

The main responsibility of a floor inspector is to perform quality audits and to keep records. The inspector's duties vary greatly in certain areas. Valve lines and automation are generally about the same. Duties in rotocaps, caps, heat treat, forge shop and weld lab vary greatly due to either product line or procedures exclusive to that area.

All floor inspectors must have a very good knowledge of customer quality acceptance standards, customer visual defect acceptance standards, use and set up of all types of gages and use of Rockwell hardness testers. Gertain areas require the use of visual pyrometers, link testers, Rimacs, Brinell scopes, optical comparators, micrometers, calipers and microscopes. A floor inspector must have a good working knowledge of blueprints, routings, gage layouts and heat treat abstract procedure.

A floor inspector is required to make decisions on the acceptability of parts slightly out-of-print or with visual defects. He must be familiar with the acceptable variation that a given customer will accept and, if questionable, to consult with his supervisor on disposition.

A floor inspector is responsible for disposal of any scrap parts on his lines. He utilizes locked scrap tubs for each VMS of steel and must keep records of the number of scrap parts for each FR. He must also determine the department or operation causing the scrap and using a code for location and defect, enter it into the computer.

The floor inspector thus ensures that parts leaving his lines will meet acceptable quality standards, both visually and dimensionally. He also keeps records of audits performed and ensures that parts not meeting these standards are either repaired or sorted and unacceptable parts scrapped.

The specific topic is:	•
The main thought is: _	



Details

What are details?		
Answer these questions:		

Activity 5 Finding specific topic, main thought and details



ACTIVITY 5



GET ACQUAINTED WITH IT!

So that you can meet the most essential parts of a "Mike" and know them by their right names, as we refer to them later, we've numbered the different parts as illustrated above.

The FRAME (1) is the foundation on which the micrometer is built. The ANVIL (2) is set in the Frame and is one of the contact faces for taking measurements. The end of the SPINDLE (3) is the other measuring face. The SPINDLE (3) is threaded in the HUB (4) permitting it to be turned to or from the part being measured. The THIMBLE (5) is fastened on the SPINDLE (3) and securely held by the RATCHET CAP (6). The RATCHET CAP (6) permits a uniform pressure in taking readings. The CAM LOCK (7) holds SPINDLE (3) at any desired measuring position.

Please answer the questions on the next page

5-18

S:WEHAREYSRANTNEWCOMM2COM25ES5 TRW



ACTIVITY 5

The specific topic is:		
The main thought is:		
	_	
The specific details are:		
1		
2		
3		
4		
5		
6		
7	<u> </u>	



S WSHAREWRANTWEWCOMMZCOM2SES5 TRW

VOCABULARY # 2

Profile	
-	
-	
Barrel -	
Rotary	
Ploting	
Plating	
Dresser	
Exhaust	
Clutch	



S WSHAREGRANTWEWCOMMZCOMZSESS TRV

TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 6

- Following Instructions, Drawing Logical Conclusions
- Reading and Writing: Memos, Processes and Procedures
- Job-related Vocabulary Improvement



FOLLOWING INSTRUCTIONS

FOLLOW INSTRUCTIONS?	
REASONS	EXAMPLES
HNICAL INSTRUCT ONS:	



STEPS TO SIMPLIFY INSTRUCTIONS

Instructions may be written in an orderly easy to read format. These usually include numbers, a logical sequence and easy to understand language.

- 1. Complete all information on form.
- 2. Sign and date form.
- 3. Mail form to this address _____, in envelope provided.

The form may end up being impossible but the directions are clear.

In most cases the order in which the steps are preformed is very important. What if step 3 above was performed before steps 1 or 2?

Often a routine task, especially at work, becomes so automatic that the steps are hard to explain. When you think of the steps of a procedure, explain and order the steps as if you were guiding a person who had never done the task. Keep their safety in mind!

ACTIVITY 1 The next set of instructions needs to be placed in the proper order. Give it a try.



ACTIVITY 1

Place these instructions in the proper order. Fill in the correct number of each step 1-8 in the blank.

TO CHANGE A LIGHT BULB TO A HIGHER WATTAGE:

 Take higher wattage bulb and place into the socket.
 Turn on power to socket.
 Gently hold bulo and unscrew in counter clockwise motion.
 Obtain higher watt bulb.
 Place old bulb in a safe place
 Leave power to socket off.
 Hold bulb gently and screw clockwise into the socket until tight.
 If old bulb is still lit, turn it off and let it cool. Don't touch hot bulb!



STEPS TO SIMPLIFY INSTRUCTIONS (CONT'D)

So far we have looked at instructions that have easy to identify steps. Instructions also come written in paragraph form. These can look very confusing and overwhelming at first. Any set of instructions can be reworked to make them easier to follow. You may already have a method that comes in handy. It may almost be an automatic thinking process.

Here is a method that separates instructions into manageable parts. This method combines the memory systems of association and classification that were presented earlier in this course. It also presents the word **PRAISE** as a mnemonic or memory assisting device. The word **PRAISE** helps you remember the steps in order. It also reminds you to give yourself credit or **PRAISE** after you successfully use this method.

	inds you to give yourself credit or PRAISE after you successfully use this method.
1)	ositive, confident attitude toward being able to accomplish this new or different ask or set of instructions. Give yourself credit for past accomplishments.
2)	R ead all of the instructions before beginning any of them. This gives you the whole picture before bolting headlong into one step.
3)	A sk yourself and be able to answer
	What do I need to accomplish? What am I being asked to do here? What is the desired result or finished product? Why is it important?
4)	dentify words that are new, technical or unfamiliar. Use your new and improved dictionary skills.
5)	S pecial equipment needed? Gather any:
	 <u>equipment</u> (calculator, gloves, cart) <u>materials</u> (procedure manuals, blueprints, batch ticket) <u>information</u> (specifications, computer printouts) <u>needed</u> to perform the task.
6)	asy action words singled out that are used in the instructions. Give them special attention. These will be red flag words signaling ACTIONS to take! Example: load the case. insert the cutting tool. record the weight.

STEPS TO SIMPLIFY INSTRUCTION! CONT'D)

After completing the six PRAISE steps remember to:

• Complete each step of the instructions in the correct order.

If you will use these instructions often:

• Create your own set of instructions to help you remember the steps.

If the instructions are in paragraph form use:

• PRAISE Step 6 - Easy Action Words to help break it up into individual steps. Make one step to a line with it's own verb.

ACTIVITY 2 Try it!

Care of Rules

The steel rule is a precision tool and should be kept in the best condition. This can be accomplished by keeping the rule clean. Whenever the rule is used near or around water or with sweaty hands, the rule should be wiped dry and oiled to prevent rusting. Some of the common abuses which should be avoided are the using of the rule for a screw driver, a scraper, or a pinch bar to pry one part free from another.

71 01001 141	e is a precision				
 				<u> </u>	
 		, , , , , , , , , , , , , , , , , , ,			 _
			_		



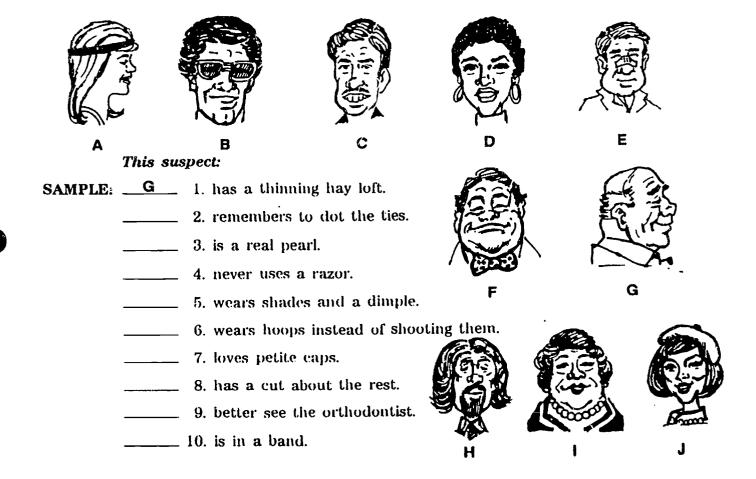
CONTEXT AND LOGICAL CONCLUSIONS

CONTEXT Define: Requires _____ reading. 1) 2) 3) These three skills = _____ which is crucial for technical reading. Your Facilitator will guide you through the following activities and discussions. **ACTIVITY 3** Context Clues **ACTIVITY 4** To Read and Draw Conclusions



ACTIVITY 3

To be a successful technical reader, you must be a "detective" and find clues in your reading. Many descriptions and instructions are sketchy and hard to understand. In this activity match the descriptions to the suspects. Fill in the correct letter for each match.



Did you have trouble matching these descriptions to the suspects? To be successful, you had to carefully read the brief descriptions; then search for caues to link them to the illustrations. When reading technical information, even if it is poorly written, you must find clues which improve communication between the writer and the audience.

From: READING AND UNDERSTANDING TECHNICAL INFORMATION by Richard Marsh



ACTIVITY 4

Directions: Use the chart describing the types of fire extinguishers used at Presto Valve to answer the questions on the next page.

T	ypes of Fire Extinguishers	
Description	Contains	Used On
	A	•
Chrome cylinders	2 1/2 pressurized water	Class A fires.
with "A"	-	Paper, wood.
	"BC"	Ø . D 4 Ø
Short red cylinder	5 lb. CO ₂	Class B and C
with black coneshaped	(carbon dioxide)	fires. Oil and electrical.
fiber nozzle.		Can be used on
Labeled "BC"		Class A fires w/
		limited effective-
		ness.
	"ABC"	
Red cylinder	6 or 10 lb. of dry	Class A, B, and
short hose and nozzle.	chemical	& C fires.
Labeled "ABC"		Paper, wood,
		oil and electri-
		cal.
	"ABC"	
Red cylinder, short	5 to 10 lb. halon	Computer room



ACTIVITY 4 (continued)

1.	You see a fire in a pile of oily rags. The nearest fire extinguishers are a silver-colored one with a hose and a red one with a hose and nozzle. Which should you use?
2.	Smoke is coming out of your computer. Which fire extinguisher should you use?
3.	A pile of paper scrap is on fire. The two nearest fire extinguishers are a red one with a black nozzle and a red one with a short hose. Which one should you use?
4.	You see a fire in a corner, but aren't sure what is burning. Which would be the best fire extinguisher to use?
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MEMOS AND STANDARD OPERATING PROCEDURES

Written Communication on the Job

How many times have you heard someone at work say, "Could you write all that down?" or "Put that in writing for me, and I'll get it taken care of"?

Writing is one way to make sure that plans get carried out right, that everyone understands a policy, that people follow safety rules, or that people know what their jobs are. In this session, you'll practice several kinds of writing that many people use on the job.

MEMOS
Define:
Why are memos important:
How does TRW use memos?
Are memos important in your job?
Are memos important in your job?



Memo Form

Memos are a simple form of writing that many people use on the job. You may not be required to use them yourself, but chances are that they pop up for you to read. If you were more confident in writing them well yourself, you may find a new way to get your good ideas across to others and be listened to.

A memo has some standard features that let the reader know important information about the memo.

Guidelines for Writing a Memo

1. Follow memo format, using theses headings above the message:

TO:

From:

Subject:

Date:

- 2. Use your full name followed by your initials.
- 3. Use the full name of the person or specify the group of people the memo is directed to.
- 4. Make the specific subject of the memo clear in the heading.
- 5. Organize your thoughts carefully before writing your memo. Be sure to include only relevant information. Be sure you give your reader everything he or she needs to know.
- 6. State the purpose of your memo in the first sentence.
- 7. After you write your memo, check it carefully to be sure it is clear, organized and complete. Rewrite it if necessary.

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S IWSHAREIGRANTINEWCOMM2ICOM2SES6 TRW





Model Memo

MEMO

To:

Don Parker

From:

Mercedes Hunter

Subject:

Lateness of February Bank Reconciliation

Date:

March 14, 1986

This memo should explain why I am behind schedule in completing the February bank reconciliation.

The February statement form the first Mercantile Bank does not reconcile with our books. Apparently several errors were made when our deposits were recorded in our books. As a result, the bank statement shows a balance that is \$3,532.31 less than the amount shown on our books.

I understand that the bank reconciliation is to be completed by the fifteenth of each month under normal circumstances. However, I will not be able to finish it until the errors have been corrected and the books for February brought up to date. I am certain that the reconciliation will be finished by March 20. Please see me if you have any questions.

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ACTIVITY: WRITING A MEMO FROM NOTES

USE GUIDELINES AND MODEL MEMC

USE YOUR OWN IDEA/SUGGESTION NOTES

SAMPLE NOTES:

Lee has some concern that the heating and cooling in the plant area is not always up to par. Lee has several ideas to help the situation. These are the notes that Lee wants to put into put these ideas in writing. Use Lee's notes to write a memo to submit to the Synchronous Steering Committee.

Heating problems Memo

3-30-93 to Synchronous Steering Committee

My Boss? anyone else?

Keep a copy myself

problem

heat levels not consistent hot and cold patches takes days for the plant temp to catch up to outside conditions hot outside-heat inside still on cold outside- cool ventilation still on

solution/idea

review ventilation diagrams by TRW (Maint?) check air flow with these new Flowmeter machines new ducts off main duct in identified areas

MY NEW IDEA

use heat from forging area as I have shown on the sketch include sketch

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OPS .		
Define:		
How are TRW SOPs used?		
Are SPOs important in your job?		

ACTIVITY: Analyze TRW SOPs



VOCABULARY #3

Statistical		<u> </u>		 	
•		· · · · · · · · · · · · · · · · · · ·	\		
Collet				 	
Ultrasonic					
CNC	<u> </u>			 <u>-</u>	
Induction					
mudettors					
		_			
Segregator				 	
3 - 3					
Chamfer				 	
Tolerance					



SOP FOR ACMES

- 1. Stop the machines whenever defects occur...don't continue to make bad parts or defects.
- 2. Make sure center drill is sharp...if not change it.
- 3. Make sure face tool is sharp... if not sharpen or replace.
- 4. Take air hose and blow excess oil and grit out of center hole.
- 5. Check valve under 3 power magnifying glass to determine if valve is good or bad.
- 6. Record and track total number of parts run and total number of defects by FR by shift.
- 7. Repair any center hole defects on drill press.
- 8. Check OD R/O at least 2 times per shift and make needed changes...Don't add cost to valve.
- 9. This means if the center is too large or deep then scrap the valve. If not sure check with supervisor.



STANDARD OPERATING PROCEDURE

DEPT 408-4

CORRECTIVE ACTION FOR WAUKESHA ENGINE AND GENERAL ELECTRIC.

SEGREGATION OF PARTS WITH OUT OF PRINT SEAT RUNOUT
PURPOSE: TO ELIMINATE THE POSSIBILITY OF PARTS WITH OUT OF PRINT SEAT
RUNOUT FROM BEING PASSED ON TO VISUAL INSPECTION.

S.O.P.

SEAT OPERATORS TO CHECK SEAT RUNOUT 100% DURING OPERATION. PARTS AR TO EXCEED .0002 BELOW HIGH LIMIT ON BLUE PRINT UNLESS INSTRUCTED BY SUPERVISOR.

ANY PARTS EXCEEDING THIS TOLERANCE ARE TO BE GIVEN TO REPAIRMAN.

ALL PARTS RETURNED FROM REPAIR ARE TO BE GAGED TO VERIFY THAT SEAT RUIS NOW IN TOLERANCE.

AFTER VERIFICATION THE SEAT OPERATOR WILL SEND REPAIRED PARTS ON TO THE NEXT OPERATION.

AUGUST 8, 1991 TONY LEONARDI



C.N.C. SET UP

- 1. REMOVE ALL VALVES AND SCRAP FROM PREVIOUS F.R.
- 2. GET SET UP CARD FROM SUPERVISOR
- 3. GET TAPES AND PRINTS FROM CRIB
- 4. GET PROPER GAGES SET
- 5. GET NECESSARY TOOLING AND MAKE CHANGES
- 6. RUN PROGRAM TAPE INTO COMPUTER
- 7. QUALIFY TOOL HOLDERS AS NEEDED
- 8. RUN VALVE AND GET READING FROM CRIB
- 9. MAKE NEEDED ADJUSTMENTS
- 10. TAKE ACID TEST ON STELLITE VALVES ONLY AND ADJUST
- 11. GET FINAL READING FROM CRIB
- 12. GET SUPERVISOR APPROVAL
- ** NOTE ** CHECK RUN OUT AT LEAST 4 TIMES DAILY CHECK STELLITE LINE 2 TIMES DAILY



402

ALL VALVES

IN TRAYS

SHOULD BE MARKED (MAGIC MARKER)

ON THE STEM

PRIOR TO

FINISH GRINDING

CORRECTIVE ACTION FOR WAUKESHA ENGINE

QA678,679 11/1/91

CINCI STEM GRINDERS ROUGH, SEMI, FINISH.

- 1. CLEAR OUT ANY F.R.'S BEFORE BEGINNING SET UP
- 2. DISCARD ANY SCRAP VALVES PROPERLY
- 3. OBTAIN SET UP CARD FROM SUPERVISOR
- 4. OBTAIN SKETCH FROM CRIB AND HAVE GAUGES SET IN GAUGE
- 5. DRESS TRACTOR WHEEL AND GRINDING WHEEL, THEN CHANGE !
- 6. SET TRACTOR WHEEL TO BLADE, LEAVING 1/8" CLEARANCE BE TRACTOR WHEEL AND BLADE.
- 7. SET TRACTOR WHEEL SLIDE TO GRINDING WHEEL BY PUTTING A ON THE BLADE AND MOVING TRACTER WHEEL SLIDE.
- 8. SET KICKER ROD FOR PROPER GRIND LENGTH AND BLEND
- 9. GRIND VALVE
- 10. MAKE NECESSARY CHANGES
- 11. GET SUPERVISOR APPROVAL
- 12. CHECK STEM RUN OUT AT LEAST THREE (3) TIMES AN HOUR
- 13. (FINISH GRIND ONLY) CHECK STEM MICRO ON PROFILOMETER AFTER EVERY DRESS.
- 14. CHART FIVE (5) PARTS AN HOUR ON SPC CHARTS





30/A LANDIS

- 1. REMOVE ALL PREVIOUS VALVES FROM AROUND MACHINE, DISCARD ALL SCRAP VALVES.
- 2. OBTAIN SET UP CARD FROM SUPERVISOR
- 3. OBTAIN PRINT AND MASTER VALVE FROM CRIBS.
- 4. SET UP NECESSARY GAUGES.
- 5. REMOVE COLLETS AND REPLACE WITH PROPER SIZE COLLET.
- 6. MOVE WORK HEAD TABLE TO PROPER ANGLE.
- 7. REPLACE OR ADJUST TIP STOP TO PROPER LENGTH.
- 8. REMOVE SEAT RUNOUT.
- 9. GRIND VALVE AND FIND SIZE.
- 10. CHECK PART ON ALL GAUGES AND MAKE NECESSARY ADJUSTMENTS.
- 11. USING PROPER BLUEING CONE, BLUE UP A PART (IF IT DOES NOT BLUE UP, MOVE SEAT ANGLE UNTIL PART BLUES UP.
- 12. GET READING FROM GAUGE CRIB.
- 13. OBTAIN SUPERVISOR APPROVAL.
- 14. CHECK ALL PARTS 100% ON ALL GAUGES.
- 15. CHECK SEAT MICRO TWO (2) TIMES AN HOUR.
- 16. RECORD ON SPC CHARTS ALL PERTINENT INFORMATION, (FIVE (5) PART AN HOUR.

12-1/2 LANDIS - STANDARD SETUP PROCEDURE

- 1. Clean machine of previous F.R.
- 2. Obtain setup card from supervisor.
- 3. Remove blade.
 - A. Unlock regulating wheel handwheel locking screw.
 - B. Retract regulating wheel by turning handwheel counter clockwise to assure proper working space for blade removal.
 - C. Loosen kicker rod and retract rod for blade clearance.
 - D. Loosen screws and remove blade & shims obtain proper gage.
- 4. Exchange blueprint and blade for F.R. being S.U. get gage set.
- 5. Dress regulating wheel.
 - A. Turn switch to dress to attain regulating wheel high speed.
 - B. Lower dresser slide on to cam.
 - C. Infeed dresser .001 or .002, turn outer traverse control valve clockwise (out) and counter-clockwise (for in). Inner traverse knob is for dresser traverse speed repeat until wheel is completely clean.
 - D. Turn switch to grind to obtain running speed.

6. Blade setting.

- A. Turn machine off.
- B. Clean holder and work rest.
- C. Insert blade in holder and tighten.
- D. Check with scale to make sure blade is of equal height at both ends.
- E. Standard height is 4.
- F. Insert blade 1/8 inside of grinding wheel break edge if needed.
- G. Hold blade down when tightening in work rest.

7. Setting blade to grind wheel.

- A. Bring grinding wheel to within .020 of blade.
- B. Use .020 shim to insure clearance of blade to grinding wheel.
- C. Lock grinding wheel handwheel.
- 8. Adjusting regulating wheel to touch point of valve.
 - A. Jog regulating wheel where high side is next to blade.
 - B. Loosen and drop V-block.
 - C. Turn regulating wheel handwheel clockwise to allow valve to rest freely on blade.
 - D. Infeed regulating wheel to touch point and lock.
- 9. Set kicker rod and valve location.
 - A. Drop valve manually set kicker to proper grind length can be adj. later.
 - B. Reset V-block to within .020 of head O.D. without touching O.D.
 - C. To infeed head locator lock locator valvair. Adjust locator button to place valve in contact with kicker rod - do not over adjust (or force) valve into kicker.
 - D. Unlock valvair to retract locator eject valve.

10. Find size.

409

- A. Check and adjust coolant.
- B. Check diamond replace if needed. Reset and dross grinding wheel.

- C. Grind valve to .001 oversize.
- D. Check size taper blend R.O. flat spots & chatter.
- E. Use micrometer to obtain final size.
 - Obtain O.K. from supervisor and inspector.

TROUBLE SHOOTING 12-1/2 LANDIS

1= STEM RUNOUTS

- A- Check blade height wear & for loose blade
- B- Check regulating wheel speed
- C- Dress regulating wheel
- D- Check for play in regulating wheel bearings
- E- Check bad forging & insufficient stock
- F- Check coolant spout on valve and on dresser

2= BURNT STEMS

- A- Check diamond & speed & infeed
- B- Check diamond gear box & cable
- C- Check coolant spout alignment
 - ress regulating wheel
- E-Theck regulating wheel speed
- F- Check bad forging & insufficient stock

3= STEM CHATTER

- A- Check height & for loose blade
- B- Check number of pieces on dress
- C- Dress regulating wheel
- D- Loose regulating wheel
- E- Check locator for proper location of valve
- F- Check for proper drag
- G- Check V-block clearance
- H- Check for play in regulating wheel bearing
- I- Check regulating wheel alignment to grinding wheel
- J- Check regulating wheel directional drive motor if brushes are bad, motor speed will change check with supervisor

4= STEM SIZE VARIATION

- A- Check blade height & wear and for loose blade
- B- Check diamond and infeed also for play in post
- C- Check hydraulic oil level
- D- Check wheel guard clearance
- E- Check for proper amount of coolant
- F- Check for proper drag
- G- Check for play in regulating wheel bearings.
- H- Loose regulating or grinding wheel
- I- Check regulating wheel speed
- J- Check locator for proper location of valve

5= WHEEL OR BLADE MARKS

- A- Check proper coolant spout alignment
- B- Check kicker rod and assembly
- C- Check blade wear
- D- Check diamond
- E- Dress regulating wheel
- F- Check V-block clearance
- G- Check valve on ready finger for proper release
- H- Check stem guide

6= GRIND LENGTH VARIATION

- A- Check locator
- B- Check for broken or worn blade
- C- Check alignment of regulating wheel pocket with kicker cam
- D- Check for broken kicker rod and kicker assembly
- E- Check coolant for proper setting
- F- Check for heavy shoulders from forging.



12/19/83

S.O.P.

SEGREGATION OF REJECTED PARTS 408-4

PURPOSE:

TO ELIMINATE THE POSSIBILITY OF DEFECTIVE PARTS
GETTING PAST VISUAL INSPECTION

REASON:

CORRECTIVE ACTION FOR WAUKESHA ENGINE

S.O.P.:

ALL VALVES SET ASIDE AT VISUAL MUST BE CLEARLY
MARKED WITH RED MARKING PENCIL. ONCE THE
PARTS ARE REPAIRED, THEY ARE TO BE PLACED IN
10 SLOT BOXES FOR VISUAL PERSONNEL TO REVIEW.

ONCE THE

REPAIRED PART IS RE-INSPECTED FOR ALL DEFECTS

AND IS ACCEPTABLE, VISUAL PERSONNEL WILL REMOVE THE RED MARKING AND PLACE THE PART IN TRAY FOR SHIPPING.



TRW VALVE DIVISION

QCO -	406
DATE:	3/31/92
PAGE NO.	1 of 5

QUALITY CONTROL ORDER

TPFC-1993 REV. 3 PRINTED IN U.S.A.

SUPERSEDES: QCD NO. 406 PAGE NO. All DATED 2/8/90 PART HAME Valves

PROCEDURE FOR HANDLING AND CONTROLLING DISCREPANT MATERIAL

1.0 PURPOSE:

To establish a uniform and well understood procedure for identifying, controlling, segregating and dispositioning of discrepant material. To ensure that the disposition of discrepant material is responded to within seventy-two (72) hours at the Cleveland Valve Division.

2.0 SCOPE:

This QCO applies to the raw material, any parts received from outside vendors in-process and finished goods in the Cleveland Valve Division.

3.0 DEFINITIONS:

- 3.1 "Material" is referred to broadly as raw material, any part, component, or finished product used in the manufacturing process.
- 3.2 Discrepant material is any material which does not conform to all applicable product drawing requirements, operational sketch requirements, engineering specifications, material specifications, acceptance standards, quality requirements, process specifications, or TRW workmanship standards.

4.0 RESPONSIBILITY:

- 4.1 The quality assurance and manufacturing departments are responsible for ensuring that all nonconforming material is properly identified, segregated, dispositioned or disposed of within the established time. The quality assurance department is responsible for notifying the customer of any suspected or nonconforming material shipped to them.
- 4.2 The manufacturing/quality department is responsible for:
 - A. Stating the cause of the discrepancy.
 - B. Notification to the proper causing department or area.
 - C. Determining the action to be taken on discrepant material, i.e., standard repair, sort, scrap, use as is, or request a deviation.

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TRW VALVE DIVISION

QC0 -	406	
DATE:	3/31/92	
BACE NO	2 of 5	_

QUALITY CONTROL ORDER

TPFC-1909 REV. 9 PRINTED IN U.S.A.

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SUPERSEDES:	осо но.	406	PAGE NO.	A11	DATED	2/8/90	PART HALE	Valves	
SUPERSEUES:					<u> </u>		<u> </u>		

4.3 The quality department is responsible to interface with appropriate parties (plant manager, production manager, product engineering, process engineering, materials laboratory and the customer) and provide a timely response (72 hours) on deviation requests.

5.0 PROCEDURE:

- 5.1 If a nonconformance is found by a supplier, incoming inspection, lab, manufacturing, floor inspection or outgoing audit, the quality/manufacturing department will red tag the nonconforming material and affix the red tag to all logical groupings (tubs, pans, skids, pallets, boxes, etc.).
- 5.2 The following sections of the "do not use," red tag are to be filled out by the person initiating the red tag:
 - A. part number (FR)
 - B. date
 - C. originator's master number (inspection number)
 - D. reason held
 - E. quantity suspect
 - F. department
 - G. shift
 - H. shop order number and/or lot number
 - I. last operation completed
- 5.3 Quality department informs materials management and manufacturing of the nonconformance, and the customer if the nonconforming parts were suspected to have been shipped to the customer.
- 5.4 Manufacturing/material control moves the red tagged material to the appropriate bonded area.
- 5.5 Quality/manufacturing departments review the red tagged material in the bonded area for the following corrective action: scrap/repair/sort/use with deviation/use as is.
- 5.6 Quality department audits the red tagged material after the corrective action is taken and removes the red tag and records the corrective action.

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TRW VALVE DIVISION

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DATE:	3/31/92
PAGE NO.	3 of 5

QUALITY CONTROL ORDER

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SUPERSEDES:	QC0 NO.	406	PAGE NO.	A11	DATED	2/8/90	PART HAME	Valves	

6.0 DISTRIBUTION:

- 6.1 The red tag will remain affixed to the nonconforming material until the proper corrective action is taken: scrap/repair/sort/use with deviation/or use as is.
- 6.2 The white copy of the red tag will be returned to the quality office. The quality office will issue a DMR report listing all material held in the bonded areas. The DMR report will be issued monthly to the manufacturing managers, the production control manager and the plant manager.
- 6.3 The red tag will be initialed and removed from the nonconforming material when the proper corrective action is taken. The red tag will be initialed by the person who audits the material for proper corrective action. The red tag will then be returned to the quality office.

QUALITY CONTROL:	ENGINEERING.	LAB.	CUST. REP.
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TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 7

- Active Listening Skills
- Job-related Vocabulary Improvement

S.\WSHARE\GRANT\NEWCOM2\SESSIONS.TRW



ACTIVE LISTENING

WHAT IS LISTENING?

Listen	ing is:
•	Taking in information and the intent of talkers, other people and/or ourselves while withholding judgment and being empathetic
•	Encouraging talkers to continue communicating
•	Providing limited but positive input to a talker to carry the idea forward
	elp us more fully understand what listening is, consider the following uestions:
1.	What does it feel like to really listen to someone else?
2.	What does it feel like when someone really listens to you?



THREE LEVELS OF LISTENING

- Level One Listening to both the content and intent of what a speaker is saying, nonjudgmentally and empathetically.
- Level Two Hearing, but not really listening. At this level, listeners hear the words, but often miss the deeper meaning conveyed by nonverbal signals.
- Level Three Passive listening or not really listening at all. Instead, listeners are daydreaming, or thinking about where they'll go for lunch, or concentrating on what they want to say next.

BARRIERS TO LISTENING

•	Filters	
•	Biases	
•	Assumptions	
•	Hearing What We Want to Hear	
•	Cultural Myths	
•	Negative Emotions	
•	Negative Use of Time Lag	
•	Semantics	
•	Misreading Nonverbal Cues	
•	Physical Factors	
•	Daydreaming	
SOME BAF	RRIERS THAT PREVENT ME FROM LIS	TENING EFFECTIVELY:



STYLES OF LISTENING

The Faker -

Fakers pretend to listen, but they are actually so caught up in giving the impression that they're paying attention that they really are not listening at all.

 The Dependent -Listener

Dependent listeners want to please others, so instead of listening, they're concentrating on what kind of impression they're making on the other person.

• The Interrupter -

Interrupters are so focused on what they want to say that they often don't even hear others, and worse yet interrupt them while they're talking to make a point that usually isn't related to what the talker is saying.

The Self-Conscious Listener Self-conscious listeners focus on well the conversation is going, on if they're creating a positive image when they're speaking, and on the appearances of themselves or others. Since they're so distracted by how things are going, it's hard for them to listen effectively to what's being said.

The Intellectual or Logical
 Listener

Intellectual listeners hear only what they want to hear. They often concentrate on the facts only, ignoring emotional or nonverbal communication. So, what they really do is block out more than half of what the talker is really trying to communicate.



OK ATTITUDES

1.	I'm OK - You're OK	
2.	I'm OK - You're Not OK	
3.	I'm Not OK - You're OK	
4.	I'm Not OK - You're Not OK	



VIDEO VIGNETTE - LATENESS - POOR MODEL

	havior did	d Paul ι	ise that	indicated	d he wa	as in a n
		_				
lid Fred res	pond to F	Paul's no	ot-OK be	havior?		
ou think the	lateness	problem	n has be	en solve	d? Wh	y or why
			_			
	did Fred res	did Fred respond to F	did Fred respond to Paul's no	did Fred respond to Paul's not-OK be	did Fred respond to Paul's not-OK behavior?	



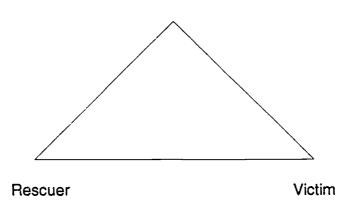
VIDEO VIGNETTE - LATENESS - GOOD MODEL

What were the main differences between the two demonstrations?
What indicated to you that Paul was listening to Fred at level one in the COK attitude mode?



THE DRAMA TRIANGLE

Persecutor



VIDEO VIGNETTE - STAYING OUT OF RESCUING

1.	What did Tim do to stop himself from rescuing Marian?
2.	What effect did Tim's listening behavior have on Marian?



VOCABULARY #4

SPC		
Median		
		<u> </u>
Fillet		
Profilometer		
		······································
Thimble		
Thimble		
Comparator		
Comparator		
Schematic		
		-
Projection	<u> </u>	
-		



TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 8

- How to Deal with Difficult Communication Situations
- Role-playing Exercise
- Job-related Vocabulary Improvement



S.IWSHAREGRANTWEWCOM2\SESSIONS TRW

DEALING WITH DIFFICULT COMMUNICATION SITUATIONS

Many factors combine to create difficult communication situations. Can you name a few?
Others:
Communication does not occur in a vacuum. Any communication situation involve people, words, emotions, attitudes, and non-verbal interactions. Can you name an other ingredients that add to the communication "stew"?
· · · · · · · · · · · · · · · · · · ·



DEALING WITH DIFFICULT COMMUNICATION SITUATIONS

The I-Messages Approach

I-Messages Approach

You-Blaming Approach

- 1. This approach leads to a win/win resolution.
- 2. A plan of action is developed.
- One person discloses something he or she is unhappy about in hopes of changing both people's behavior to solve the problem.
- 4. This approach uses the OK-OK attitude mode.
- 5. This approach promotes confrontation that is objective, and not overly emotional.
- 6. The person is aware of nonverbal behavior, both his or hers, and the other person's.
- 7. The person states a message in a nonblaming, noncritical manner.
- 8. The person takes responsibility for his or her own feelings.
- 9. The person observes and states specifically and nonjudgmentally what behavior is causing a problem.
- 10. The person tries not to use words that push the other's hot buttons.

- 1. This approach usually leads to a win/lose resolution.
- 2. There's no plan of action.
- One person discloses something he or she is unhappy about with the intent of letting the other person know he or she should change.
- This approach uses one of the not-OK attitude modes.
- This approach promotes confrontation that dumps negative feelings on another person.
- 6. The person is unaware of either person's nonverbal behavior.
- 7. The person states a message in a blaming, critical, judgmental manner.
- 8. The person blames the other person for his or her feelings.
- The person labels the behavior as good or bad, right or wrong.
- Deliberately uses words that push the other's hot buttons.



DEALING WITH DIFFICULT COMMUNICATION SITUATIONS

The I-Message Approach

Some Examples

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You-Blaming Messages

I'm embarrassed when you criticize me in front of my co-workers. I feel it's degrading to me.

You're always embarrassing me by criticizing me constantly in front of my coworkers.

I feel angry when you don't get your work done on time. I think it makes the whole department look bad.

You make us look bad because you never get your work done on time.

I expect you not to take longer than 10 minutes for a coffee break.

You're always taking long breaks.

Now it's your turn. Below are two you-blaming statements. Change them to I-message statements.

I-Message

You-Blaming Message

You always leave your workstation a mess and I'm stuck cleaning up after you.

You never tell me what's going on. You act like I don't even work here.





DESCRIBING BEHAVIOR

	DO's		DON'Ts
DO	Stay with what a person does.	DON'T	Make comments about what you think a person is.
DO	Use adverbs that relate to specific actions.	DON'T	Use adjectives that label someone.
Ex: I	Ex: He talked loudly in the meeting.		's a loudmouth.
DO	Describe what occurred.	DON'T	Use labels that judge what's happened.
	Ex: When we don't agree, the problem usually doesn't get resolved.		u're wrong to be so stubborn.



VIDEO VIGNETTE - DESCRIBING BEHAVIOR #1, #2, #3 AND #4

					
			_		
What are	the main ber	nefits of us	ing the des	scribing be	ehavior?
·					



DESCRIBING BEHAVIOR EXERCISE

Change the statements below to describe behavior rather than label people. You'll have to use your imagination to fill in specific facts. Sally, you're just trying to show Geri up. Rick, you're such a slowpoke. Carlos, you're very rude. Don't fly off the handle now, Marla.



POSITIVE FEEDBACK VS. PRAISE

Positive Feedback	Praise
A positive comment with meaning that specifically lets the listener know what the speaker values	A positive judgment with little additional meaning
Specific, related to a task	General and non-specific
A statement of observation and appreciation	Value judgment such as right, wise or good
Identifies behavior and describes the listener did	Labels behavior and judges what the listener did
Rings true	Can be taken as phony



VIDEO VIGNETTE - PRAISE/POSITIVE FEEDBACK #1, #2, AND #3

4411	at is the major differer			
Ho po	w well did Jon, June, a sitive feedback?	and Stella do i	in carrying ou	it the criteria for s
_				
_				



PRAISE/POSITIVE FEEDBACK EXERCISE

Change the statements below to provide positive feedback rather than praise. You'll have to use your imagination to fill in specific facts. Jack, you really do good work. Tina, you're such a nice person. I can't believe how thoughtful you are, Mario. Joyce, you're so talented.



ROLEPLAYING EXERCISE

Each person in the group is assigned to one of the roles on the next page. After reading and putting some thought into how to play your role, act out the following scenario with the people in your group.

Scenario:

Roy is responsible for safety in his department. There are two other employees in his department, George and Brian. George doesn't follow safety standards as he should. George often doesn't wear his safety glasses, piles boxes higher than is safe, and sometimes has boxes jutting out into the aisle. Roy would like to get George to change his behavior. He knows that instead of judging and labeling George, he has to speak to him using the describing behavior approach. Roy speaks to George about his unsafe practices with the goal of getting him to commit to changing his behavior.

Brian, on the other hand, does a good job following safety practices. Roy wants to let Brian know that he recognizes and appreciates how Brian follows the safety rules. He realizes that he needs to use positive feedback rather than praise so that Brian will feel he's sincere and to keep Brian motivated to continue following safety practices. Roy talks to Brian about his behavior using positive feedback.



ROLEPLAYING EXERCISE (cont'd)

Roy:

Not a supervisor, but charged with the responsibility of safety in his department. His first reaction to George is to tell George that he's careless and to tell George what he should do. But Roy realizes that this approach won't do much to change George's behavior. That's why he decided to use the describing behavior approach and good listening skills to get George to change his safety ways. He also knows it would be easier to just tell Brian, "Good job." But he realizes this won't motivate Brian to keep up the good work or win Brian's trust for the future. He reasons that giving positive feedback about specific behaviors will show Brian that he does notice and appreciate Brian's contributions to department safety.

George:

Doesn't really care about safety. He just does whatever's easiest at the time. When Roy first approaches him about his unsafe practices, he tells Roy that neither he nor any other employee has ever been injured by anything he's done or not done. But because Roy listens to him and doesn't judge him, Roy is able to persuade him to change his practices by pointing out how he could benefit from following safe practices.

Brian:

Always tries to co-operate. However, he is a little suspicious when people praise him. He sometimes feels that because he's co-operative, people take advantage of him. When someone praises him, he figures they just want something out of him. When Roy talks to nim about his safety practices, he's not sure Roy's sincere and tries to figure out what Roy really wants. But as Roy continues talking, he realizes that Roy is sincere and just wants to recognize him for following safety rules and keep him motivated in the area of safety.



ROLEPLAYING EXERCISE - EVALUATION QUESTIONS

How did changing	the describing his safety bef	g behavior navior?	approach	help	George	to com
					-	
	and of ofotomor	nts were us	ed to show	that	Roy was	using p



ROLEPLAYING EXERCISE - EVALUATION QUESTIONS (cont'd)

What other	good listenin	g skills we	re demons	trated by F	Roy?
					



VOCABULARY REVIEW

Divide into pairs to work on this project. You and your partner use this list and choose six words to work with. Pick words that may stump them. Construct a meaningful work related sentence for each word. Give or read the sentences to your partner and ask them to define the vocabulary word. If they can do this they have used their knowledge of the word and also the context you presented with the sentence to define these words. GOOD LUCK

- 1) shear
- 2) gage
- 3) burrs
- 4) taper
- 5) blend
- 6) chrome
- 7) forge
- 8) profile
- 9) barrel
- 10) rotary
- 11) dresser
- 12) exhaust
- 13) clutch
- 14) statistical
- 15) collet
- 16) CNC
- 17) ultrasonic
- 18) induction
- 19) segregator
- 20) chamfer
- 21) tolerance
- 22) SPC
- 23) Median
- 24) Fillet
- 25) profilometer
- 26) thimble
- 27) comparator
- 28) schematic
- 29) projection



TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 9

- Identifying Codes and Symbols Used on Schematics and Blueprints
- Job-related Vocabulary Improvement



S WSHAREGRANT/NEWCOM2/SESSIONS TRW

READING BLUEPRINTS

Blueprints are an important form	of	in the workpia	ace.
This session will present several	different activities to I	help increase y	our understanding

VIDEO Blueprints

of Blueprints.

Your facilitator will help you determine the best way to use the Technical Article and the video to learn the most you can about blueprints. When you read this article try to use the reading skills that have been presented in this class. Try:

- 1. Using ACTIVE READING
- 2. SETTING A PURPOSE
- 3. PREVIEWING and
- 4. **ASKING QUESTIONS** to determine the main thought of the sections and paragraphs.

Several NEW Interactive Reading Strategies to try:

Condensing Read a section, one or two paragraphs, without making any

marks. Then go back and underline or highlight only specific words, not entire sentences. You should be able to re-read the marked words and have them make sense as full

sentences.

Reflecting Stop at intervals and re-think what you have read.

Setting Goals To efficiently and effectively read this lengthy technical article,

you are encouraged to set reading goals. Be realistic. If the whole thing looks like too much for you, spend several small

sessions reading and trying the above strategies.

Evaluating yourself by using the Programmed Exercise Questions. Your facilitator will provide the answers.



SCANNING DRILL 1

11/32NDS IS EQUIVALENT TO HOW MANY MILLIMETERS?

SCANNING DRILL 2

.734375 DECIMAL INCHES IS EQUIVALENT TO HOW MANY FRACTIONAL INCHES?

Table 3-1. Decimal inch and millimeter equivalents

Fractional inches				Decimal	A4!!!!	Fractional inches				Decimel	Millimeters
8ths	16ths	32nds	64ths	inches	Millimeters	8ths	16ths	32nds	64ths	inches	
			1	0.015625	0.396875				33	0.515625	13.096875
		1	•	.031250	0.793750	ł		17		.531250	13,493750
		•	3	.046875	1,190625				35	.546875	13.890625
	1		•	.062500	1.587500	1	9			.562500	14.287500
	•		5	0.078125	1.984375	l			37	0.578125	14.684375
		3	_	.093750	2.381250	1		19		.593750	15.081250
		_	7	.109375	2.778125	l			39	.609375	15.478125
1				.125000	3.175000	5				.625000	15.875000
			9	0.140625	3.571875	l			41	0.640625	16.271875
		5	-	.156250	3.968750	Ì		21		.656250	16.6 6875 0
		•	11	.171875	4.365625	1			43	.671875	17.065625
	3		• •	.187500	4.762500	1	11			.687500	17.462500
2	3		13	0.203125	5.159375	1			45	0.703125	17.859375
		7		.218750	5.556250	į .		23		.718750	18.256250
		•	15	.234375	5.953125				47	.734375	18.653125
				0.250000	6.350000	6				.750000	19.050000
			17	0.265625	6.746875				49	0.765625	19.446875
		9	••	.281250	7,143750	i		25		.781250	19.843750
		•	19	.296875	7.540625	ì			51	.796875	20.240625
	5			.312500	7.937500	1	13			.812500	20.637500
	•		21	0.328125	8.334375	i			53	0.828125	21.034375
		11		.343750	8.731250	Ì		27		.843750	21.431250
			23	.359375	9.128125	į .			55	.859375	21.828125
				.375000	9.525000	7				.875000	22.225000
			25	0.390625	9.921875	1			57	0.890625	22.62187
		13		.406250	10.318750	i		29		.906250	
			27	.421875	10.715625	1			59	.921875	
	7			.437500	11,112500		15			.937500	
	•		29	0.453125	11.509375	1			61	0.953125	
		15		.468750	11.906250	1		31		.968750	
		,,,	31	.484375	12.303125	i			63	.984375	
4			٠.	.500000	12.700000	l 8	16	32	64	1.000000	25.40000

SCANNING DRILL 3

WHAT STEP # AND LETTER DESCRIBES USING A .020 SHIM?

12-1/2 LANDIS - STANDARD SETUP PROCEDURE

- 1. Clean machine of previous F.R.
- 2. Obtain setup card from eupervisor.
- 3. Remove blede.
 - A. Unlock regulating wheel handwheel locking screw.
 - B. Retract regulating wheel by turning hendwheel counter clockwise to assure proper working space for blade removal.
 - C. Loosen kicker rod and retract rod for blade clearance.
 - D. Loosen screws end remove blade & shims obtain proper gage.
- 4. Exchange blueprint and blade for F.R. being S.U. get gage set.
- 5. Dress regulating wheel.
 - A. Turn switch to drees to attain regulating wheel high speed.
 - B. Lower dresser slide on to cam.
 - C. Infeed dresser .001 or .002, turn outer traverse control valve clockwise (out) and counter-clockwise (for in). Inner traverse knob is for dresser traverse speed repeat until wheel is completely clean.
 - D. Turn switch to grind to obtain running speed.
- 6. Blade estting.
 - A. Turn machine off.
 - B. Clean holder and work rest.
 - C. Insert blade in holder and tighten.
 - D. Check with scale to make sure blade is of equal height at both ends.
 - E. Standard height is 4.
 - F. Insert blade 1/8 inside of grinding wheel break edge if needed.
 - G. Hold blads down when tightening in work rest.
- 7. Setting blade to grind wheel.
 - A. Bring grinding wheel to within .020 of blade.
 - B. Use .020 shim to insure clearence of blade to grinding wheel.
 - C. Lock grinding wheel hendwheel.
- 8. Adjusting regulating wheel to touch point of valve.
 - A. Jog regulating wheel where high eide is next to blade.
 - B. Loosen and drop V-block.
 - C. Turn regulating wheel handwhael clockwise to ellow valve to reet freely on blads.
 - D. Infeed regulating wheel to touch point and lock.
- 9. Set kicker rod and valve location.
 - A. Drop valve manually set kicker to proper grind length can be edj. leter.
 - B. React V-block to within .020 of head O.D. without touching O.D.
 - C. To infeed head locator lock locator velveir. Adjust locator button to place valve in contact with kicker rod - do not over edjeut (or force) valve into kicker.
 - D. Unlock valveir to retract locator eject valve.
- 10. Find size.
 - A. Check and adjust coolent.

12/19/83

B. Check dismond - replace if needed. Reset and dress grinding wheel.



WHAT IS THE G CODE FOR AUTOMATIC ROUGH FACING CYCLE?

APPENDIX TWO

G CODES

CODE	GROUP	<u>DEFINITION</u>
G00	1	Rapid Traverse Positioning Mode
G01	i	Linear Interpolation
G02	i	Clockwise Circular Interpolation
G03	1	Counterclockwise Circular Interpolation
G04	Ö	Dwell
G10	Ō	Offset Value Setting
G20	6	Inch Data Input
G21	6	Metric Data Input
G22	9	Stored Stroke Limits On
G23	9	Stored Stroke Limits Off
G32	1	Tireadcutting Routine (Constant Lead)
G34	1	Threadcutting Routine (Variable Lead) [OPTION]
G40	7	Cancel Tool Nose Radius Compensation
G41	7	Tool Nose Radius Compensation (Part Right)
G42	7	Tool Nose Radius Compensation (Part Left)
G50	0	Maximum RPM Limit Used With CSS (G96)
G65	0	User Macro Call
G70	0	Automatic Finishing Cycle
G71	0	Automatic Rough Turning Cycle
G72	0	Automatic Rough Facing Cycle
G73	0	Automatic Rough Pattern Repeat Cycle
G74	0	Automatic Drilling Cycle
G76	0	Automatic Threading Cycle
G90	1	Canned Turning Cycle
G92	1	Canned Threading Cycle
G94	1	Canned Facing Cycle
G96	2	Constant Surface Speed
G97	2	Direct RPM Programming
G98	5	Inches/mm per Minute Feedrate
G99	5	Inches/mm per Revolution Feedrate



WHAT IS THE TOCCO FURNACE F FOR SAE 8655H ?

HOT WORKING TEMPERATURES

VD-PS-2028

Material's Engineering TRW Valve Division

Issued: 4-9-57 Revised: 9-9-66

Revision = *

		Shearing °F	Forgi Tocco Furnace	Gas Furnace	Nubbin Closu and Nubbin Bump-Up °F
		(±50°F)	°F (±30°F)	°F (±30°F)	(±30°F)
VMS No.	Material Material	<u>-</u>		 .	
•	TPA	Cutomatic only	1900	1850	1900
l	CNS	1100	1960	1930	1960
2	SAE 71360	1100	1930	1900	
1. 20 kg	Sil. XB	1300	2050	2020	2050
4,39,40	TPRK	Cutomatic only			
6	Nichrome	1525 Gas only	2010	1960	
~ <u> </u>	SAE 8645 (Rotobodies Only)	.,_,,	1450		
11	C=1041	1100	1800	1770	
31,32	Sil. 1	1300	1930	1900	1930
42	SAE 8440	1100	1890	1860 ·	1890
44	SAE 4140	1100	1800	1770	1800
47		1100	1300	1770	1800
48	SAE 3140	1300	2010	1960	2010
52,214	\$i1. 10	1550 Gas only	2010	1960	· 2010
55,64	21-12N	1300	1880	1850	
63	_ VSM	- · ·	1950	1920	
81	440C	1 52 5 Gas only	1930	1900	
. 93	Air Hardening		1450	1,50=	
_110	C-1008 (Rotobodies Only)	1100	1730	1700	
,112	C-1117	1100	1730	1700 -	
132	SAE 8645 —	1100	1/30	2125 (1)	2150
134	TPM	Cutomatic	1980	1950	,
147	TXCR	1300	2000	1970	
88,199	410	1525 Gas Only		2100	2150
201,202	21-4N	1550 Gas Only	2150	2050 (2)	
201	21-4N T. Neck	1550 Gas Only	2100	1050 (27	0'-Tr+44.4.A"
244	SAE 8655H	1100	1980	2050	2100
408	B -312	1550 Gas Only	2100	2000	2050
411	N-155	1525 Gas Only	2050		2030
412	Hastelloy X	1525 Gas Only	2075	2025	
419	422	1525 Gas only	1950	1920	2075
× 471	Nimonic 90 Cutomatic only		2075	2025	2075 2075
× 472	Nimonic 80A Cutomatic only	·	2075	2025	207 5
'c 473	Inco 75; Cutomatic only		2100	2050	
478	21-2N	1525 Gas only	2150	2100	

^{1.} Preheated 1600°F- 1650°F in compartment furnace.

2. Tapered neck.

MS -44

1550°F to 1600°F VMS-52, 214 **3** 45 − 1 ERICAS-42

VMS-55,64 VMS-147 VMS 201.202

VMS-48 VMS-31,32 VMS-47 VMS - 1 32

446

BEST COPY AVAILABLE

^{3.} Note: Slugs over 1-7/16" in diam. and over 2" in height will require the following pre-heat 1980 - 2040 MS-401. in a gas furnace: 1450° to 1500°F

WHAT IS THE SETTING OF THE RANGE SELECTOR FOR THE 8627-6
PYROMETER AT THE 1500-2800 °C RANGE?

PART III

7. RANGE SELECTION

If the approximate temperature of the target is known or can be estimated, obtain the corresponding setting from the range selector in Table II. Then turn the range selector, Fig. 2, until this setting is opposite the index on the front of the instrument. If the approximate temperature of the target is not known or cannot be estimated, set the range selector on the highest range.

TABLE II — RANGE SELECTOR SETTINGS

PYROMETER	RANGE	SETTING OF RANGE SELECTOR
8627-3, 8627-5	1400-2250°F	L
8627-3, 8627-5	1950-3200° F	M
8627-5	2700-5200° F	Н
8627-4; 8627-6	775-1225° C	L
8627-4, 8627-6	1075-1750°C	M
8627-6	1500-2800° C	Н
8627-3	1950-3200°F*	.4
8627-4	1075-1750°C*	.4

^{*}This selector setting is for measuring the temperature of the target whose emissivity is 0.4. This feature applies only to this temperature range.



WHAT IS THE PART NO. OF THE OPERATING VALVE BODY?

PARTS LIST

```
PART NO.
                  ITEM
            Base and Reserveir
            Piston
  7
            Top Bridge
Middle Plate
  3
            Table
            Long Posis (2), each
            Short Posts (2), each
            Upper Jaw
            Lower Jaw
            Handwheel
 10
            Meter Bracket
 11
            14 H.P. Motor
 12
             Convex Washer, 1%"
 13
            Convex Washer, 2" Rubber Washer, 1%"
 14
 15
             Rubber Washer, 2"
 17
             Upper Jaw Lock Net
 18
             "V" Grips
 19
             Shims (4), each
 20
             Bottom Transverse Blocks (2), each
 23
 24
             Top Transversa Blocks, each
  27
             Bottom Compression Blocks
  28
             Top Compression Blocks
             Oil Cover
Ke" Balls (8), each
11" x 214" Dowels (3), each
  48
  49
  50
             1%" Nuts (2), each
1%" Nut
  52
  53
             M" Globe Valves (2), each
Complete Safety Valve
  73
  17
              Complete Regulator Yaive
  88
              Operating Valve Body
  89
             Pump
  90
              Pump Seal
  91
              Meter Coupling
  92
              Valve Stem Assembly
  93
              16" Gauge
  95
              Double Gauge Bracket
  76
              Single Gauge Bracket
Check Valve for Gauge, each
  97
  98
  100
              Oil Level Gauge
              Ke" Ball Springs (4), each
              Dump Valve Complete
```

MINIMUM INVOICE CHARGE OF \$2.50



WHAT IS THE VICKERS HARDNESS CONVERSION # FOR ROCKWELL HARDNESS "BRALE" LOAD OF 150 KG AT A 53 READING.

HARDNESS CONVERSION TABLE

FOR HARDENED STEEL AND HARD ALLOYS

				5CA	LŁ			
С	A	D	15-N	30-N	45-N		Brineil	<u> </u>
	Rockwell Hardness Tester			Rockwell Superficial†			Hultgren 10 m.m. Ball	Rockwell Tester 1/4 Ball
	: Harding : 500	Penetr				•VICKERS		
	"Brale"			"N Brale"				
				Load	(kg.)	<u> </u>		
150	60	100	15	30	45	10	3000	150
80	92.0	86.5 45.5	96.5	92.0	87.0	1865 1787		
ñ	91.5		96.0	91.5 91.0	86.5 85.5	1710		
78	91.0 90.5	84.5 84.0	i i	90.5	85.5 84.5	1633		
79 78 77 76	90.0	63.0	95.5	90.0	83.5	1556		
	1 1	82 5		89.0	83.5	1478		
74	89.5 89.0	81.5 81.0	95.0	84.5 85.0	81.5 80.5	1400 1323		
73	88.5	81.0	94.5	87.0	79.5	1245		
75 74 73 72 71	88.0 87.0	79.5		86.5	79.5 78.5	1160		
	\$6.5	78.5	94.0	86.0	77.5	1076		
70 69	85.0	78.0	93.5	85.0	76.5	1004		
ü	85.5	77 O I		84.5	75.5	947		
67	85.0	76.0	93.0 92.5	83.5 83.0	74.5 73.0	854		
"	84.5	75.5	92.0·		72.0	820		
65	84.0	74.5 74.0	72.0	82.0 81.0	71.0	769		
64	63.5 63.0	73.0	91.5	80.0	70.0	763		
65 64 63 61	82.5	72.5	91.0	79 O	69.0	739		
61	81.5	71.5	90.5	78.5	47.5	716	614	
	81.0	71.0	90.0	77.5	66.5	695 675	600	
ÿ	80.5	70.0	89,5	76.5 75.5	65.5 64.0	655	587	
38	- W.U.	69.U 68.5	0 00	73.5 75.0	63.0	636	573	
- #	79.5	67.5	34.3	74.0	62.0	617	560	
99 R5 R 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1	67.0	88.0	73.0	61.0	598	547	
	78.5 78.0	66.0	87.3	72.0	59.5 58.5	580	534 522	
Si .	17.5	65.5	87.0 .	71.0	57.5	562 545	509	
52	77.0	64.5	86.5	70.5 69.5	56.0	526	496	
	76.5	64.0	86.0		55.0	513	484	1
50	76.0	63.0	حيها	68.5 67.5.	54.0	496	472	
47	75.5	62.0 61.5	45.0 64.5	66.5	52.5	465	460	
#9 40 47 46	74.5 74.0	60.5	64.0	66.0	51.5	471 458	448	
46	73.5	60.0	85.5	65.0	50.0		t .	
45	73.0	59.0	83.0	64.0	17.0	446 435	426 415	
44	72.5	\$8.5	1 62.5 _	63.0 62.0	48.0 46.5	424	1 404	
43	72.0 71.5	57.5 57.0	81.5	61.5	45.5	413	393	
44 43 42 41	71.0	56.0	N Ni.O	60.5	44.5	403	362	
				59.5	43.0	393	372	
40	70.7	34.3	00.0	58.5	42.0	343	362	
34	49.5	\$4.0	79.5	57.5	42.0 41.0 39.5	373	1 316	
40 39 31 37 35 35 33 31	70.5 70.0 69.5 69.0 64.3	55.5 54.5 54.0 53.0 52.5	80.5 80.0 79.5 79.0 78.5	59.5 58.5 57.5 54.5 54.0	37.3	343 373 363 353	362 352 342 332	
×	64.3	32.5	/6.5	70.0	1 77.5	uı	122	
35	46.0 67.5 67.0 46.5 44.0	51.5 50:5	78.0 77.0 76.5 76.0	55.0 54.0 53.0 52.0	37.0 34.0 35.0 33.5	343 334 325 317 100	322 313 305 297 190	
34	67.5	39.5	74.5	53.0	33.0	325	305	
"	J W.V	50.0 49.0	76.0	1 52 0	1 33 5	317	1 777	i



THE TURRET IS CURRENTLY SET AT WHAT STATION?

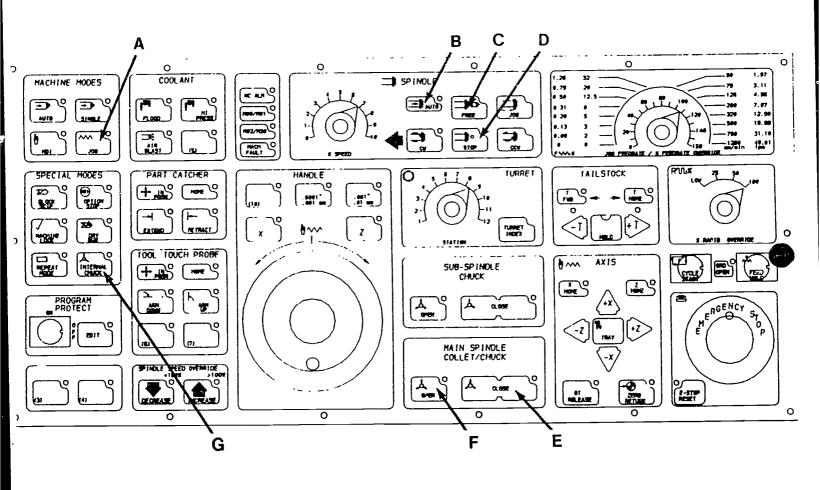


Figure 5.1 - Integrated Machine Control Panel

FOR A LOT SIZE OF 25001 HOW MANY PARTS WOULD BE IN YOUR 1st SAMPLE SS ?

LAYOUT FOR STATIS	Tical s	AMPLING	INSPE	CTION			LAYOUY N	
FORE 477-1						DATE	ISSUE	IFR
Valve Spring Ret	ainer (Caps)	si			1	<u>11 22. 1988</u>	Various —
439				A. 0	.t. 0.015		al Inspection	L
FOR USE BY INSP. DEPT				RIZED AN	D APPROVED		L. Zhopetunon	APPROVAL DATE
439-9			1 50	Lyma	r 	a de la companya della companya della companya de la companya della companya dell	Manam	May 12, 88
	SAMPL	NG SCHE		1			~ ~	0.
	15 7 5	AMPLE		-	·	7	INSPECTION	OPERATIONS
LOT SIZE	5.5	AN	ADD	35	AM]		
				↓		1.	Visual	
				<u> </u>		_		
				<u> </u>		2.	Hardness	
2-8	_A11	0		_		4		
9-500	13	0	_	 		3.	Dimensional	
501-1200	20	0		 		4.		C D -1 mt - M
1201-3200	50	0				1 4.	See Remarks	for Push-Thru Tes
3201-10000	80 125	0		+	 	-∤		
10001-35000	_200	0				+	<u> </u>	
35001-150000 150001-500000	315	0		 		┪		
500001&0ver	500	0			 			
JUUUUTAUVEL	200				- 	1		
				1				
]		
						_		
				1		<u> </u>		
						_		
	<u> </u>	<u> </u>	<u> </u>					
<u> </u>								
								PROCESS AVE.ESTIMATED
MATERIAL TO BE USED	ON							PROCESS AVE.ESTIMATED
		•						<u> </u>
	1	CESS AVE		ACTUA	L - FROM			
×	1		- *	_		*	,	1
FROM	FROM		I	FROM		FROI	4	FROM
TO				<u> </u>		Υo		
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					45	1		

REMARK 5:

Caps that specify on B/P for Push-Thru Test, check 5 pcs. per lot and record results. One or more parts defective shall result in ERICimmediate notification of line supervision and 100% sorting of lot.

COMMUNICATIONS ON THE JOB II SESSION 4 HANDOUT

Introduction To Statistical Process Control WHAT IS SPC?

QUALITY CONTROL

Producing a quality product at a competitive price is the goal of any manufacturing operation. Therefore, quality control must be an important aspect of a production process. Product quality can be controlled in two ways.- control by detection- control by prevention in a detection system, a product is inspected after it has been completed. At this point, the purpose of the inspection is to determine whether or not the product is acceptable. If the product is unacceptable, the process is adjusted in order to attempt to bring it more in line with the specifications. In addition, product work that is unacceptable is rejected, reworked, or repaired. And, since the process in not adjusted until an unacceptable product has been produced, a great deal of scrap may be produced before the process is readjusted.

On the other hand, controlling a process through prevention involves monitoring the product during the process. With prevention, measurements are taken while a product is being produced. If the data collected indicates that certain characteristics of the product are changing, the process can be adjusted as necessary. In this way, the production of unacceptable items may be eliminated.

Control by prevention is a basic premise of statistical process control. Continual improvement of quality and productivity may be achieved by using statistical methods. A statistical approach can create an organized, logical system for monitoring and controlling a process. Statistical procedures include collecting factual information needed to make informed decisions about setting a process properly. A process that is not set properly will not produced quality products.



1

COMMUNICATIONS ON THE JOB II SESSION 4 HANDOUT

ELEMENTS OF SPC

There are three basic elements of statistical process control.

STATISTICAL The word statistical refers to the selective meacurement involves collecting information about the size, weight, or composition of a product. This data can then be organized into a chart which provides a visual picture of process performance. By analyzing this data in the chart, predictions can be made about process performance over time. In this way, process performance can be controlled and continued improvement of the process can be achieved.

<u>PROCESS</u> The term process refer to any activity that produces a product or provides a service. A process is a combination of equipment, manpower, material, method, and environment. Some processes are industrial, others may be administrative, financial, or managerial.

<u>CONTROL</u> In SPC, control is the comparison of actual process performance with a target, or nominal, value. If process performance is not acceptable, controlling the process involves taking appropriate corrective action. In addition, control includes analyzing whether or not these actions have been effective.

The purpose of SPC is to achieved consistency. A consistent process will produce a product with minimal waste, minimal rejects, and efficient use of raw materials and equipment. In order to obtain a satisfactory product, quality must be built in at every stage of the process.



COMMUNICATIONS ON THE JOB II SESSION 4 HANDOUT

QUALITY COSTS

Implementing SPC will ultimately reduce quality costs. There are four types of quality costs.

- External failure costs are costs that are incurred after an unacceptable product has reached the customer. These costs may relates to returns of the product, requests for replacements, and warranty claims that require repairs and adjustments.
- Internal failure costs are incurred after a product has been made, but before it reaches the customer. These costs refer to scrap and unusable raw material from the production process, as well as reworking, refitting, or repair of finished items.
- Appraisal costs are costs that are related to inspection functions. The more reliable a process is in terms of producing acceptable products, the less need there will be for inspection of finished products.
- Prevention costs relate to measurements and inspections at various stages of the process, permitting adjustments to be made early. In addition to data collection, prevention costs also refer to proper handling and storage of materials, timely and regular equipment maintenance, and effective training of personnel.

In many companies, external and internal failure costs make up the largest portion of total quality costs. Of all the costs associated with producing a quality product, prevention has the greatest potential for reducing the total quality costs. Since SPC is a system based on prevention, using SPC can help reduce quality costs to a minimum. Although using SPC may cause prevention costs to rise slightly, external and internal failure cost will decrease since fewer defective products will be produced. This will significantly reduce overall quality costs.



COMMUNICATIONS ON THE JOB II POST - ASSESSMENT

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·)	List below 4	study techni	ques that help	people learn mor	e effectively:	
5)	Describing a them what k	persons be ind of a pers	havior is more son you think	helpful than tellin hey are.	g True	False
6)	When a pers	son labels a ng an "i-Mes	behavior good ssage Approac	d or bad, right or v th" to communicat	vrong, ion. True	False
7)	Giving a per	son praise h	nelps them wo	rk better.	True	False
8)	Roleplaying	is useful in	training sessio	ns.	True	e False
9)	The dictiona	ry is consid	ered a " powe	r tool ".	True	False
10)	Phonics skil	ls are an im	portant part o	adult reading.	True	e False
11)	Name two t	ypes of dicti	onaries that a	re useful everyday		
12)	Name 2 cor	mponents of	a dictionary p	age.		
13)	How many	consonants	are in the Eng	glish alphabet?		
14)	The letters	w and y are	e: (circle one	answer)		
	consonants	;	vowels	both cor	sonants and v	owels
15)	Circle the v	vords with the	ne short e so	ound:		
	she	verse	fret	Pete		
	bench	these	press	wed		
16)	A person's	attitude is a	an important p	art of the reading	process. Tru	ue False
•						

S WSHARE/GRANT/NEWCOM2/COM2PRE TRW

17)	Name two of the four major components of the Reading Process	S.	
18)	A person should always try to maintain the same reading speed no matter what they are reading.	True	False
19)	Reading is learned only at an early age.	True	False
20)	A person must read every word to be a "good" reader.	True	False
21)	If you read very fast you should still try to remember everything you read.	True	False
22)	Name three good reading habits.		
			·
23)	One word can have several different meanings.	True	False
24)	A homophone is a		
25)	Asking a co-worker is an acceptable way to find out what a new technical word means?	True	False
26)	What does CNC stand for?		
27)	What does SPC stand for?		

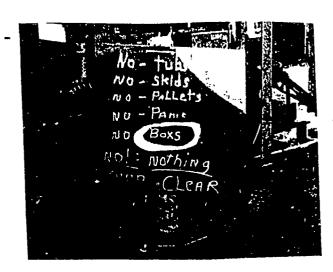


S WSHARE/GRANT/NEWCOM2/COM2PRE TRW

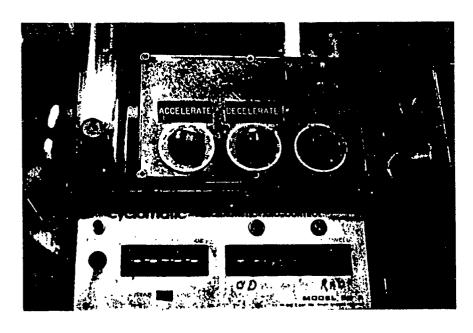
Producing a quality product at a fair price is the goal of any manufacturing Therefore, quality control must be an important aspect of TRW's process. quality can be controlled in two ways. What is the main topic of this reading: Define the following TRW terms: Dresser Shear Collet Tolerance Process	28)	Read the follow	ving:
29) Define the following TRW terms: Dresser Shear Collet Tolerance		Therefore, qua	lity control must be an important aspect of THW's process. Product
Dresser Shear Collet Tolerance		What is the ma	ain topic of this reading:
Dresser Shear Collet Tolerance			
Collet Tolerance	29)	Define the foll	owing TRW terms:
Collet Tolerance		Dresser -	
Tolerance		Shear .	
		Collet	
Process		Tolerance	
		Process	

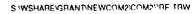


30) What is the proper spelling of the circled word on this sign.



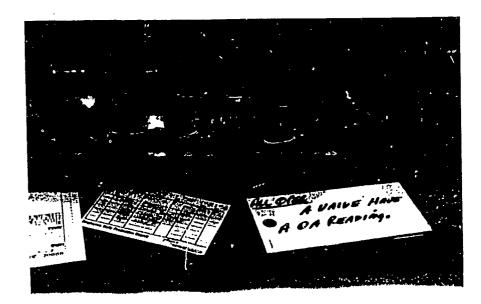
31) If you wanted to make this go faster, which knob would you turn? (circle one) left center right







25) Is the verb in the sentence on the white ticket correct? Please write the correct verb on the iine.



TRI

Communications on-the-job

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TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

Upon completion of the Communications on the Job II course, the participant will be able to:

- Identify ways to overcome personal obstacles to learning.
- Identify his or her personal learning style
- Demonstrate study skills techniques in various learning situations.
- State components of active listening.
- Identify effective communication techniques when faced with difficult job situations.
- Demonstrate ability to locate specific information in a dictionary.
- Identify situations in which a technical dictionary is needed.
- Demonstrate skills for using a technical dictionary.
- Identify and apply a vocabulary-building system.
- Demonstrate job-related word recognition
- Identify components of the reading process.
- Differentiate between the meanings of common prefixes and suffixes.
- Identify and select synonyms, antonyms, homophones and homographs.
- Demonstrate reading skills of recalling factual information, identifying main topics, and drawing logical conclusions with job-related documents.
- Read and interpret job-related instructions.
- Identify codes and symbols used in schematic and blueprint reading.
- Read, analyze, and prepare job-related memos, processes and procedures.



TRW COMMUNICATIONS ON THE JOB II SESSION OVERVIEW

10 2-Hour Sessions

Session 1

Self-Awareness and Personal Learning Styles Pre-Assessment

Session 2

Successful Learning Strategies Using the Dictionary

Session 3

The Process and Types of Reading Active and Passive Reading Skimming and Scanning Technical Vocabulary Building System

Session 4

Homophones and Homographs
Previewing
Job-related Vocabulary Improvement

Session 5

Prefixes and Suffixes, Synonyms and Antonyms Identifying Main Ideas, Topics, and Details Job-related Vocabulary Improvement

Session 6

Following Instructions, Drawing
Logical Conclusions
Reading and Writing: Memos, Processes and
Procedures
Job-related Vocabulary Improvement

Session 7

Active Listening Skills
Job-related Vocabulary Improvement

Session 8

How to Deal with Difficult Communication Situations Role-playing Exercise Job-related Vocabulary Improvement

Session 9

Identifying codes and symbols on schematics and blueprints
Job-related Vocabulary Improvement

Session 10

Review/Wrap-up Post-Assessment Evaluation



S WSHARF/GRANT/NEWCOM2/COM2/MOD TRW

COMMUNICATIONS ON THE JOB II PRE - ASSESSMENT

1)	Name the fo	ur Preferred Learning Sty	le categories re	epresented by these initials:
		V .		
		Α		
		К		
		Т		
2)	Name one o	of the three components of	of effective learn	ning.
3)	Mark each	statement about listening	True or False:	
		People tend to pay attention to what interests them.		When a listener's emotional level is high, he or she will be an effective listener.
		Hearing and listening are the same.		Listening is a natural process.
				Listening is a skill.
		Most people have a short attention span and have trouble		Listening requires little energy; it's "easy".
		concentrating on the same thing for too long.	<u></u>	Giving advice and telling the speaker what to do is not a listening skill.
		The speaker is totally responsible for the success of communication.	<u></u>	Speaking is a more important part of the communication process than listening.



4)	List below 4	study techn	iques that hel	p people	learn more effec	tively:		
								
5)	Describing a them what k	persons be ind of a per	ehavior is mores	e helpful they are.	than telling	True	False	
6)	When a per they are usi	son labels a ng an "I-Me	behavior goo ssage Approa	d or bad, ch" to co	right or wrong, mmunication.	True	False	
7)	Giving a per	rson praise	helps them wo	ork better	•	True	False	
8)	Roleplaying	is useful in	training sessi	ons.	100	True	False	
9)	The dictions	ary is consid	lered a * powe	er tool *.		True	False	
10)	Phonics ski	lls are an in	nportant part c	of adult re	ading.	True	False	
11)	Name two t	ypes of dict	ionaries that a	ıre useful	everyday.			
							_	(
12)	Name 2 co	mponents o	f a dictionary	page.				
13)	How many	consonants	are in the En	glish alph	abet?		- 	
14)	The letters	w and y ar	e: (circle one	answer)				
	consonants	3	vowels		both consonant	s and vo	wels	
15)	Circle the	words with t	he short e so	ound:				
	she	verse	fret	Pete				
	bench	these	press	wed				
16)	A person's	attitude is	an important p	art of the	reading process	s. True	e False	

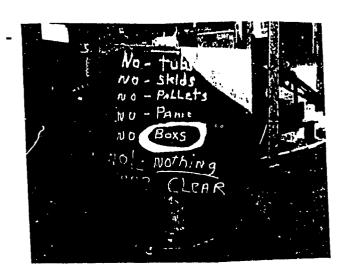
Name two of the four major components of the Reading Proce	ess. 	
A person should always try to maintain the same reading speed no matter what they are reading.	True	False
Reading is learned only at an early age.	True	False
A person must read every word to be a "good" reader.	True	False
If you read very fast you should still try to remember everything you read.	True	False
Name three good reading habits.		
One word can have several different meanings.	True	False
One word can have several different meanings. A homophone is a	True	False
	True	False
A homophone is a		



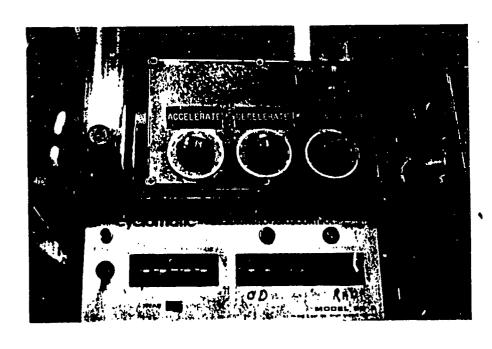
28)	Read the following:			
	Producing a quality product at a fair price is the goal of any manufacturing plant. Therefore, quality control must be an important aspect of TRW's process. Product quality can be controlled in two ways.			
	What is the main topic of this reading:			
29)	Define the following	lowing TRW terms:		
20)				
	Dresser .			
	Shear			
	Collet			
	Tolerance			
	roloranoo			
	Process			



30) What is the proper spelling of the circled word on this sign.



31) If you wanted to make this go faster, which knob would you turn? (circle one) left center right



(OVER)

25) Is the verb in the sentence on the white ticket correct? Please write the correct verb on the line.



TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 1

- Self-Awareness and Personal Learning Styles
- Pre-Assessment



COMMUNICATIONS ON THE JOB II SESSION 1

Self-awareness

Introduce self and course briefly. Have students introduce themselves. Pass out any book or materials needed.

Show the video "The Train" (approximately 8 minutes long) Have students write down the answers to the 3 handout questions listed below. Then take a few minutes to discuss the questions and their reactions to the video.

Questions

What does "The Train" tell you about the power of your mind?

Have you heard of any other examples of people deciding something contrary to "fact" with dramatic results?

To what extent do you feel you control your attitudes? What circumstances do you feel take control away from you, and what would it take to get it back?

Some Reasons Why We Assume We Can't Learn

Keeping "The Train" in mind, let's look at how a limiting mind set affects our perception of our ability to learn. Many people assume they can't learn new things for a variety of reasons. What are some reasons you think people assume they can't learn. (List responses on board.)

Some Reasons Why We Assume We Can't Learn

- Past Conditioning we were told we couldn't learn or that we weren't good at a particular subject or subjects.
- Stereotypes How often have we heard statements like "He's a lathe operator, great mechanical ability, but his verbal skills aren't too good." or "She's wonderful at communicating with others, but technically, I don't think she has it"? In many cases, these statements reflect stereotypes present in our society and our companies. It's easy to buy into them, and create self-fulfilling prophecies so that we fit the stereotype.



Facilitator 1-1

COMMUNICATIONS ON THE JOB II SESSION 1

Some Reasons Why We Assume We Can't Learn (cont'd)

Other People's Perceptions of Us - Often, we're labelled, usually early in life. "He's the artist" or "She's the smart one" or "He has the mechanical mind." What happens is that we often get pigeon-holed. We also assume that we can only be good at what people tell us we're good at. Or conversely, we assume that we're poor at whatever people tell us we're poor at. We tend to live up (or down, as the case may be) to other people's expectations.

Successful Learning Experience

Ask participants to think of a recent successful learning experience, preferably job-related, but it really could be anything from learning a new sport to learning how to program their VCR. Have them describe this learning experience on the handout provided. Stress that it does not have to be a "classroom" experience. It probably will be something that they figured out on their own, by either reading something or through just hands-on experience, or something that someone else showed them how to do.

When they're finished with the handouts, ask participants to share this learning experience and why they wanted to learn this particular skill or task with the class. Keep track of the "whys" on a piece of paper or the board to work into the next section.

Mention that often we learn when we're motivated to learn. For instance, an immigrant to this country from Malaysia wasn't familiar with the American food, hamburgers. She wasn't sure what went on a hamburger. So, when she ordered a hamburger at a restaurant and they asked her what she wanted on it, she simply said "The works." She ended up eating all kinds of things like onions and ketchup that she didn't like. She finally decided to learn what went on hamburgers and what she liked. Eventually, when asked what she wanted on her hamburger, she was able to reply "Mustard and pickles, please." What was her motivation for learning?

S INSHARE/GRANT/NEWCOM2/COM2SE II TRW

COMMUNICATIONS ON THE JOB II SESSION 1

Successful Learning Experience (cont'd)

Some Motivating Factors

As you discuss this, categorize the participant's "whys" of their successful learning experiences in each of these categories.

- Money People will often learn new skills in order to gain a promotion or to get a new higher-paying job.
- Comfort People are motivated to learn new skills if it will make their jobs easier.
- Safety/Health If a skill is necessary to their safety or health, people usually view that skill as an important one to learn.
- Status People will often learn new skills if they believe it will increase their status with their supervisor, their co-workers, and/or family and friends.

Personal Learning Styles

Not everyone learns most effectively in the same way. For instance, some people can learn how to operate machinery by watching a demonstration of it while others would learn best by reading the manual. Additionally, different skills need different learning styles. You can read the manual from cove. to cover and learn all that's there, but until you actually operate the machine yourself, you really won't know how to operate it. So, while watching a demonstration or reading the manual may be a good starting point, eventually to master the skill, you're going to have to get some hands-on experience.

- Visual Learns best through observation or studying graphs or charts. If you feel you learn a lot from demonstrations or you like to look at graphs, drawings, charts, maps, etc. in order to understand something, you may be a visual learner.
- Auditory Learns best through listening. If you get a lot from lectures or like to listen to educational audiotapes at home or in your car, chances are you're an auditory learner.



COMMUNICATIONS ON THE JOB II SESSION 1

- **Kinesthetic** Learns best through movement or while moving. If you like to walk around or knit or tinker while listening to educational material or if you feel you're pretty good at picking up new sports moves after just one or two tries, it's a good possibility that you're a kinesthetic learner.
- Touch Learns best through touch or "hands-on" experience. If you're the type of person who wants to just start operating a piece of equipment, or who wants to touch or feel objects to get a better sense of them, you're most likely a touch learner.
- Olfactory Learns best through smell or taste. If you often associate things with a particular smell or taste, you very well might be an olfactory learner.

Preferred Learning Methods

- **Print/Individual** Learns best through reading and writing. If you love to read and feel you learn a lot from manuals, magazines and books, you may be a print-oriented learner who likes to learn things on their own.
- Interactive/Group Learns best through talking things out with other people. If you feel you learn a lot from small group discussions or by bouncing ideas off people, you may be an interactive learner.

To help them find out what kind of learners they are, have them complete The Learning Style Inventory. When they're finished, use The Learning Style Inventory Interpretation included on the next page in the handouts to help them interpret their inventory. Remember to mention, that's possible to have 2 styles of learning that are equally dominant. Ask them if they learning style identified with this inventory matches the learning style they think they are.



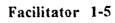
COMMUNICATIONS ON THE JOB II SESSION 1

WHAT KIND OF LEARNER AM !?

Learning Style Inventory

Check below the techniques through which you think you learn best.

1. motion pictures	15. slides
2. lecture, information-giving	16. records
3. group discussions	17. question-answer sessions
4. reading assignments	18. independent reading
5. role playing with you as a participant	19. physical motion activities
6. project construction	20. model building
7. odor discrimination activities	21. scented materials (i.e., scratch & sniff)
8. television programs	22. graphs, tables, and charts
9. audiotapes	23. recitation by others
10. participant in panel discussion	24. interviews
11. written reports	25. writing
12. nonverbal/body movements	26. participant in physical games
13. drawing, painting, or sculpting	27. touching objects
14. tasting	28. photographs





COMMUNICATIONS ON THE JOB II SESSION 1

WHAT KIND OF LEARNER AM !?

Learning Style Inventory Interpretation

Circle the numbers you checked on the Learning Style Inventory. Find the row where the most numbers are circled and identify the learning style to the right of it. Most likely, that's your dominant learning style. It is possible to have 2 learning styles with the same or almost the same number of circles. In that case, you probably utilize both learning styles equally well.

NUMBERS	LEARNING STYLE
1, 8, 15, 22, 28	VISUAL
2, 9, 16, 23	AUDITORY
3, 10, 17, 24	INTERACTIVE/GROUP
4, 11, 18, 25	PRINT/INDIVIDUAL
5, 12, 19, 26	KINESTHETIC
6, 13, 20, 27	TOUCH
7, 14, 21	OLFACTORY

COMMUNICATIONS ON THE JOB II SESSION 1

Learning Styles Activity

Have the class read through the following scenario and see if they can identify the learning styles of Tony and his supervisor, John. Also, identify any problems differences in learning styles caused in this instance.

Tony works for the Excellent Products Company operating a drill press. Recently, his company automated all the drill presses in the plant. Tony, along with all the other drill press operators must now learn to operate the automatic controls. Tony has been running the drill press for 5 years. Because he feels that the automation will make him more productive and allow him to learn new skills, he's sure he can learn to work with the automatic control system. The big question, of course, is how?

Tony's supervisor, John, brings him a copy of the big, thick manual that came with the new machinery.

"Everything you need to know is right in there," says John. "Read it."

Tony tries to read it. But it seems boring to him. What he does find useful are the drawings and charts. After a week of trying to read the manual, Tony decides to talk to John.

"I could look at this manual from now till retirement and never learn what to do. I need someone to show me how to use this thing!"

John said he understood and the next day, he worked with Tony. John patiently explained everything he knew about the machine to Tony. Tony kept wanting to push the buttons and check out the information for himself. Sometimes, although Tony didn't admit it to John, he felt lost by John's explanations.

When he was done explaining everything to Tony, John asked him to repeat the steps for certain operations. Tony couldn't do it successfully. "Walk me through it," he kept saying.

"I just did," insisted John.



Facilitator 1-7

COMMUNICATIONS ON THE JOB II SESSION 1

Learning Styles Activity (cont'd)

"Well, if I could just try it one time, then I think I'll be able to remember it better," said Tony.

"No," said John, "Until you learn what to do, we can't take a chance on damaging the new machinery."

John walked away rather exasperated. Tony was left feeling very frustrated. "If I could just watch someone operating one of these babies, then I could pick it up," he thought.

The next day, Tony decided to take another route to learning the automated controls. He talked to some of the other drill press operators and found that one of the younger operators, Nancy, was skilled at operating automatic controls because of some vocational training.

Tony asked Nancy if he could watch her in action. "Sure," Nancy said.

That afternoon, Tony went over to Nancy's drill press. she first explained what she was going to do, then did it. Tony kept track of the buttons she pushed and in what order. "Can I try it?" he asked when she was done with the demonstration.

"Of course," said Nancy. "I'll cancel the program I just did and you start from scratch."

"Thanks," said Tony. He approached the controls. He was amazed when he remembered practically the whole sequence of events. Nancy just had to prompt him a couple of times.

"See, nothing to it," said Nancy when he finished successfully.

"Yeah, nothing to it," said Tony. "Wonder why it seemed so hard yesterday?" he thought.

Every day for a week, Tony worked with Nancy until he had all the basic operations down. John came by and saw Tony operating the automatic controls with skill and ease. "Really dug into that manual, didn't you, Tony?" he said. "I was beginning to think you were a hopeless case. Good job."



COMMUNICATIONS ON THE JOB II SESSION 1

Learning Styles Activity (cont"d)

What kind of learner is Tony? Is there more than one style you can identify for him?

Haptic - wants to push buttons, operate the machinery. Also, visual - benefitted from someone showing him how to use the equipment and found the graphs and drawings in the manual helpful.

What kind of learner do you think John is? What kinds of problems did this cause between John and Tony?

John is a print learner. His first impulse is to read the manual and learn everything there is to know about the machine before actually operating it. While this might work for John, it doesn't work for Tony. John thinks everyone learns like he does. So when Tony can't learn effectively from the manual, John assumes (wrongly, of coursel) that Tony simply can't learn.

Summary

In order to learn effectively, you must

Believe in yourself.

As we've discussed, it's important to have the right attitude toward learning. You have to expect that you can learn, and you will. Of course, it won't always be easy, but with the right attitude, you can overcome any obstacles in your learning path.

Be motivated.

As adults, it's important to motivate ourselves. Being motivated helps to maintain the right attitude. In order to keep ourselves motivated, it's important to know what we, as individuals, are going to gain from the training. Everyone will gain something a little different. It's also important to know why we, individually, are going through the training

- to improve certain skills, to improve our jobs. In other words, what are the consequences for us to complete this training successfully.





COMMUNICATIONS ON THE JOB II SESSION 1

 Be aware of your personal learning style and take advantage of it, whenever possible.

Knowing how you feel most comfortable learning will help you to get more out of this class, faster and more effectively. You certainly will be exposed to a variety of learning methods, but take advantage of your own learning styles whenever you can, during individual and lab study times in this class, and certainly on the job. Having this understanding about how we learn and realizing that everyone learns differently helps to keep us motivated through the learning process and helps to avoid some conflicts that commonly arise when working with others.



TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 2

- Successful Learning Strategies
- Using the Dictionary



SUCCESSFUL LEARNING STRATEGIES

Study Skills Techniques

Now, that we know how to get a positive attitude toward learning, how to keep motivated and how to use our own personal learning styles, we're going to talk briefly about study skills techniques that we can use to help us get the most out of this course and others.

We'll be talking about the following 4 study skills techniques:

- Organization
- Concentration
- Notetaking
- Memory Improvement

Organization

In order to be successful in this class (and others), it's important to:

- Set a goal *
- Plan how to reach that goal
- Act upon your plans

Each of these 3 steps is essential to success. If you set a goal, but never act on it, you won't be successful. And, if you just start taking action, without planning, you'll just spin in circles, and probably won't be successful either. In this class, we're going to help you with all 3 steps.

First, have students write down personal goals that they have for the Communications on the Job II class on the handout provided. These are for students' personal use and are not to be shared with the class. To help them, you may want to go over or suggest that they review course objectives.







Concentration

The next important study skill we want to use is concentration. It's going to be important to concentrate in class and when doing individual work. Concentration allows us to be much more efficient and learn more effectively. When we concentrate, we don't have to ask another participant what the instructor was talking about while were daydreaming, and we don't have to read and reread instructions or books, because our mind wandered off somewhere in mid-sentence. The ability to concentrate is important to learning success.

What is concentration? Summed up briefly, concentration is thinking. When we're thinking about something and aren't aware of distractions going on around us and we're deeply involved in understanding the concepts, we're concentrating. Once we become aware that we're concentrating, however, we no longer are. Or if we start to notice little noises or listen to the conversations around us, we're not concentrating anymore. To sum up, consider this quote:

Consider the postage stamp. It secures success through its ability to stick to one thing until it gets there.

-- Josh Billings

Concentration Activity

Either read or have students read the concentration activity scenario. Ask what seems to be Pat Hawkins' problem? What kinds of things indicate that he's having trouble concentrating?

Use the concentration activity to tie in the next section on what breaks our concentration.

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Concentration Activity

Pat Hawkins is about 2 weeks into his training program. He's started with Basic Math, a subject he feels he's ever been good at. His supervisor told him that Math skills will become more important as improvements to the equipment are made at work. But Pat feels that he's survived this long without math skills, why should he learn them now?

When Pat comes into the learning lab, he picks up the resources he needs, takes off his coat and wanders over to a workstation, thinking to himself, "Oh, here comes 2 hours of boredom. I'd rather be home, eating dinner with my family, or bowling with the guys."

After arranging his resources and notebooks, he decides he needs a cup of coffee. So, he goes to the coffee machine. In the dining room, a TV is on with the news. He watches the news for 10 or 15 minutes while he sips his coffee. On his way back to the learning lab, he thinks about the news events he just saw and wonders "what the world's coming to."

He goes back to his workstation, realizes he didn't bring a pen or pencil, so he goes into the office to get one. He chats for 5 minutes with one of the secretaries.

Then, he returns to the workstation and looks at his watch. A half hour has passed already. "Good," Pat thinks, "Only one and a half more hours of this." He works 2 or 3 problems. Then, he starts to think about the argument he and his wife had this morning. It's been bugging him all day. He knows he needs to talk to her again more calmly and rationally. He starts planning what he'll say to her.

Then, Pat realizes he's cold. He's only wearing a short-sleeved T-shirt. He rubs his arms and then gets up to get another cup of coffee. In the dining area, he sees one of his co-workers. They start talking about the day's events at work and how tough it is to work and go through this training at the same time. Pat glances at his watch. Only about 45 minutes left to study.

He goes back to his workstation. He reviews his notes and tries to go through the examples, but he keeps thinking about what he'll say to his wife when he gets home. He hits an example problem that makes no sense to him. After going over it a couple times, he looks at his watch. Only 15 minutes left.

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Concentration Activity (cont'd)

"Well, I'm going to call it a day--this is a good stopping point," he says to himself and leaves. On his way out the door, he shakes his head and thinks, "It's going to take me forever to get through this Math class, 2 hours is hardly enough time."

What Breaks Our Concentration?

As you go over this section, give the examples listed for each category, then ask the students if they can think of others. Write these on board. Also, ask them is they can identify any of these factors as culprits in breaking Pat Hawkins' concentration. For example, ask what external factors broke Pat Hawkins' concentration? (TV, chatting with co-worker, not having pencil, etc.)

EXTERNAL DISTRACTIONS

Some examples: uncomfortable chairs, lighting, noise

INTERNAL DISTRACTIONS

Some examples: personal problems, daydreaming

• PHYSICAL FACTORS

Some examples: hunger, thirst, tiredness, illness

MENTAL FACTORS

Some examples: boredom, negative attitude

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Ways To There are, of course, ways to increase your concentration, and get past the physical and mental distractions that creep in:

Concentration

- Keep your goal in mind.
- Develop an interest in and a positive attitude about the material.
- Eliminate or minimize distractions beforehand.
- Think about successes you've had or success you're determined to have. Then, get to work.

CONCENTRATION HINT: You can will yourself to concentrate and then practice. Start by telling yourself to concentrate for just 5 minutes. Then you can gradually increase your concentration time. Soon, concentration will become a good habit.

Activity - Good Model

Let's figure out what Pat Hawkins' study session would have been like if he applied some of these concentration techniques. Have the class come up with some things they think he could do. Then, refer them to the good model and briefly go over.

Concentration Activity

Pat Hawkins is about 2 weeks into his training program. He's started with Basic Math, a subject he feels he's never been good at. His supervisor told him that Math skills will become more important as improvements to the equipment are made at work. Even though Pat feels he's survived this long without math skills, he knows that more is going to be expected from him on the job when the new equipment is installed. He knows it's going to be a struggle, but on the way to the learning lab, he mentally prepares himself to learn and succeed at Basic Math.

Before he leaves work, Pat makes sure he has everything he needs his notebook, a pencil and eraser, a snack of crackers, cheese and fruit, and a light sweater.

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Concentration Activity - Good Model (cont'd) When he arrives at the learning lab, he takes off his coat and puts on the sweater. He takes his notebook to the dining area, eats his snack, has something to drink and goes over his notes from the last session, ignoring the news on the TV. As he walks back to the learning lab, he feels prepared. He checks out the resources he needs and goes to a workstation where he feels comfortable.

The argument that he had with his wife this morning comes into his mind. It's been bugging him all day. He tears off a piece of notebook paper and writes down what the argument was about and his solution, talk to her calmly and rationally. "I'll think about what I'm going to say in the car on the way home," he tells himself. Then, he gets down to business.

First, he reviews his notes, making sure to work through the example problems. There's one in particular that gives him some problems, so he marks it to ask the instructor about in the next class session.

Now, he's ready to tackle problems. He works through the problems in the first section of the software. Before starting the second section, though, he decides he needs a short break. He looks at his watch, about 45 minutes left, enough time for a 10-minute break.

He goes into the dining area where he sees a co-worker. He chats with him about the day's work events but lets him know that he can't talk long because he wants to finish the next section before leaving today. The co-worker comments on his motivation and persistence. "It's hard," Pat tells him, "but I look at it as an opportunity. I don't know how all this will fit together with our jobs, but I think I'll be better prepared for the new equipment if I learn this now." Pat keeps track of the time and at the end of 10 minutes, he tells his co-worker he has to go.

He returns to the workstation and works the problems in the second section of the software. Walking out of the building, Pat has a sense of confidence in his ability to learn. And when he gets in the car, as promised, he starts thinking about what to say to his wife. He feels that he'll be able to work out the situation with her, now that he let it simmer in the back of his mind for a while and came to it fresh.

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Facilitator 2-6

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Notetaking Tips

Another study skills technique that can help us get more out of this class and any learning experience is to take good notes and use them to refer back to.

The following tips are general ones, regarding notetaking:

- Listen actively Good listening skills are important for taking good notes.
- Don't try to write down every word the instructor says Abbreviate when possible and summarize. The most valuable notes to you are the ones in your own words.
- Be neat and organized After all, what good are a bunch of messy, sloppy words that you won't be able to understand later? On the other hand, don't get too hung up on neatness. A word crossed out here or there or an arrow or two is OK, as long as it's understandable.
- Review your notes daily Preferably, review them right after class. Just a quick 5-10 minute review will help you to retain the material a lot longer.

Examples:

They have 2 pages which are examples of neat, concise notetaking. Go over each one, pointing out the organized format which makes it easier to review notes as well as easier to take them. Also review the use of abbreviations, and a column that can either be filled out in class, if there's time or during a quick review, to ensure understanding (In Vocabulary example, it's the My Sentence column, in Using the Dictionary example, it's the Example column.) Stress the importance of putting notes into own words and checking understanding of notes by doing something like making up a vocabulary word sentence. Also, mention the layout of the handouts used in this class -- plenty of white space everywhere for notes and in some cases, even specific blanks left for notes on class discussions.

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Notetaking Examples

Vocabulary Words

Word	Pronunciation	Meaning	My sentence
Variable	Var e bel	Measurable quantities such as dimensions or weight	Two variables that I need to check are the diameter and thickness of the valve tip.
Probability	prob e bil i te	The chance that something will or will not happen	The probability of process problems increases when we use a new material for the first time.

Using the Dictionary

Recall Words	Notes	Examples
Spelling	Spelling - entry word shows - sometimes more than 1 sp more common sp. given 1st.	theater or theatre
Plurals	Plurals - most nouns show by -s or -es - irregular plurals in dict shown by pl. before plural form	mouse - pl. mice





Memory Improvement

Just as there are personal learning styles, there are also different types of memory. You probably use all three types but you also probably have one that's more dominant.

probably have one that's more dominant.		
Three	Types of Memory	
Q	Visual	
0	Auditory	
	Kinesthetic	
Do the	ne following quick exercise so participants can get an idea of what ory type is their dominant one:	
dow	them you'll say a list of 5 words. After each word, they're to write in the first word that comes into their mind that they think would help remember that word.	
The	list of 5 words	
Art		
Wor	K	
Ship	•	
Land	d .	
Stor	е	
pain mer slip wro	ey wrote down words that are concrete visual images, such as ting for art or sail for ship, they most likely have a dominant visual nory. If they wrote down sound-alike words, such as cart for art and for ship, they most likely have a dominant auditory memory. If they te down "feeling" or "describing" words such as beautiful for art or for ship, they most likely have a dominant kinesthetic memory.	

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Memory improvement (cont'd)

now that we know which type of memory is our strongest, let's go over some general tips for improving memory that people with all types of memories can use.

General Tips to Improve Your Memory

0	Interest -	It's much easier to remember information about what interest you.
۵	Selection -	It's a lot easier to remember the important points made, rather than to try and remember all the details given.
ū	Attention -	You need to give your full attention to something that you want to remember.
ŋ	Understanding -	If you understand something, you'll remember it a lot easier.
<u> </u>	Intention to - Remember	You need to tell yourself that you want or need to remember something.
۵	Confidence -	Have a positive mental set see yourself as a person with a good memory.
۵	Association -	Connect things in your mind.
۵	Background of - Experience	You'll more easily remember new things about a topic if you already know something about that topic.
ū	Organization -	Group things you have to remember in a logical fashion.
0	Practice -	The more you practice, the better your memory will be.



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Memory Systems

Now let's take a look at some memory systems that you can use to improve your memory. You can use whichever systems you feel would work for you. You may use just one or you may use more than one.

Memory Systems

Observation - The more and better you observe or study something, the easier it will be to remember.

In other words, if you look at something for a minute or two rather than 30 seconds, you're more likely to remember it.

Visualizing/ - Picturing something helps us to remember it better. Concrete items are easier to visualize than abstract ideas.

To illustrate this, have them visualize the following 2 items:

* A valve

* Putting quality into your work

Ask them which one was easier to see in their minds.

Association - It's easier to remember new information when you associate it with something you already know.

For example, you can remember how to spell piece, by remembering the first three letter spell the word pie and whenever you think of piece, think of a piece of pie. Or remembering the shape of Italy by thinking of a boot.



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Memory Systems (cont'd)

□ Substitution -

Think of and picture a word or group of words that sound like or remind you of what you want to remember. This technique works well for abstract concepts.

For example, to remember Minnesota, you can think of a small bottle of soda -- a mini-soda. Or you can remember the word HOMES in order to remember the names of the Great Lakes (Huron, Ontario, Michigan, Erie, Superior) Mention that using other phrases like HOMES to remember a series of things is called mnemonics.

☐ Classification -

Divide items into logical groups. It's much easier to remember three or four groups of four to six items each than one large group of twenty to twenty-five items.

For example, remembering a grocery list according to categories such as meat, dairy, produce, pasta rather than just trying to remember the whole list.

□ Mneumonics -

This type of memory improvement system is named after Mnemosyne, the goddess of memory. Using a self developed system, that will differ in each case, the learner devises a "mneumonic " to recall longer lists, words, etc.

For example, you know that you will be asked to write down each component of the General Tips on page 15.



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A mneumonic to remember the steps in order might be:

EXAMPLE:

Ī

S aw

Αn

U nusual

IR regular

C at

At the

BE ach

On

P arade

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This helps you begin by writing down the first letter of each step in the correct order. Then use these first letters to make up a sentence easy to remember. Sometimes the crazier the sentence, the better. Then this list of first letters in this order can jog into memory the proper words for each step: Interest, Selection, Attention, etc.

Some of these are famous and used frequently. Can the class think of any that they learned. "Every Good Boy Does Fine" for the EGBDF lines on the musical staff. Or how about "Please Excuse My Dear Aunt Sally" for the order of operations Parentheses, Exponents, Multiplication, Division, Addition and Subtraction in math class?



Memory Exercise

If time, have them try the following memory exercise. If there's not time, tell them to try the exercise on their own -- they'll be amazed at how well they can remember!

Use the substitution technique to memorize the ten memory principles. Each is listed below with a space next to it for you to draw a picture or write a word which will help you remember each item. After you've completed your substitutions, take a few minutes to memorize, then flip this page over and surprise yourself at how well you remember the ten memory principles.

1.	Interest	
2.	Selection	
3.	Attention	
4.	Understanding	
5.	Intention to Remember	
6.	Confidence	
7.	Association	
8.	Background of Experience	
9.	Organization	
J.	•	
10.	Practice	



Here's an example of how the memory exercise works.		
1.	Interest	% percent symbol
2.	Selection	Imagine yourself selecting an object you like such as a piece of candy from an assorted box of chocolates
3.	Attention	Think of a soldier standing at attention
4.	Understanding	Picture a person under a stand
 5.	Intention to Remember	Imagine a person in a tent with a light bulb over his or her head
6.	Confidence	Picture a person with their chest out
7.	Association	Imagine an association you belong to
8.	Background	Think about someone lying on their back on the ground
9.	Organization	Picture an organization chart, or an open file drawer that is organized.
10.	Practice	Imagine someone practicing on a musical instrument or practicing a sport.



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Memory Exercise (cont'd)

INSTRUCTOR OUTLINE

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Participants have numbered statements and blank space for notes

Keep a dictionary within easy reach

DISCUSSION

Tom Peters the management guru recognized the importance of this factor in a speech. He said that he had One of those beautiful big dictionaries that never got pulled off the shelf to use. He placed it on a stand in a prominent place and claims that if you can't help tripping over it you'll use it. Can you remember seeing one of those amazingly big dictionaries in a library from your childhood or even now? Don't they get used because of their accessibility?



PRACTICE ALPHABETICAL ORDER

DISCUSSION

All dictionaries are arranged in alphabetical order. Imagine trying to find a word in a 500,000 word dictionary with a simple system of order. So working quickly with the alphabet makes dictionary use easier. If you have to say the entire alphabet to find a particular letter, this will slow you down too much. Dividing the alphabet into sections can help. Then grouping the letters can lead to the approximate area of the dictionary in which to start the word search.

Two ways that might help:

If the word begins with b, look toward the front
If the word begins with m, look toward the middle
If the word begins with s, look toward the back of the dictionary

Another method groups the letters of the alphabet into sections:

- 1. A B C D E F G
- 2. H I J K
- 3. L M N O P
- 4. Q R S T U V
- 5. W X Y Z

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Now practice picturing these sections in your mind. The next time you need to look something up in the dictionary, the phone book, the glossary of a manual, or a street name on a map.



PUTTING WORDS IN ALPHABETICAL ORDER

DISCUSSION

Keep the alphabet and the techniques above in mind when alphabetizing words, names etc. Practice with putting words in order helps when finding a word quickly.

Participants should place words in order on the lines provided on their page. They may need guidance as to crossing words off first list as they are placed in alpha order on the line etc.

need guidance as to crossing words off first list as they are placed in a line etc.

Alphabetize these TRW words.

angular
blend
chrome
dresser
extrude
forge
gage
hub
idlers
jam
mike

If words all begin with the same letter then the second letter determines the alphabetical order.

Words can share the same first, second and possibly third letters. It then becomes the first letter that is different that determines the alphabetical order.

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profile

shaved

taper

valve

wheel

PRACTICE

If words all begin with the same letter, then the second letter determines the alphabetical order.

Circle the letter or letters in the words that determine how these words were ordered:

"G" List

gage

generator

girder

girth

grind

grinder

groove

ACTIVITY 1

Activity 1 will give some hints, techniques and practice with alphabetization. Some people seem to have an easier time with this. It is a skill that can be reviewed and improved.



ACTIVITY 1

Alphabetize a set of TRW Employees Daily Production Reports.

HINT: Separate (and alphabetize) these names in groups then rearrange them in alphabetical order.

Example:

- Names beginning with " Robb"
- Names beginning with "Robert"Names beginning with "Robi"
- Names beginning with "Rod" and so on...

Key to Alphabatization Activity

Robberstein, D

Robbins, M

Roberts, J

Robertsen, J

Robertson, T

Robin, A

Robinson, G

Rodgers, K

Rodriguez, H

Rodriguez, R

Rogers, S

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IMPROVE YOUR READING: IMPROVE YOUR JOB by Jeanne M. Miller



USING THE DICTIONARY WITH EASE

DISCUSSION

It is easy to assume that adult learners are skilled in the routine use of the dictionary. Yet many people have worked hard to avoid using the dictionary. Time constraints in the course prevent in depth exploration of some essential English language components. We will not teach parts of speech. This will come up in the review of the dictionary page. Please spend time depending on the needs of your class while keeping in mind the overall time constraints of the sessions. Parts of speech will surface later in suffix session and may be further tied to the dictionary skills at that time.

Review the components of a dictionary page



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The Dictionary

15 Ways a Dictionary Can Energize Your Reading

•	_
🗗 Guide Words——————	sinistor/stren
(1st & last words on .	
a page)	sin-is-ter (sin'i ster) adj. [< L. sinister, left hand] 1. threatening harm, evil, or trouble 2. bad, wicked, evil 3. orig.,
☑ Word Meanings——	of or on the left side
(definitions)	SYN. base, disastrous, foretelling danger
· · · · · · · · · · · · · · · · · · ·	mink (singk) vi. (OE. minem) 1. to fall
Read all the meanings	downlind alowly 2. to become partly or expletely submerged in water 3. to become lower or weaker in value 4. to ap-
given. Then choose the	come lower or weaker in value 4. to ep- pear to go down, as the sun 5. to page
most suitable one for	Aradually into a less active etete (eleep,
your use.	ill-health, etc.) vt. 1. to cause to fell, make go down, under, lower, or weeker
	/ 2 to did a well 3. to send (& Dell) in-
Pronunciations \	to a hole or pocket in golf, billierds, banketball, etc. 4. to invest moviey
/	n. 1. a basin with a dreinpipe 2. a cess- pool or sewer 3. Printing the extre
☑ Syllabication / / / / / / / / / / / / / / / / / / /	space left at the top of the page for the
(division of words into	heginnings of a chapter, etc. Idiom slipk or swim. to fail or succeed, depend-
syllables or parts)	ing on one's own efforts
	eink-or (sing ker) n. 1. a person or thing
B' Accents	that sinks 2. a weight used to sink a fishing line 3. [Colloq.] a doughnut
(+ verb and adjective	elnking fund a fund used to extinguish e
(+ verb and adjective	
forms, plurals)	sino- [< LGk. Sinai] a combining form, mean- ing Chinese and (auch as Sino-Japan-
	end meaning Chinese and Jepenese)
☑ Word Origins	sin-u-ste (sin'y50 it) adj. [< L. simucus,
(etymologies)	bent, curwed 1. winding; bent in and out
	leaves
Parts of Speech	
☑ Synonyms //	Sioux (800) n. pl. Sioux (800, 8002) [< Fr.
(See SKILL/23)	short for Nadowersioux < Ojibwa Nadoweisiu anemy lit. little enake] a member of any
	of warious American Indian peoples, esp.
☑ Idioms ·	of the Dakota tribe adj. pertaining to this tribe.
	mire (sir) n. [< L. senior, comp. of menex,
☑ Capitalization	oldy 1. a father or encestor 2. Citie
	of respect used to address a sovereign or king artechaic an important person, or
Usage Labels	one in a position of authority
E confe process	eir-me (se ra') interj., often used with
☑ Subject Labels	
En outjett batels	ai-ren (si'ren) n. [< Gr. Seiren] 1. Gr. ه Roman Myth. any one of a group of see
Illustrations /	nymphe, represented as part bird and part
E IIIUsiiations	woman, that used their singing to lure sailors to their destruction 2. a seduc-
170 Month alman	tive woman 3. a whistle or similar de- vice used as a werning signal
Mythology—	Arcs mess as a marging ardust
MPROVE YOUR JOB by Jeenne M. Miller	

IMPROVE YOUR READING: IMPROVE YOUR JOB by Jeanne M. Miller s iwshapegrantnewcomzcomzsezitrw

CHOOSE THE RIGHT DICTIONARY FOR THE TASK

DISCUSSION: Review how types differ and their specific uses.

Pocket dictionaries

Helpful in situations like work, filling out job applications etc.

Desk Dictionaries

More complete with many more entries and more complete information on each word.

Picture Dictionaries

For pictorial learning situations like identifying animals, skeletal system, and other subjects. Can be fun and informative for pre-readers. Very sophisticated versions of this type of dictionaries exist.

Collegiate Dictionaries

More entries with more complex explanations and word origins. Often includes more colloquial language.

Technical Dictionaries

Used to find special definitions that differ from usual usage of words. This class will focus on the use of these special dictionaries. There are different types of technical dictionaries for different sciences. They can be very expensive and cost prohibits providing these on site in classes. The copies of pages will give the participants a chance to practice with these specialized dictionaries. They could also be encouraged to explore the TRW environment to see if there are technical dictionaries in the plant.



TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 3

- The Process and Types of Reading
- Active and Passive Reading
- Skimming and Scanning
- Technical Vocabulary Building System



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INSTRUCTOR NOTE

IN SESSION 4, PARTICIPANTS WILL NEED TO USE TRW MANUALS IN CLASS. PLEASE STRONGLY ENCOURAGE THEM TO BRING <u>ANY MANUALS</u> THEY CAN FIND TO THEIR NEXT CLASS. THANKS!

INSTRUCTOR OUTLINE

THE READING PROCESS

HANDOUT

Have participants start the Module with the "Reading Fact Quiz"

Participants have blanks for notetaking!

ACTIVE READING

Reading with a purpose has been the focus of some of the activities in this course. Knowing the purpose of different reading activities helps move the reader into an **ACTIVE** reading mode.

The active reader is involved in a dialogue with the author. This reading involves asking questions of yourself as you read eg. what's going to happen next; I think so-and-so will do this when they find out; if x is true than how can this be? etc. **BRAINSTORM** other active reading questions.

PASSIVE READING

PASSIVE reading is in direct opposition to active reading. In passive reading the reader merely reads the words on the page. Reasons for reading like this abound. We have discussed concentration problems that may interfere. how about being forced to read something eg. school requirements. **BRAINSTORM** other reasons for passive reading.

Facilitator 3-1

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FOUR AREAS OF READING

Vocabulary

Define

What does that popular radio sales pitch for a Vocabulary improvement system claim "the words you use say a lot about you"?

This may be a pitch to sell you something, but your vocabulary is important to your life and job. Just imagine if your vocabulary did not include the word VALVE or MICROMETER or TOLERANCE? Perhaps these words mean different things since starting to work at TRW, different jobs, industries, cultures, and companies have different vocabularies. This course will encourage the participants to focus on their job-related vocabulary, but systems developed will most probably impact the participants everyday vocabulary. While many "vocabulary building systems" exist, this course will not present any one system. Participants will be encouraged to build their vocabulary within the lessons and individual systems that may emerge could be encouraged.

Vocabulary can be improved!

Comprehension

Define

Comprehension is part of the reading process. It is the act of understanding. Reading is a mental process and because it can not be seen it is difficult to describe. Therefore we try to describe the skills that make up reading. Comprehension is another one of the skills of "good reading " that can be improved. Participants will also work on their comprehension.



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Speed

Define

The rates at which people read differ greatly. Do any native Clevelanders remember Dorothy Fuldheim? As a Broadcaster she interviewed many famous people and frequently talked about the fact that she often read several lengthy books in one day. There are probably ther people who we have observed to be "speed readers." There are many programs people can use if they choose to increase their reading speed. Although speed will not be a focus in this course, it will be important for participants to learn about the different speeds of reading and when each one is most applicable.

Speed can be improved and modified to fit the purpose of our reading

INSTRUCTOR NOTE: Please review SPEED and CONPREHENSION System Notebooks with the class. Participants can work on these readings on their own. The readings can be removed and used at home. The COMM II participants can be encouraged to start at Level C which correlates closely to grade 6. They can work through the previous levels if they so desire.

Concentration

Define

Concentration is another component of the mental process of reading. Internal and external stimuli affect concentration. These were reviewed in session 1.

HANDOUT

ACTIVITY 1 - encouraging participants to review their reading strengths first and then their weaknesses.

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ACTIVITY 1

READING SKILL INVENTORY

Consider the three areas of reading we have discussed:

	COMPREHENSION	SPEED	CONCENTRATION
Which	is the area in which you	have the mo	ost strength?
The m	nost important area of m	y reading tha	t I feel needs improving is:
The a	rea of my reading that I	would most l	ike to improve is:
espe	cially on the job. Many	different cour	ow of strategies to improve these skills rses exist to focus on improving you oving your reading in the near future.

rac



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READING SKILLS

For participants to improve their reading skills they it is helpful for them to:

- Acknowledge that your ability to read efficiently is important to their job and their company.
 - Some people, who believe that they don't "read" on the job, just need help exploring other facets of reading that they may not acknowledge (e.g. skimming, scanning, Process Documents that they read a long time ago etc. May need to BRAINSTORM these).
- A positive attitude- Develop a positive attitude for learning how to read or improving their current abilities.
- Set personal goals for improving your reading as in the Activity.



Use Appendix as guidance for presenting the following sections.

DIFFERENT READING RATES

- SLOW STUDY for difficult communications, following instructions or mastering information.
- NORMAL READING for magazine and newspaper articles, business reports, memos and fiction.
- SKIMMING for grasping the main ideas and for some fiction.
- SCANNING for looking up phone numbers, stock quotations and information on charts and forms



STAGES OF READING

LEARNING TO READ

Stage 1 Focus on identifying and perceiving sounds, letters, and words.

Stage 2 Focus on perceiving groups of words and their meanings.

READING TO LEARN

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Stage 3 Focus on extracting meaning from paragraphs and longer selections.



" GOOD " READING HABITS

- Concentration
 - * Controlling external stimuli
 - * Controlling internal stimuli
- Setting a Purpose
- Setting a Context
 - * Physical Context
 - * Mental Context



RAPID READING

2.	Recognize rapid reading as a selective process.
3.	Understand when to use each of the two rapid reading methods.
4.	Understand how to use each of the two rapid reading methods.
	TWO METHODS OF RAPID READING
1.	SKIMMING
2.	SCANNING

Understand why it's important to read rapidly.

1.



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SKIMMING AND SCANNING

SKIMMING

WHEN

you are required to determine the main idea through attention to signals the writer uses. Use these techniques when skimming.

HOW

- Note titles and subtitles
- Read introduction and conclusion
- Read boldface type and italics
- Look at illustrations, charts, graphs and figures



SCANNING

WHEN

you are required to locate specific detail mixed in with many other details. Use these techniques when scanning.

HOW

- Read down the page (rather than across)
- Using a reading aid, such as a bookmark, to help keep your place if you need it
- Read table of contents and index to locate general information areas
- Read section and column headings to locate specific information areas

TRY IT! SCANNING DRILLS Time the participants as they scan, or have them time themselves.

TIMES:

FAST = under 10 secs MEDIUM = 10-20 secs

NEEDS PRACTICE = over 20 secs

Some readers with scanning difficulties may take over 1 minute to do these drills. Practice

can help!

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COMMUNICATIONS ON THE JOB II

According to the chart below, what taxable investment is equivalent to a 5.50% tax-exempt bond, for the \$16,000 to \$20,000 bracket?

lf your net taxable income (joint return)	\$8.000 is to \$12.000	\$12,000 to \$16.000	\$16,000 to \$20,000	\$20,000 to \$24,000
a tax exempt bond paying	is equivalent to a taxable investment paying			·.
4.00%	5.27%	5.52%	5.78%	6.17%
4.25%	5.61%	5.86%	6.14%	6.56%
4,50%	5,94%	6.21%	6.50%	6.94%
4.75%	6.27%	. 6.55%	6.86%	7.33%
5.00%	6.60%	6.90%	7.23%	7.72%
5.25%	6.93%	7.24%	7.58%	8.10%
5.50%	7.26%	7.59%	7.95%	8.49%
5.75%	7.59%	7.93%	8.31%	8.87%
6.00%	7.92%	8.27%	8.67%	9.26%
6.25%	8.25%	8.62%	9.03%	9.64%
6.50%	8.57%	8.96%	9.39%	10.03%

Data: J. & Hanaver & Co

Anso rog edibothnuf and suf-gianin and neuse troughly



S.\WSHARE\GRANT\NEWCOMM2\COM2M3 TRW 1/93

According to the index sample below, on what page of the book would you find a discussion of the uses of polyethylene?

Parity, law of, disproven, 47 Particle accelerators. See Atom-smashers Particle theory of matter, 12, 125-126 Particles. See Atomic particles Pascal, Blaise, 54, 56, 76 Pauli, Wolfgang, 125 Peking man, 12 Percy, Marguerite, 129 Perier, Florin, 54 Periodic table of elements, 36-38, 124, 127 Petroleum, 73 Phenolics, 112 Philosopher's Stone, 15, 19, 21, 26 Phlogiston theory, cartoon 31, 32-33 Phosphates, 140 Phosphorus, 26, 30, 140; white, discovery of, Photon, 154; creation and decay of, 155 Physics, modern specialties, 10, 41; education and careers, 41, 48 Pi mesons, diagram 154, 156. See also ...'ion Pictet, Raoul, 59 Pile, nuclear, 173 Pion (pi-meson), 156, 157 Pitchblende (uranium ore), 8, 120, 141 Planck, Max, 124 Plasma particles, 176; controlled fusion of, as potential power source, 10-11, 177-178; fusion of, diagram 174, 176-177, 177; generation of electricity, 179; in nature, 45, 176; possible confinement of, 11, 45, diagram 178, 179; record temperatures achieved, 11 Plasma state of matter, 10, 45, 176, 179 Plastics, 108, 175; production, 110-111, 114, 115; raw materials for, 112; uses of, 112-113, 116 Platinum, 134, 135, 143; uses of, 135 Plutonium, 126, 148; high fissionability, 172-173, 174 Pneumatic air hammer, diagram 54

Polarization, 74

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Polon: 421, 140, 141; discovery of, 120, 141; radioactivity, diagram 120, 141 Polonium 212, haif life, 170 Polyesters, 112 Polyethylene: production, 115; uses of, 113 Polyfluorocarbons, 112 Polymerization, 10th, 110-111, 112 Polymers, 107-108, 111, 112 Potyolefius: row misterials for, 112; uses of, 112 Polyetyrenes: production of, 110-111; raw materials for, 112 Polyurethanes: raw materials for, 112; uses of, 113 Polyvinyl chloride: production of, 110-111; uses of. 113 Positron, 154-155, diagram 154; creation of, 155 Potash, 129. See also Potassium Potassium, 36, 128, 129; radioactivity, 129 Potassium aluminum sulphate. See Alum Powell, C. F., 156 Praseodymium, 147 Prehistoric man, acquaintance with and use of matter, 12, 30, 134, 137; bronze, 10; minerals, 12, 13; transformations of matter, 13 Pressure cooking, 80, 81 Pretiosa Margarita Novella, 12 Priestley, Joseph, cartoon 31, 33, 56 Principia, Newton, 30, 75 Principles of Chemistry, Mendeleyev, 36 "Probability" waves, 158 Promethium, 37, 146; oxide, 146 Protactinium, 148; oxide, 148 Protium, 153 Proton(s), 10, 12, 16, 151, 154; bombardment of atoms with, 161-162, 163-164; charge, 152; determine atomic numbers of elements, 38, 126; held by nuclear force, 155-156, *157*, 170

Answer: page one hundred thirteen

Facilitator 3-13



Pupin, Michael, 180

TRW SCANNING DRILLS FOR PRACTICE

PLEASE USE HERE IF TIME PERMITS. IF NOT, START NEXT SESSION WITH THESE AS A SCANNING REVIEW AND PRACTICE.

TIME FOR TOTAL EXERCISE APPROX 15 MIN WITH DISCUSSION

INSTRUCTOR NOTES

SHWS: VREIGRANTINEWCOMM2/COM2M3 TRW 1/93

Here are 10 scaning drills for practice. All documents are official TRW documents. Have participants time themselves with available time pieces. They record or jot down (anywhere on their sheet) how long it took to find the answer not including the time to right it down. It is very effective to circle the answer on the document. This is fine. They can keep these drills or hand them back. They can be reused for other classes if they haven't been marked on.



Have participants retake the "quiz" and see if the information in this unit helped them change fallacies to a new understanding of the reading process.

FALLACIES ABOUT READING

BECOME

FACTS ABOUT READING

Discuss responses and where these fallacies come from. Did the information in this session help turn these fallacies into facts?

Reading is learned only at an early age?

T

F

All material should be read in the same way?

T

F

A person has to read every word to be "GOOD" reader?

T

F



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JOB RELATED VOCABULARY IMPROVEMENT

Building job related vocabulary starts with words that you already know. Words and terms used on the job may look like words you use outside of work everyday.

That's important to remember. Start by thinking of the definition that you have used outside of the job. Then think of the way you have either read or seen the word at work. This will also give you a clue to it's job related meaning.

Use your new and tuned up dictionary skills. You probably have a "regular" dictionary on hand. Look the word up there. Review the definitions given. Separate the everyday uses from any that may be close to your job related use of this word. You need to be creative in finding the way the definitions fit. This dictionary may not reveal a definition that is job related. That will tell you that your word has a special technical meaning.

This dictionary may not reveal the job related definition of your word. You now need to find a new source for definitions. Let's take a look at some possibilities. Could you find a Technical Dictionary? Would a manual with a glossary help? What about asking a "seasoned" co-worker? Take a few moments to discuss these methods with the class. Rank them in the order that the class thinks would help find the most correct definition.

	in annal and b	ad about ea	ch method:	
Discuss what	is good and b	au about ea		
Discuss what	is good and b			

Facilitator 3-16

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OVERVIEW OF JOB VOCABULARY WORD SEARCH

Steps in review:

- 1. Think of "regular" use
- 2. Look up the "regular" definition
- 3. Find:
 - a. job related dictionary
 - b. manual with glossary
 - c. co-worker with the definition

Have participants do Steps 1&2 in class. Send them out with Step 3 as homework assignment. They may tell you that these other items in Step 3 are impossible to find. Encourage them to be resourceful! They may be able to come up with something, at least Step 3c.

CLASS ACTIVITY

Do Steps 1 & 2 and write down definitions for the following words. Use the space below.

Plant		
Step	1	
Step	2	
Valve	1	
	2	
	۷	
Jam	1	
	2	
Mean	1	
	2	

You will continue on to the next steps with your assignment! GOOD LUCK!!

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APPENDIX

FACILITATOR MATERIAL ON GOOD READING HABITS ETC



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TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 4

- Homophones and Homographs
- Previewing
- Job-related Vocabulary Improvement



HOMOPHONES AND HOMOGRAPHS

HOMOPHONES

DEFINE: homophones are words that sound alike no matter how they are spelled.

Breaking down the word homophones helps define it.

Homo=same

phones= individual speech sounds.

There are hundreds of homophones in the English language.

WHY LEARN ABOUT HOMOPHONES?

Knowing that they will appear can help a reader more sense of what they read.

Knowing the different pairs or multiple homophones of a word can also prevent using the wrong word in written communication.

The following list presents many common **homophones**. Learning their meanings and spellings can improve participants vocabularies.



EXAMPLES:

To review the spelling and meanings of these homophones.

- aloud=with the voice
- allowed=permitted
- board=a flat piece of wood; a group of administrators
- bored=tired of a dull activity
- billed=charged
- build=construct
- cite=to summon to appear in court; to quote or refer to a passage
- sight=act of seeing
- site=place
- ciose=shut
- clothes=dress
- complement=something that completes
- compliment=expression of courtesy
- descent=downward motion; ancestry
- dissent=disagreement
- lean=to bend the body or rely on another
- lien=acclaim on property as security against payment of a debt
- naval=related to ships, the navy
- navel=depression in the middle of the stomach from the umbilical cord
- pore=opening
- pour=cause liquid to flow

IMPROVE YOUR READING: IMPROVE YOUR JOB by Jeanne M. Miller

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- pride=self-esteem
- pried=showed inquisitiveness; moved with a lever
- principal=a main person or thing
- principle=basic truth or rule of conduct
- soar=rise high
- sore=painful, tender
- stationary=not moving
- stationery=writing materials
- their=belonging to or done by them
- there=place
- they're=contraction of they are
- threw=tossed
- through=in one side and out the other

NOTE: Don't confuse through with thorough, which means complete!

- to=in a direction toward
- too=also; more than enough
- two=the second number
- vial=bottle
- vile=wicked
- viol=musical (stringed) instrument

IMPROVE YOUR READING: IMPROVE YOUR JOB by Jeanne M. Miller

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ACTIVITY 1

Practice with the above list of homophones. Have participants choose the words that best fill the blanks.

NOTE:If these words are at a challenging reading level, have participants do it in small groups or out loud together.

1.	The new drapes v	villt	the conference ro	oom.	
2. '	The future	of the firm	's headquarters	is still undeterr	mined.
3.	Theo	f racial equality	will be fostered	in this workpla	ce at all times.
4.	The lab techniciar	n will now	the serum	into the	·
5.	Worker	over relocatir	ng was reducing	the departmen	t's morale.
6.	The sales assista	nts promptly or	dered	_new	_from Office Supply.
7.	The bank was for	ced to put a	on the	company's ne	w parking structure.
8.	Each month I will newsletter.	exa	amples of emplo	yee innovation	in the company
9.	Produce prices w	villb	ecause of the Fl	orida freeze.	
10). Het	he department	\$300 for the cop	y paper.	
1.	complement	2. site			
3.	principle	4. pour, vial			
5.	dissent	6. their, station	ary		
7.	lien	8. cite			
9.	soar	10. billed			
IM	PROVE YOUR READING:	IMPROVE YOUR JOE	B by Jeanne M. Miller		



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HOMOGRAPHS

DEFINE:

Breaking down the word Homograph can help to explain it's meaning. Homo=same graphs= something written. Thus homographs are words that are written (or spelled) the same but sound different.

A tear you shed over a tear in your shirt is a good example.

There are basically three types of homographs.

Some homographs are not related at all in meanings: 1)

> bass= a type of fish bass= the lowest singing voice or musical instrument.

• These tend to be Anglo-Saxon in origin and one syllable in length.

BRAINSTORM

Especially work-related examples. OTHERS

Others are distantly related by root words but have diverged 2) in meaning:

desert= dry, barren land desert= abandon

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BRAINSTORM OTHERS



The majority of homographs have the same basic meaning but are pronounced differently. The syllable stress may vary or the vowel sound may change. Their use as parts of speech may also vary.

read= to process written words read= past tense of read

BRAINSTORM THOSE BELOW AND OTHERS

Especially work-related examples.

permit= to grant permission (v) permit= a written permission (n)

separate= to keep apart (v) separate= detached; apart from (adj)

defect= a flaw (n)
defect= to leave without consent (v)



PREVIEWING Appendix A presents detailed reference on Previewing

Different reading skills have been discussed in this program. One technique that will help with recalling facts is previewing. It is easily learned and very helpful. It helps the reader become familiar with material before actually reading it. Technical reading can especially be tackled more easily with this method.

Previewing is like seeing beforehand.

Previewing before reading is like consulting a map before taking a long trip.

Previewing gives us:

- * a fast impression
- * a quick survey
- * a concise overview

Why Preview?

- * to identify topic and thoughts
- * to see how the material is organized
- * to make it easier to pick out details when we read
- * to focus our thoughts so we can concentrate on the material

better



HOW TO PREVIEW

* Articles

Read title
Read headings if there are any.
Read first several paragraphs.
Quickly read the first sentence of each of the remaining paragraphs
Read final few paragraphs.

ACTIVITY 6

Handout SPC ARTICLE

HOW TO PREVIEW

* Chapters

Read title Read headings and sub headings Look for and read:

> Objectives Introduction Summary

ACTIVITY 7

INTERACTIVE COURSEWARE BOOKS

HOW TO PREVIEW

* Manuals

Skim preface or introductory section Look over Table of Contents

ACTIVITY 8

TRW MANUAL

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VOCABULARY #1

Shear .	 		
Gage	 		
Disamo			
Burrs	 		
Taper			
Blend			
		-	
Chrome			
Forge			



TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 5

- Prefixes and Suffixes, Synonyms and Antonyms
- Identifying Main Ideas, Topics, and Details
- Job-related Vocabulary Improvement



WORD STRUCTURE

INSTRUCTOR OUTLINE

The dictionary work has helped participants recognize different words and their parts of speech. Let's now look at the structure of words.

Knowing how words are built, also helps vocabulary building. Participants can learn how to figure out new words by discovering how the structure of words gives clues to their meanings.

Word parts are: (participants have outline with the word parts in the order in which they build words).

prefixes

roots

suffixes

Define each:

ROOT - the main part of the word which provides the basic meaning of that word.

PREFIX - one or more letters added to the front of a word to make a new word. They usually change the meaning of the root word.

SUFFIX - a part that is added to the end of a root word. They usually don't change the meaning but do change the part of speech of the root word.

Prefixes and suffixes are never used alone.



Roots will be presented first since they are the first building block of words. ROOTS:

The parts of words that were just presented are important keys to discovering the meanings of words. The root is the only essential part of any word. If the other parts can be removed, they are most likely prefixes or suffixes. As was pointed out before, those word parts cannot stand alone. Because the English language is made up of root words from other languages, such as Greek and Latin, the root word that ends up standing alone may not actually make sense unless it's derivation is understood.

The easiest way to understand roots is to see them and review their meanings. The following roots and their meanings can provide participants with the keys to unlock the meanings of many words, even in more difficult and technical readings.

WORD PART	MEANING	EXAMPLE	YOUR EXAMPLE
audi	to hear	audio	
auto	self	automobile	
bio	life	biology	
cide	to kill	pesticide	
cred	to believe	credit	
dic	to speak; tell; say	dictate	
duc	lead; make; shape	reproduce	
cap	take or seize; hold	capacity	
(capt)		captive	
fac	do, make	facsimile	
fer	bear or carry	transfer	
graph	write	paragraph	
logos	speech or science	prologue	



Facilitator 5-2

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(ology)	study of	microbiology	
luc	light; shine	translucent	
		luminous	
miss	send	dismiss	
(mit)		remit	
path	suffering; emotions	pathetic	
phobia	fear	zoophobia	
phono	sound	megaphone	
port	carry	portable	
scribe	write	scribble	
(script)		Scripture	
spec	look	spectator	
vers	turn	conversion	
vita	life	vitality	
(viv)		vivify	



PREFIXES

This section will explore only some of the most common prefixes.

BRAINSTORM well known prefixes. Hopefully this unit will define the ones that come up. The specific definitions to common prefixes may be assumed to be understood but difficult to define. Be sure that by the end that the prefixes that came up in this brainstorm session have been defined.

SINGLE **MEANING PREFIXES**

Some prefixes have only one meaning while others may have multiple meanings.

Prefixes that always mean NOT:

NON	nonacid nondrinker nonunion	nonsense nonsmoker nonfat
UN	uncoated unapproved unfinished	unprotected unaccepted unordered

In some dictionaries these words will not be defined because the meanings are simply a sum of the prefix and the root word.

PREFIXES IN

Review how dictionaries cover prefixes. Most do not give definitions THE DICTIONARY of every prefix word. Discuss methods for finding the words that do not have definitions given.



MULTIPLE MEANING PREFIXES

Prefixes that mean NOT but have more than one meaning:

DIS=NOT in these words:

distrust dislike dishonest dissimilar

DIS=LACK OF/ OR OPPOSITE OF

disrespect

disfavor

disregard

disarray

BRAINSTORM: others, especially work related examples!

ACTIVITY 1:

" DIS " ACTIVITY

Have participants:

Look at the list of words. Think about what each word means. Circle each word in which DIS means LACK OF OR OPPOSITE OF

1) discomfort

LO

6) disagree

2) disallow

7) disassemble

00

3) disadvantage

00

8) disrobe

00

4) disarm

00

9) dismount

00

5) disobey

10) disorder

LO

INSTRUCTOR KEY: LO = LACK OF OO = OPPOSITE OF

Note: These may be confusing but if dictionary definitions are checked, the words indicated will have dis = not.

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Other multiple

IN=not

meaning PREFIXES:

inactive

indirect

incomplete

insane

IN=in or into

inlay

inscribe

inclose

insert

Note: Yes inclose is a word! Have participants look it up in

dictionary if questioned.

IN=IM

when it comes before b, m, and p. It has the same two

meanings as IN.

IM=NOT

impure

immortal

IM=IN or INTO

imbed

impress

MIS=WRONG or WRONGLY/ or BAD OR BADLY

misspell= spell wrong

misrule= rule badly

misinform= give wrong information

RE=ANEW/AGAIN/BACK

reinvest

resale

rebore

rechrome

BRAINSTORM: others, especially work related examples!

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MORE Prefixes

INTER=BETWEEN

and their meanings:

interdepartmental interscholastic

INTRA=WITHIN

intramural intrastate

EX=OUT FROM, AWAY

excise

exwife

export

HYPER=OVER OR ABOVE NORMAL

hyperactive hypercritical

PRE=BEFORE

precooked prefix !!!

REVIEW classes initial list to be sure all prefixes that came out of initial brainstorming session were covered.



SUFFIXES

Like prefixes, suffixes cannot stand alone. They usually change a root word's part of speech. The common suffixes are covered here. As before it may be helpful to **BRAINSTORM** as many as possible and then make sure these are covered.

These suffixes will be presented in groups with the root tense in common. This class did not cover parts of speech. It is helpful to present suffixes in the way they modify words by showing how the root word changes to a different part of speech.

SUFFIX	ADDED TO	MAKES	MEANS
-LESS	noun	adjective	without something helpless topless
-ISH	noun	adjective	somewhat like something foolish boyish
-FUL -OUS -Y	noun	adjective	full of helpful porous smokey
-LY	noun	adverb	like a something ghostly precisely
-ION -SION -TION -MENT	verb	nouns	state of being something employment revision



Participants do not have following--for instructor use. Cover if time allows or these examples surface.

SUFFIX	ADDED TO	MAKES	MEANS
-ABLE	verbs	adjectives	can, able marketable
-IBLE			flexible
-ER	verbs	nouns	one who
-OR			driver counselor
-IZE	adjectives	verbs	cause to be
-FY			something
-EN			unionize strengthen simplify
REVIEW	Any additional v	work-related or brai	instorm suffixes.

Any additional work-related or brainstorm suffixes.



SYNONYMS

A) define:

words that have the same, or almost the same, meaning.

- B) What do synonyms do? They make our language more:
- 1) efficient
- 2) interesting
- 3) precise

BRAINSTORM some common ones, especially work-related.

Others:

modify=change

measure=gauge

plant=factory

automobile=car

valve=tap

work=labor

Reading is more efficient the more synonyms you know.

C) Sources for finding synonyms:

- 1) Dictionaries- many list synonyms at the end of the definition by giving a bold italicized **Syn**.
- 2) Thesaurus- a book with words grouped by ideas. In a dictionary you start with a word and look it up. In a thesaurus you start with an idea and find closest word or synonym to express it.

PRACTICE with thesaurus. Have participants write down job-related words. Have partners challenge each other to find the most synonyms for a word.

Crossword buffs are "pros" at synonyms! Explore!



ANTONYMS

Define: words that have opposite meanings.

common antonyms especially job related ones as in BRAINSTORM safety and dangerous.

EXAMPLES:

succeed - fail help - hinder specific-general erratic - regular usable- scrap revenue- expenses

PRACTICE use dictionaries and partners as in synonym practice session.



STRUCTURE OF NON-FICTION/TECHNICAL READING

Participants have a fact or fantasy question to indicate understanding of non-fiction. Have them answer and review with definitions.

Define non-fiction and fiction. These are commonly confused terms. Technical reading can easily be categorized as non-fiction. Fiction, although it might be more fun, will not be our focus.

Structure Overview:

Topic

Main thought

Details

This first activity will start the participants in the process of identifying structure.

Activity 1 Group activity to identify topic. A general subject reading.



ACTIVITY 1

Each person read the following and then discuss the question with the group.

Nevertheless, saving is primarily done by an entirely different group: by individuals, by families, by households. An individual may wish to save for a great variety of reasons: to provide for his old age or for a future expenditure (a vacation or an automobile). Or he may feel insecure and wish to guard against a rainy day. Or he may wish to leave an estate to his children. Or he may be an eighty-year old miser who enjoys the act of accumulating wealth for its own sake. Or he may already have signed himself up to a savings program because an insurance salesman was persuasive. Or he may desire the power that greater wealth brings. Or thrift may simply be a habit, almost a conditioned reflex, whose origin he does not himself know.

What is the general topic of this reading selection?

0----

<u>Savings</u>	
A more specific topic m	night be:
	The different reasons people save.



Topic - the subject or theme of a reading, discussion or conversation. Set by the author. It may be obvious and stated in the tile, or the reader may have to delve deeper into several paragraphs to discover the topic. Being as specific as possible when identifying the topic helps lead to finding the main thought more easily.

Questions to ask to determine the topic:

What is the author writing about?

Is the topic stated in the title?

Is it contained in a heading?

Can it be found in the first sentence of a paragraph or in the first paragraph of a longer more technical selection?

ACTIVITY 2 This activity will help participants determine the specific topic.



ACTIVITY 2

DIAL INDICATORS

The principle of direct reading form a pointer and a graduated dial delivers the accuracy and speed needed in out plant's inspection and manufacturing operations. The dial indicator is used on all types of special and standard gaging equipment. Some dial indicators are direct reading and others serve as comparators showing plus or minus variations in size.

A dial indicator by itself can do nothing. It must be mounted and set properly before it can be used in checking or measuring work.

The specific topic is:	
	How dial indicators are used



Main Thought - Generalizations about the topic

The main thought says what the author thinks about the topic. As writing becomes more complex it may become more difficult to pick out the main thought. The author may never explicitly reveal it.

Questions to ask:

What does the author think about the topic.

Is it the same as what I think?

Does the author's main thought cause me to consider changing my mind?

Where is the main thought found?

Is it explicitly stated

- in the first sentence or paragraph?

Is it implicitly stated? Define Implicit

- the reader must search for and add up details to pick up the main thought.

ACTIVITY 3 Two readings to practice finding the main thought.

ACTIVITY 4 One is a generic Intro to SPC, the other comes from Zircoa materials.



ACTIVITY 3

COMMON AND SPECIAL CAUSES

Dr. Walter Shewhart of The Bell Laboratories, while studying process data in the 1920's, first made the distinction between controlled and uncontrolled variation, due to what we call common and special causes. He developed a simple but powerful tool to dynamically separate the two - The Control Chart. Since that time, Control Charts have been used successfully in a wide variety of process control situations, both in the U.S. and other countries - notably Japan.

Several types of control charts have been developed to analyze both variables and attributes. However, all control charts have the same two primary functions and are prepared and analyzed according to the same basic outline. The two functions are:

- To signal the presence of special causes of variation so that corrective action can be taken to bring the process into a state of statistical control.
- To give evidence whether a process has been operating in a state of statistical control so that a meaningful assessment of its capability to meet engineering specifications can be made.

The	specific	topic is	Use of	Control	charts
The	main thou	ght is: <u>Wh</u>	y control char	ts are use	od
			<u> </u>		



Activity 4

The main responsibility of a floor inspector is to perform quality audits and to keep records. The inspector's duties vary greatly in certain areas. Valve lines and automation are generally about the same. Duties in rotocaps, caps, heat treat, forge shop and weld lab vary greatly due to either product line or procedures exclusive to that area.

All floor inspectors must have a very good knowledge of customer quality acceptance standards, customer visual defect acceptance standards, use and set up of all types of gages and use of Rockwell hardness testers. Certain areas require the use of visual pyrometers, link testers, Rimacs, Brinell scopes, optical comparators, micrometers, calipers and microscopes. A floor inspector must have a good working knowledge of blueprints, routings, gage layouts and heat treat abstract procedure.

A floor inspector is required to make decisions on the acceptability of parts slightly out-of-print or with visual defects. He must be familiar with the acceptable variation that a given customer will accept and, if questionable, to consult with his supervisor on disposition.

A floor inspector is responsible for disposal of any scrap parts on his lines. He utilizes locked scrap tubs for each VMS of steel and must keep records of the number of scrap parts for each FR. He must also determine the department or operation causing the scrap and using a code for location and defect, enter it into the computer.

The floor inspector thus ensures that parts leaving his lines will meet acceptable quality atandards, both visually and dimensionally. He also keeps records of sudits performed and ensures that parts not meeting these standards are either repaired or sorted and unacceptable parts scrapped.

The	spe	cific	topic	is:
-----	-----	-------	-------	-----

The responsibilities of floor inspectors.

The main thought is:

The floor inspector is an important part of quality parts



Support the main thought Details Explain the main thought Describe the main thought

Question to ask: What does the author use to develop and support his/her main idea?

What details do:

* explain * support

* clarify * validate

* describe * prove

Details answer the questions:

* Who

* What

* Where

* How

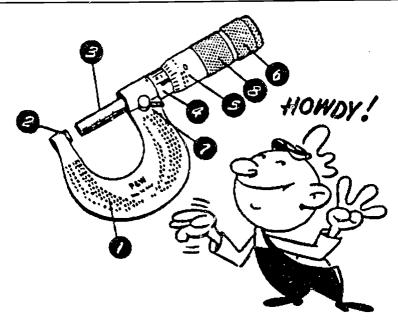
BRAINSTORM any others? When? How much?

ACTIVITY 5 Somewhat different. Asks participants to write down specific details after reading.

S WSHARE GRANT WEWCOMM21 TRWCOM2SESS J. TRW 1/93 Facilitator 5-19



ACTIVITY 5



GET ACQUAINTED WITH IT!

So that you can meet the most essential parts of a "Mike" and know them by their right names, as we refer to them later, we've numbered the different parts as illustrated above.

The FRAME (1) is the foundation on which the micrometer is built. The ANVIL (2) is set in the Frame and is one of the contact faces for taking measurements. The end of the SPINDLE (3) is the other measuring face. The SPINDLE (3) is threaded in the HUB (4) permitting it to be turned to or from the part being measured. The THIMBLE (5) is fastened on the SPINDLE (3) and securely held by the RATCHET CAP (6). The RATCHET CAP (6) permits a uniform pressure in taking readings. The CAM LOCK (7) holds SPINDLE (3) at any desired measuring position.

SAWSHARE/GRANT/NEWCOMM2/TRW/COM2SESS/TRW 1/93 Facilitator 5-20



The specific topic is:
Parts of the Micrometer
The main thought is:
Importance of knowing the names of parts of mike
The specific details are:
1. Frame
2. Spindle Measuring Face
3. Spindle Threaded End
4. Hub
4. Mub
5. Thimble
6. Rachet Cap
7. Cam Lock, etc.?
S WSHAREGRANTNEWCOMM2TRMCOM2SESSITRW 1/03 Facilitator 5-21



VOCABULARY # 2

Profile			
Barrel	 		
Rotary			
Plating	 		
Dresser	 		
	 · · · · · · · · · · · · · · · · · · ·		
Exhaust			
Clutch			
			



TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 6

- Following Instructions, Drawing Logical Conclusions
- Reading and Writing: Memos, Processes and Procedures
- Job-related Vocabulary Improvement



FOLLOWING INSTRUCTIONS

How many times have we heard or used the old adage "when all else fails read the directions!"? These words are important. Yet how often, especially at work, do we follow this advice? Not relying on directions or instructions for tasks that are routine may be the quickest way of doing something. Using these old habits may prove dangerous when a new process, procedure or machine sits in front of you.

Encourage participants to discuss this adage. Do they live their lives by it or totally ignore the instructions? These differences can be based on an individual's preferred learning styles, their upbringing, their mentors, trainers, company values and/or company environment.

WHY FOLLOW INSTRUCTIONS?

BRAINSTORM THESE RESPONSES AND ANY OTHERS!!

Safety for self injuries etc.

Safety for others next person to get or use equipment or product

Safety for equipment responsible for costly breakdowns or repairs

Safety of the process costly defects/rejects next customer in process (internal or external)



TECHNICAL INSTRUCTIONS

It is common knowledge that many technical manuals and instructions are poorly written and difficult to follow. This leads to their lack of use. Many companies try to rewrite procedures and instructions to make them easier to use and increase the usage of these written materials.

Standard Operating Procedures will be explored in a later session.

STEPS TO SIMPLIFY INSTRUCTIONS

Instructions may be written in an orderly easy to read format. These usually include numbers, a logical sequence and easy to understand language.

Example: 1. Complete all information on form.

2. Sign and date form.

3. Mail form to this address _____, in envelope provided.

The form may end up being impossible but the directions are clear.

In most cases the order in which the steps are preformed is very important. What if step 3 above was performed before steps 1 or 2? Often a routine task (esp. at work) becomes so automatic that the steps are hard to explain. When you think of the steps of a procedure, explain and order the steps as if you were guiding a person who had never done the task. Keep their safety in mind! The next set of instructions need to be placed in the proper order. Give it a try.



ACTIVITY 1

Have Participants place number order in blank space. Discuss: Same order? What if 2 comes after 4 and so on. Are there more steps? Is this specific enough? Do we realize that there are so many steps in such a simple procedure until we try to explain it- or TEACH IT?

TO CHANGE A LIGHT BULB TO A HIGHER WATTAGE:

- 1. Obtain higher watt bulb.
- 2. If old bulb is still lit, turn it off and let it cool. Don't touch hot bulb!
- 3. Leave power to socket off.
- 4. Gently hold bulb and unscrew in counter clockwise motion.
- 5. Place old bulb in a safe place
- 6. Take higher wattage bulb and place into the socket.
- 7. Hold bulb gently and screw clockwise into the socket until tight.
- 8. Turn on power to socket.





ACTIVITY 1

Place these instructions in the proper order. Fill in the correct number of each step in the blank.

TO CHANGE A LIGHT BULB TO A HIGHER WATTAGE:

- 6 Take higher wattage bulb and place into the socket.
- 8 Turn on power to socket.
- 4 Gently hold bulb and unscrew in counter clockwise motion.
- 1 Obtain higher watt bulb.
- 5 Place old bulb in a safe place
- 3 Leave power to socket off.
- 7 Hold bulb gently and screw clockwise into the socket until tight.
- 2 If old bulb is still lit, turn it off and let it cool. Don't touch hot bulb!



STEPS TO SIMPLIFY INSTRUCTIONS (CONT'D)

So far we have looked at instructions that have easy to identify steps. Instructions also come written in paragraph form. These can look very confusing and overwhelming at first. Any set of instructions can be reworked to make them easier to follow. You may already have a method that comes in handy. It may almost be an automatic thinking process.

Here is a method that separates instructions into manageable parts. This method combines the memory systems of association and classification that were presented earlier in this course. It also presents the word **PRAISE** as a mnemonic or memory assisting device. The word PRAISE helps you remember the steps in order. It also reminds you to give yourself credit or **PRAISE** after you successfully use this method.

- 1) P ositive, confident attitude toward being able to accomplish this new or different task or set of instructions. Give yourself credit for past accomplishments.
- 2) R ead all of the instructions before beginning any of them. This gives you the whole picture before bolting headlong into one step.
- 3) A sk yourself and be able to answer

What do I need to accomplish? What am I being asked to do here? What is the desired result or finished product? Why is it important?

- 4) I dentify words that are new, technical or unfamiliar. Use your new and improved dictionary skills.
- 5) S pecial equipment needed? Gather any:
 - equipment (calculator, gloves, cart)
 - materials (procedure manuals, blueprints, batch ticket)
 - <u>information</u> (specifications, computer printouts) needed to perform the task.
- 6) E asy action words singled out that are used in the instructions. Give them special attention. These will be red flag words signaling **ACTIONS** to take!

Example: load the cart.; insert the cutting tool; record the weight.

STEPS TO SIMPLIFY INSTRUCTIONS (CONT'D)

After completing the six PRAISE steps remember to:

• Complete each step of the instructions in the correct order.

If you will use these instructions often:

• Create your own set of instructions to help you remember the steps.

If the instructions are in paragraph form use:

• PRAISE Step 6 - Easy Action Words to help break it up into individual steps. Make one step to a line with it's own verb.

ACTIVITY 2 Try it!

Care of Rules

The steel rule is a precision tool and should be kept in the best condition. This can be accomplished by keeping the rule clean. Whenever the rule is used near or around water or with sweaty hands, the rule should be wiped dry and oiled to prevent rusting. Some of the common abuses which should be avoided are the using of the rule for a screw driver, a scraper, or a pinch bar to pry one part free from another.

Remember! A steel rule is a precision-made measuring tool - use it as such.

1. Keep clean	3. Don't abuse	
2. If wet	no driver	
dry	no scraper	
<u>oil</u>	no pry bar	



CONTEXT

Define and help participants explore the context of reading materials. Many times, while reading, an unfamiliar word crops up. How many times is it possible to figure out it's meaning by gathering clues from the "context". For example: while reading a novel, newspaper, or magazine article a word you've never seen appears. Do you stop to look it up as was suggested in the Dictionary Module? To quickly go on reading, the reader often defines the word by figuring out it's meaning from the words and thoughts around it. Thus the context of the sentence helps determine the meaning of strange or unknown words or ideas.

USING CONTEXT AND DRAWING LOGICAL CONCLUSIONS (Participants have blanks)

To draw logical conclusions requires " active reading " in which a dialogue takes place with the author. The reader is answering questions while reading based on:

- 1) knowledge
- 2) experience
- 3) sound reasoning

These three skills added together = <u>decision making</u> which is the crucial basis for technical reading.

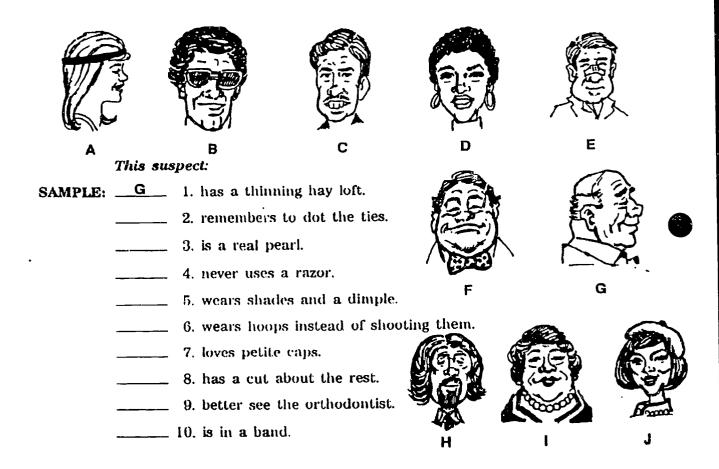
ACTIVITY 3 Context clues

Participants must be "detectives" and use context clues to identify the "suspects".



ACTIVITY 3

To be a successful technical reader, you must be a "detective" and find clues in your reading. Many descriptions and instructions are sketchy and hard to understand. In this activity match the descriptions to the suspects. Fill in the correct letter for each match.



Did you have trouble matching these descriptions to the suspects? To be successful, you had to carefully read the brief descriptions; then search for clues to link them to the illustrations. When reading technical information, even if it is poorly written, you must find clues which improve communication between the writer and the audience.

From: READING AND UNDERSTANDING TECHNICAL INFORMATION by Richard Marsh



ACTIVITY 4

Directions: Use the chart describing the types of fire extinguishers used at Presto Valve to answer the questions on the next page.

Γ	ypes of Fire Extinguishers	
Description	Contains	Used On
	* A *	
Chrome cylinders	2 1/2 pressurized water	Class A fires. Paper, wood.
viui /i	"BC"	-
Short red cylinder with black coneshaped fiber nozzle. Labeled "BC"	5 lb. CO ₂ (carbon dioxide)	Class B and C fires. Oil and electrical. Can be used on Class A fires w/ limited effectiveness.
	"ABC"	
Red cylinder short hose and nozzle. Labeled "ABC"	6 or 10 lb. of dry chemical	Class A, B, and & C fires. Paper, wood, oil and electrical.
	"ABC"	
Red cylinder, short	5 to 10 lb. halon	Computer rooms

Facilitator 6-9

ACTIVITY 4 (continued)

1. You see a fire in a pile of oily rags. The nearest fire extinguishers are a silver-colored one with a hose and a red one with a hose and nozzle. Which should you use?

Red cylinder with black negzle

- 2. Smoke is coming out of your computer. Which fire extinguisher should you use?

 Red cylinder, short -- Halon
- 3. A pile of paper scrap is on fire. The two nearest fire extinguishers are a red one with a black nozzle and a red one with a short hose. Which one should you use?

Red cylinder, short hose and nozzle labeled "ABC"

4. You see a fire in a corner, but aren't sure what is burning. Which would be the best fire extinguisher to use?

Red cylinder, short hose and nozzle labeled "ABC"

Trade Winds In Work Based Education, published by Partners In Education and Training, Baltimore, Maryland



MEMOS AND STANDARD OPERATING PROCEDURES

Overview

As organizations get larger and more complex, and economic hardships forces more companies to operate on a skeletal staff, written communications become more frequent and more important. A worker may need to tell the supervisor about a problem and needs to put the information in writing. A day shift worker may need to give some information to the next shift. Writing a good memo at an appropriate time makes an employee look alert and responsible. Every worker should know how to write a good memo and be comfortable using this form of communication.

Memos were included in the plan for this session. UTC's overview of TRW materials revealed that production employees may not use memos everyday. Perhaps this type of communication is posted on boards or in central locations. Please review the use of memos with the participants and encourage them to see that even if they don't currently use memos they could (and may) become important in their future work.

WHY READ MEMOS?

Reading and understanding memos helps you:

- · Know what's going on around you
- Comply with company rules
- Do your job correctly
- · Prevent accidents
- Respond quickly and confidently to changes in directions, work processes, equipment, materials
- Keep your job

IMPROVE YOUR READING: IMPROVE YOUR JOB by Jeanne M. Miller



Written Communication on the Job

How many times have you heard someone at work say, "Could you write all that down?" or "Put that in writing for me, and I'll get it taken care of"?

Writing is one way to make sure that plans get carried out right, that everyone understands a policy, that people follow safety rules, or that people know what their jobs are. In this session, you'll practice several kinds of writing that many people use on the job.

_	
o?	
)?



Memo Form

Memos are a simple form of writing that many people use on the job. You may not be required to use them yourself, but chances are that they pop up for you to read. If you were more confident in writing them well yourself, you may find a new way to get your good ideas across to others and be listened to.

A memo has some standard features that let the reader know important information about the memo.

Guidelines for Writing a Memo

1. Follow memo format, using theses headings above the message:

TO:

From:

Subject:

Date:

- 2. Use your full name followed by your initials.
- 3. Use the full name of the person or specify the group of people the memo is directed to.
- 4. Make the specific subject of the memo clear in the heading.
- 5. Organize your thoughts carefully before writing your memo. Be sure to include only relevant information. Be sure you give your reader everything he or she needs to know.
- 6. State the purpose of your memo in the first sentence.
- 7. After you write your memo, check it carefully to be sure it is clear, organized and complete. Rewrite it if necessary.

Trade Winds in Work Based Education, published by Partners In Education and Training, Baltimore, Maryland



Model Memo

MEMO

To:

Don Parker

From:

Mercedes Hunter

Subject:

Lateness of February Bank Reconciliation

Date:

March 14, 1986

This memo should explain why I am behind schedule in completing the February bank reconciliation.

The February statement form the first Mercantile Bank does not reconcile with our books. Apparently several errors were made when our deposits were recorded in our books. As a result, the bank statement shows a balance that is \$3,532.31 less than the amount shown on our books.

I understand that the bank reconciliation is to be completed by the fifteenth of each month under normal circumstances. However, I will not be able to finish it until the errors have been corrected and the books for February brought up to date. I am certain that the reconciliation will be finished by March 20. Please see me if you have any questions.

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ACTIVITY: WRITING A MEMO FROM NOTES USE GUIDELINES AND MODEL MEMO

This would be an ideal opportunity for the participants to put an idea or suggestion on paper to submit to the Synchronous Steering Committee. This may be something they have been putting off due to a lack of time or just not having the confidence to put their idea in writing. Perhaps it could become a class goal to see how many suggestions for submission can come out of their class. Thus the instructor's feedback would focus on the format of the writing, not a critique of the idea/suggestion.

If a participant absolutely can not come up with an idea, they should be required to write a memo based on the notes below.

USE YOUR OWN IDEA/SUGGESTION NOTES

SAMPLE NOTES:

Lee has some concern that the heating and cooling in the plant area is not always up to par. Lee has several ideas to help the situation. These are the notes that Lee wants to put into put these ideas in writing. Use Lee's notes to write a memo to submit to the Synchronous Steering Committee.

Heating problems Memo
3-30-93 to Synchronous Steering Committee
My Boss? anyone else?

Keep a copy myself

problem

heat levels not consistent hot and cold patches takes days for the plant temp to catch up to outside conditions hot outside-heat inside still on cold outside- cool ventilation still on

solution/idea

review ventilation diagrams by TRW (Maint?) check air flow with these new Flowmeter machines new ducts off main duct in identified areas

MY NEW IDEA

use heat from forging area as I have shown on the sketch include sketch

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SOP AND PROCESS SECTION NOTES:

Process and procedures are more common on the job. Often times these documents are used as workers learn the job and then are filed away and referred to less frequently. Review the participants use of SOP=Standard Operating Procedures. How do they use them; when are they used; and most importantly; are TRW SOP's written so that they are easily used? **BRAINSTORM** with the participants and use the TRW examples given. Perhaps they could break into groups/teams/pairs and review an example. They could use the **MEMO system**, as well as other new and improved skills from "COMM II", to revamp and improve these documents.

NOTE:

Appendix includes background information on SOPs

SOP'S AND PROCEDURES

Define:

- 1. procedure a set of established forms or methods for conducting the affairs of a business.
- 2. Standard Operating Procedures = SOP

Standard Procedures Process Control = SPPC are basically synonyms for writing specific procedures for a process.

ACTIVITY Analyze TRW SOP s



VOCABULARY # 3

Statistical	
Collet	
Ultrasonic	
CNC	
Induction	
segregator	
Chamfer	
Tolerance	



SOP FOR ACMES

- 1. Stop the machines whenever defects occur...don't continue to make bad parts or defects.
- 2. Make sure center drill is sharp...if not change it.
- 3. Make sure face tool is sharp... if not sharpen or replace.
- 4. Take air hose and blow excess oil and grit out of center hole.
- 5. Check valve under 3 power magnifying glass to determine if valve is good or bad.
- 6. Record and track total number of parts run and total number of defects by FR by shift.
- 7. Repair any center hole defects on drill press.
- 8. Check OD R/O at least 2 times per shift and make needed changes...Don't add cost to valve.
- 9. This means if the center is too large or deep then scrap the valve. If not sure check with supervisor.



STANDARD OPERATING PROCEDURE

DEPT 408-4

WAUKESHA ENGINE AND GENERAL ELECTRIC.

PURPOSE: TO ELIMINATE THE POSSIBILITY OF PARTS WITH OUT OF PRINT SEAT SEGREGATION OF PARTS WITH OUT OF PRINT SEAT RUNOUT RUNOUT FROM BEING PASSED ON TO VISUAL INSPECTION.

S.0.P.

SEAT OPERATORS TO CHECK SEAT RUNOUT 100% DURING OPERATION. PARTS ARE NOT TO EXCEED . 0002 BELOW HIGH LIMIT ON BLUE PRINT UNLESS INSTRUCTED BY SUPERVISOR

ANY PARTS EXCEEDING THIS TOLERANCE ARE TO BE GIVEN TO REPAIRMAN.

ALL PARTS RETURNED FROM REPAIR ARE TO BE GAGED TO VERIFY THAT SEAT RUNOUT IS NOW IN TOLERANCE.

AFTER VERIFICATION THE SEAT OPERATOR WILL SEND REPAIRED PARTS ON TO THE NEXT OPERATION.

AUGUST 8, 1991 TONY LEONARDI

SET UP

- REMOVE ALL VALVES AND SCRAP FROM PREVIOUS F.R.
 - 2. GET SET UP CARD FROM SUPERVISOR
 - . GET TAPES AND PRINTS FROM CRIB
- 4. GET PROPER GAGES SET
- GET NECESSARY TOOLING AND MAKE CHANGES
 - 6. RUN PROGRAM TAPE INTO COMPUTER
- 7. QUALIFY TOOL HOLDERS AS NEEDED
- RUN VALVE AND GET READING FROM CRIB
- 9. MAKE NEEDED ADJUSTMENTS
- TAKE ACID TEST ON STELLITE VALVES ONLY AND ADJUST
- 11. GET FINAL READING FROM CRIB
- 12. GET SUPERVISOR APPROVAL
- CHECK RUN OUT AT LEAST 4 TIMES DAILY CHECK STELLITE LINE 2 TIMES DAILY ** NOTE **

た) [- S.O.P.

ALL VALVES

IN TRAYS

SHOULD BE MARKED (MAGIC MARKER)

ON THE STEM

PRIOR TO

FINISH GRINDING

CORRECTIVE ACTION FOR WAUKESHA ENGINE

QA678,679 11/1/91

S.O.P.

CINCI STEM GRINDERS ROUGH, SEMI. FINISH.

- CLEAR OUT ANY F.R.'S BEFORE BEGINNING SET UP
- DISCARD ANY SCRAP VALVES PROPERLY
- OBTAIN SET UP CARD FROM SUPERVISOR 3
- OBTAIN SKETCH FROM CRIB AND HAVE GAUGES SET IN GAUGE CRIB 4.
- DRESS TRACTOR WHEEL AND GRINDING WHEEL, THEN CHANGE BLADES
 - SET TRACTOR WHEEL TO BLADE, LEAVING 1/8" CLEARANCE BETWEEN TRACTOR WHEEL AND BLADE.
- SET TRACTOR WHEEL SLIDE TO GRINDING WHEEL BY PUTTING A VALVE ON THE BLADE AND MOVING TRACTER WHEEL SLIDE.
 - SET KICKER ROD FOR PROPER GRIND LENGTH AND BLEND
- GRIND VALVE . თ
- MAKE NECESSARY CHANGES
- GET SUPERVISOR APPROVAL
- CHECK STEM RUN OUT AT LEAST THREE (3) TIMES AN HOUR
- (FINISH GRIND ONLY) CHECK STEM MICRO ON PROFILOMETER AFTER EVERY DRESS. <u>m</u>
 - CHART FIVE (5) PARTS AN HOUR ON SPC CHARTS

30/A LANDIS

- REMOVE ALL PREVIOUS VALVES FROM AROUND MACHINE, DISCARD ALL SCRAP VALVES.
- OBTAIN SET UP CARD FROM SUPERVISOR
- OBTAIN PRINT AND MASTER VALVE FROM CRIBS.
- SET UP NECESSARY GAUGES.
- REMOVE COLLETS AND REPLACE WITH PROPER SIZE COLLET.
- JOVE WORK HEAD TABLE TO PROPER ANGLE.
- REPLACE OR ADJUST TIP STOP TO PROPER LENGTH.
- REMOVE SEAT RUNOUT.
- GRIND VALVE AND FIND SIZE.
- CHECK PART ON ALL GAUGES AND MAKE NECESSARY ADJUSTMENTS.
- USING PROPER BLUEING CONE, BLUE UP A PART (IF IT DOES BLUE UP, MOVE SEAT ANGLE UNTIL PART BLUES UP.
- SET READING FROM GAUGE CRIB.
- **DBTAIN SUPERVISOR APPROVAL**
- CHECK ALL PARTS 100% ON ALL GAUGES.
- CHECK SEAT MICRO TWO (2) TIMES AN HOUR.
- RECORD ON SPC CHARTS ALL PERTINENT INFORMATION, (FIVE (5) PARTS

12-1/2 LANDIS - STANDARD SETUP PROCEDURE

- 1. Clean machine of previous F.R.
- 2. Obtain setup card from supervisor.

3. Remove blade.

- A. Unlock regulating wheel handwheel locking screw.
- B. Retract regulating wheel by turning handwheel counter clockwise to assure proper working space for blade removal.
- C. Loosen kicker rod and retract rod for blade clearance.
- D. Loosen screws and remove blade & shims obtain proper gage.
- 4. Exchange blueprint and blade for F.R. being S.U. get gage set.

5. Dress regulating wheel.

- A. Turn switch to dress to attain regulating wheel high speed.
- B. Lower dresser slide on to cam.
- C. Infeed dresser .001 or .002, turn outer traverse control valve clockwise (out) and counter-clockwise (for in). Inner traverse knob is for dresser traverse speed repeat until wheel is completely clean.
- D. Turn switch to grind to obtain running speed.

6. Blade setting.

- A. Turn machine off.
- B. Clean holder and work rest.
- C. Insert blade in holder and tighten.
- D. Check with scale to make sure blade is of equal height at both ends.
- E. Standard height is 4.
- F. Insert blade 1/8 inside of grinding wheel break edge if needed.
- G. Hold blade down when tightening in work rest.

7. Setting blade to grind wheel.

- A. Bring grinding wheel to within .020 of blade.
- D. Use .020 shim to insure clearance of blade to grinding wheel.
- C. Lock grinding wheel handwheel.

8. Adjusting regulating wheel to touch point of valve.

- A. Jog regulating wheel where high side is next to blade.
- B. Loosen and drop V-block.
- C. Turn regulating wheel handwheel clockwise to allow valve to rest freely on blade.
- D. Infeed regulating wheel to touch point and lock.

9. Set kicker rod and valve location.

- A. Drop valve manually set kicker to proper grind length can be adj. later.
- B. Reset V-block to within .020 of head O.D. without touching O.D.
- C. To infeed head locator lock locator valvair. Adjust locator button to place valve in contact with kicker rod - do not over adjsut (or force) valve into kicker.
- D. Unlock valvair to retract locator eject valve.

10. Find size.

A. Check and adjust coolant.

555

3. Check diamond - replace if needed. Reset and dress grinding wheel.

- C. Grind valve to .001 oversize.
- D. Check size taper blend R.O. flat spots & chatter.
- E. Use micrometer to obtain final size.
 - Obtain O.K. from supervisor and inspector.

TROUBLE SHOOTING 12-1/2 LANDIS

1= STEM RUNOUTS

- A- Check blade height wear & for loose blade
- B- Check regulating wheel speed
- C- Dress regulating wheel
- D- Check for play in regulating wheel bearings
- E- Check bad forging & insufficient stock
- F- Check coolant spout on valve and on dresser

2= BURNT STEMS

- A- Check diamond & speed & infeed
- B- Check diamond gear box & cable
- C-_Check coolant spout alignment
- D-mress regulating wheel
- E- Check regulating wheel speed
- F- Check bad forging & insufficient stock

3= STEM CHATTER

- A- Check height & for loose blade
- B- Check number of pieces on dress
- C- Dress regulating wheel
- D- Loose regulating wheel
- E- Check locator for proper location of valve
- F- Check for proper drag
- G- Check V-block clearance
- H- Check for play in regulating wheel
- I- Check regulating wheel alignment to grinding wheel
- J- Check regulating wheel directional drive motor - if brushes are bad, motor speed will change - check with supervisor

4= STEM SIZE VARIATION

- A- Check blade height & wear and for loose blade
- B- Check diamond and infeed also for play in post
- C- Check hydraulic oil level
- D- Check wheel guard clearance
- E- Check for proper amount of coolant
- F- Check for proper drag
- G- Check for play in regulating wheel bearings.
- H- Loose regulating or grinding wheel
- I- Check regulating wheel speed
- J- Check locator for proper location of valve

5= WHEEL OR BLADE MARKS

- Check proper coolant spout alignment A-
- Check kicker rod and assembly B-
- C-Check blade wear
- D- Check diamond
- E- Dress regulating wheel
- F- Check V-block clearance
- G- Check valve on ready finger for proper release
- Check stem guide

6= GRIND LENGTH VARIATION

- A-Check locator
- Check for broken or worn blade
- Check alignment of regulating wheel pocket with kicker cam
- D- Check for broken kicker rod and kicker assembly
- E- Check coolant for proper setting
- F- Check for heavy shoulders from forging.

S.O.P.

SEGREGATION OF REJECTED PARTS 408-4

PURPOSE:

TO ELIMINATE THE POSSIBILITY OF DEFECTIVE PARTS
GETTING PAST VISUAL INSPECTION

REASON:

CORRECTIVE ACTION FOR WAUKESHA ENGINE

S.O.P. :

ALL VALVES SET ASIDE AT VISUAL MUST BE CLEARLY

MARKED WITH RED MARKING PENCIL. ONCE THE

PARTS ARE REPAIRED, THEY ARE TO BE PLACED IN

10 SLOT BOXES FOR VISUAL PERSONNEL TO REVIEW.

ONCE THE

REPAIRED PART IS RE-INSPECTED FOR ALL DEFECTS

AND IS ACCEPTABLE, VISUAL PERSONNEL WILL

REMOVE THE RED MARKING AND PLACE THE PART

IN TRAY FOR SHIPPING. 557



TRW VALVE DIVISION

QCO -	406
DATE:	3/31/92
PAGE NO.	l of 5

QUALITY CONTROL ORDER

TPFC-1983 MEV. 3 PRINTED IN U.S.A.

SUPERSEDES: QCO NO. 406 PAGE NO. All OATED 2/8/90 PART NAME Valves

PROCEDURE FOR HANDLING AND CONTROLLING DISCREPANT MATERIAL

1.0 PURPOSE:

To establish a uniform and well understood procedure for identifying, controlling, segregating and dispositioning of discrepant material. To ensure that the disposition of discrepant material is responded to within seventy-two (72) hours at the Cleveland Valve Division.

2.0 SCOPE:

This QCO applies to the raw material, any parts received from outside vendors in-process and finished goods in the Cleveland Valve Division.

3.0 DEFINITIONS:

- 3.] "Material" is referred to broadly as raw material, any part, component, or finished product used in the manufacturing process.
- 3.2 Discrepant material is any material which does not conform to all applicable product drawing requirements, operational sketch requirements, engineering specifications, material specifications, acceptance standards, quality requirements, process specifications, or TRW workmanship standards.

4.0 RESPONSIBILITY:

- 4.1 The quality assurance and manufacturing departments are responsible for ensuring that all nonconforming material is properly identified, segregated, dispositioned or disposed of within the established time. The quality assurance department is responsible for notifying the customer of any suspected or nonconforming material shipped to them.
- 4.2 The manufacturing/quality department is responsible for:
 - A. Stating the cause of the discrepancy.
 - B. Notification to the proper causing department or area.
 - C. Determining the action to be taken on discrepant material, i.e., standard repair, sort, scrap, use as is, or request a deviation.

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TRW VALVE DIVISION

QCO. 406

DATE: 3/31/92

PAGE NO. 2 of 5

QUALITY CONTROL ORDER

TPFC-1993 REV. 3 PRINTED IN U.S.A.

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SUPERSEDES:	QCO NO.	406	PAGE NO.	A11	DATED	2/8/90	PART HAME	Valves

4.3 The quality department is responsible to interface with appropriate parties (plant manager, production manager, product engineering, process engineering, materials laboratory and the customer) and provide a timely response (72 hours) on deviation requests.

5.0 PROCEDURE:

- 5.1 If a nonconformance is found by a supplier, incoming inspection, lab, manufacturing, floor inspection or outgoing audit, the quality/manufacturing department will red tag the nonconforming material and affix the red tag to all logical groupings (tubs, pans, skids, pallets, boxes, etc.).
- 5.2 The following sections of the "do not use," red tag are to be filled out by the person initiating the red tag:
 - A. part number (FR)
 - B. date
 - C. originator's master number (inspection number)
 - D. reason held
 - E. quantity suspect
 - F. department
 - G. shift
 - H. shop order number and/or lot number
 - I. last operation completed
- 5.3 Quality department informs materials management and manufacturing of the nonconformance, and the customer if the nonconforming parts were suspected to have been shipped to the customer.
- 5.4 Manufacturing/material control moves the red tagged material to the appropriate bonded area.
- 5.5 Quality/manufacturing departments review the red tagged material in the bonded area for the following corrective action: scrap/repair/sort/use with deviation/use as is.
 - 5.6 Quality department audits the red tagged material after the corrective action is taken and removes the red tag and records the corrective action.

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TRW VALVE DIVISION

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QUALITY CONTROL ORDER

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6.0 DISTRIBUTION:

- 6.1 The red rag will remain affixed to the nonconforming material until the proper corrective action is taken: scrap/repair/sort/use with deviation/or use as is.
- 6.2 The white copy of the red tag will be returned to the quality office. The quality office will issue a DMR report listing all material held in the bonded areas. The DMR report will be issued monthly to the manufacturing managers, the production control manager and the plant manager.
- 6.3 The red tag will be initialed and removed from the nonconforming material when the proper corrective action is taken. The red tag will be initialed by the person who audits the material for proper corrective action. The red tag will then be returned to the quality office.

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CUST. REP.
PREPARED BY:
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TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 7

- Active Listening Skills
- Job-related Vocabulary Improvement

BEST COPY AVAILABLE



ACTIVE LISTENING

WHAT IS LISTENING?

Listening is:		
•	Taking in information and the intent of talkers, other people and/or ourselves while withholding judgment and being empathetic	
•	Encouraging talkers to continue communicating	
•	Providing limited but positive input to a talker to carry the idea forward	
To help us more fully understand what listening is, consider the following two questions:		
1.	What does it feel like to really listen to someone else?	
2.	What does it feel like when someone really listens to you?	



THREE LEVELS OF LISTENING

Level One - Listening to both the content and intent of what a speaker is saying, nonjudgmentally and empathetically.

Level Two - Hearing, but not really listening. At this level, listeners hear the words, but often miss the deeper meaning conveyed by nonverbal signals.

Level Three - Passive listening or not really listening at all. Instead, listeners are daydreaming, or thinking about where they'll go for lunch, or concentrating on what they want to say next.

Three Levels of Listening

Everyone listens at different levels at different times. We listen better in some situations than in others. For example, some people listen effectively on the job, but "tune out" when they get home. Each of the three levels of listening has specific features to it. These levels are not distinct lines of differences, but rather, are general categories into which listening behavior falls.

Level One/At this level of listening we are using listening skills. We refrain from judging and being critical of the talker. Internal distractions are avoided or kept at a minimum. We place ourselves in the talker's position, attempting to see things from his or her point of view. This is what Janet was doing when she was listening to Jeff. Some characteristics of this level include: taking in main ideas; acknowledging and responding; not letting ourselves be distracted; paying attention to the total communication of the speaker, including his or her intent; not judging or finding fault; awareness of what the talker is expressing nonverbally.

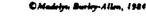
Level one requires listening not only for the content of what's being spoken, but, more importantly, for the intent and feelings of the message as well. This is done while showing both verbally and nonverbally that we are truly listening.

Listening at Level One/In the video you just saw, Janet was listening to Jeff at level one. At this time you may wish to view the video a second time, noting any behavior you may have missed the first time. Particularly note how Janet is using level one skills.

Information we listen to at level one will be more easily remembered by processing what we are listening to. Processing means associating what is said with something familiar to us, repeating the information internally or out loud, or summarizing what the person has said. People speak at a rate of about 200 to 250 words per minute while listeners can process information at about 300 to 800 words per minute. What is done with that time lag will strongly influence what level we listen from.

In addition to using the association or summarization techniques, as a listener you can visualize what is being said by attempting to see in your mind's eye what the person is saying. In essence, you will be simultaneously listening to and seeing what is being said.

Depending on the situation or person, the levels of listening may overlap or interchange. As we move from level three to level one our potential for understanding, retention, and effective communication increases. We began developing our listening style very early in life. As we grow older we continue to reinforce our habits and patterns, although not many people are aware that they listen from these three levels and that each level has elements that affect listening effectiveness.



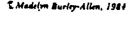


Level Two/At the second level of listening we move from an empathic, attentive listening state to one of "hearing." We hear words, but are not paying close attention to the talker's intent, tone or voice inflection, facial expression or body posture. We stay at the surface of communication and are unaware of the deeper meaning of what is being said.

At this level, we remain emotionally detached from the conversation, hearing words but not fully participating in the interaction. This level of listening can be dangerous because misunderstandings may occur since the listener is only slightly concentrating on what is said. Talkers could be lulled into a false sense of being listened to and understood at this level.

Level Three/When we are listening at this level we are in a passive, withdrawn state; in other words, "tuning the person out." This level includes daydreaming, mental tangents, thinking about something else, forming rebuttals, or thinking about what we are going to say when the other person stops talking.

Listeners do not remember much of what is said when listening at this level. It may be stored somewhere in the brain waiting for recall, but probably won't be recalled because we weren't paying attention. Listening at this level can be compared to some kinds of reading. If you have ever switched into "automatic" while reading a boring report or book and finished a page without having any idea what you have read, you can understand what level three listening is.





BARRIERS TO LISTENING

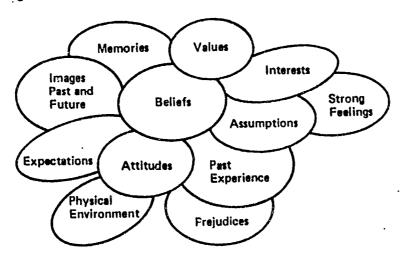
•	Filters	
•	Biases	
•	Assumptions	
•	Hearing What We Want to Hear	
•	Cultural Myths	
•	Negative Emotions	
•	Negative Use of Time Lag	
•	Semantics	
•	Misreading Nonverbal Cues	
•	Physical Factors	
	Daydreaming	

SOME BARRIERS THAT PREVENT ME FROM LISTENING EFFECTIVELY:



Listening Through Filters

We are often unaware of how our childhood experiences influence our adult behavior. The socialization process results in our listening through filters. Our brain processes each new piece of experience through filters that have various forms. The following diagram shows some of the filters that exert the greatest influence:



Although these filters are within us, we are often blind to them. It is important to develop the ability to become conscious of these blind spots that often result in unproductive behavior. We will then have an opportunity to understand and reshape our beliefs, values, and attitudes.

People aren't aware of their beliefs so they have little opportunity to understand them and/or reshape them. When people aren't aware of how their beliefs influence what they value about work and their attitude toward certain behaviors in others, they find it difficult to listen to the other person's point of view or accept their behavior.

Say, for instance, I'm your supervisor, and I strongly believe that when people talk and enjoy their work they aren't getting their work done properly. Because of my belief, I value silence and seriousness on the job. I also have the attitude that people who kid around don't perform as they "should" and are more trouble than they are worth.

On the other hand, you believe that a relaxed and enjoyable working environment keeps work from being drudgery and makes it acceptable. Because of this belief, you value an understanding, easy-going supervisor. You have the attitude that a supervisor who doesn't kid around a little is a "turkey."

Now, if we both are unaware of our attitudes, we would probably have difficulty dealing with each other. We would both find it arduous listening to the other's point of view since the views are in opposition. Our beliefs could even lead to contempt for each other, thus interfering with our ability to work things out.

The belief that we hold in reference to each other's work behavior will result in both of us having certain expectations of each other, and because our beliefs are so different, our expectations are rarely realized, leaving us both disappointed and frustrated. On the other hand, if both of us could gain understanding of our own as well as the other's belief, we might start listening to each other's point of view.



HEARING WHAT YOU WANT TO HEAR

As you discovered in the preceeding quiz, a listening barrier exists when someone hears what he wants to hear and not what is really communicated. Barriers to listening happen because of one or several filters. For example, past experience filters can make a listener become anxious to hear something that fulfills his or her wishes or desires.

This often happens in business settings, where one person is selling merchandise to another and the salesperson wants the sale to be as large as possible. Jeanne related this story:

I was working on the order desk for a company that supplied materials for large conferences. One week before, my supervisor had checked with a client about how many packets they needed for their program. She was told that they had only eight registrants. However, they expected more, and she was asked to check back with them.

My supervisor was called out of town, and I was asked to follow up on this client. Well . . . I checked with them for the number of registrants they had now. The client told me eighteen. In my desire to sell the most materials possible, I heard eighty.

Three of us spent three hours getting the materials ready. When the delivery man brought the materials to the client, he was told they only needed eighteen packets, not the eighty we had prepared. I could have fallen through the floor when he told me. I was so embarrassed!

Jeanne expected to hear a larger number because of her anticipation and desire to fill a large order. This caused her to hear incorrectly. As a result, the company lost three hours of work by three people.

BIASED LISTENING

Another block to listening occurs when we form an opinion about the level and value of what will be said. We label the information ahead of time as unimportant, too boring, too complex, or as being nothing new, and we are anxious for the speaker to get to the point.

-A biased listener tends to distort the message positively or negatively, often getting so emotionally involved that listening efficiency suffers. Certain emotionally laden words, sometimes referred to as "red flag" or "buzz" words, can evoke strong feelings and thus create barriers to effective listening. We sometimes respond to a word or phrase in a way that has been conditioned by our past experiences. In other words, we have attached meanings to the same word from prior, emotion-laden situations. Sometimes words can affect a listener to such an extent that his reaction will result in Level 3 as his emotions are causing internal distractions to occur, thus interfering with Level 1 listening. Unconsciously, we tune out what we negatively label.

Every day words provoke different feelings or ideas in different people. These emotion-laden words often have a strong impact on people that interferes with listening. Tones of voice have the same kind of impact.



PHYSICAL BARRIERS

The last internal barrier is the physical barrier: what happens physically that influences an individual's listening efficiency. At certain times of the day, we have more energy than at others. Fatigue is a factor in listening, since listening takes concentration and effort. When we don't feel up to par, we have a more difficult time being attentive.

It is easier to daydream and become preoccupied when our energy level is low. When we have personal problems, our energy is often used to deal with the problems, which lessens the amount of energy we have available to listen at Level 1. Personal problems sometimes manage to creep into our minds while someone else is talking.

Another element that can cause fatigue is the "time-lag factor"; the average speaker talks about 200 words per minute, while a listener can process information at around 300-500 words per minute. It is easy to spend this time-lag daydreaming, going on mental tangents, and thinking of personal problems. It takes energy to use this time difference for more productive use, such as internally summarizing what the person said, visualizing what is being said, or associating what is being said with something already stated. Because Level 1 listening takes energy and concentration, it is easy to allow these factors to interfere with it.

The fatigue barrier is often prevalent during meetings, especially those held at the end of the day or in the evening. People attending have already expended considerable energy getting the day's work done. Along with this low-energy factor, listening at meetings can be boring. Most often, the agenda does not have the same interest for all those who are attending.

In this case, it would be important to listen at Level 2 to make sure you aren't missing information you will need. If what is being said pertains to you, you could then move to Level 1, in which you would process the information. You might even want to jot down some notes to be used later as memory-triggers.

SEMANTIC BARRIER: THE MEANINGS ARE IN PEOPLE, NOT WORDS

We each have our own meanings for words because we filter them through our varied beliefs, knowledge, education, upbringing, and experience. As a result, no two people have exactly the same meaning for the same word or expression; meanings are not in words, meanings are in people.

The dictionary contains thousands of words. However, the average adult uses about 500 of these words most often, and each has between twenty and twenty-five meanings! So, two people can use 500 words with the possibility of 25,000 different meanings!

A word is simply a representation of the thing it names or describes. It is not the thing itself, and may mean something different to the speaker than it does to the listener. The practice of summarizing what you believe the speaker said, as a check, can insure understanding.

We make judgments about people, based on how we understand what we see and perceive. We evaluate an individual's competence and motivation through our semantic filters.

Have you ever tried to moderate between two people who are arguing, and you had to say, "Wait a minute, he didn't say what you said he said." Usually, people do not purposely change what people say; they simply do not hear the same words in the same way that the words were said. I have a sign that I display in my seminars which reads: "I know you believe you understand what I said, but I'm not sure you realize that what you heard is not what I meant." Everyone receives sensory data in a unique way; it is not "raw" data, but rather, data that is filtered and interrupted by the receiver.



Facilitator 7-8

THE EFFECTS OF EMOTIONS ON LISTENING

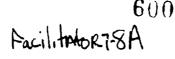
Along with words that affect our biases that lead to emotions, there are some areas we do not want to talk about, topics that we have an emotional reason for not wanting to discuss... these areas are also "hot buttons" for us. When another person pushes our "hot buttons" with a word, phrase, or topic, our mind goes through certain filters: past experiences, beliefs, or biases connected to what the other is saying. As a defensive measure, we often "tune out" the talker, plan rebuttals, or formulate questions to confuse the talker.

If something is said that might cause us to change our perception, we feel threatened. Potential change in our perceptions can involve strong feelings. Often, the first feelings are frustration and confusion. To reduce these feelings, we flee mentally from what is being said by tuning out what the talker is saying or by distorting it so we won't have to alter our perception, belief, or opinion.

Experiencing high emotions, either positive or negative, usually interferes with listening ability. Strong feelings are one barrier that influences effective listening and sometimes causes confusion and the taking in of information in a disorganized manner, as illustrated by June's experience.

I'm a case worker, which means I deal with people who come into our agency for help finding a job. I was so sympathetic to what they were saying, I became overly emotional and found it difficult to think objectively. When I did this, I couldn't think effectively and didn't obtain all the information I needed to match the client to the proper job.

June had developed a habit of listening almost entirely with her feelings. As a result, she was not taking in the kinds of information she needed to get her job done properly. She often became overanxious, which accelerated her tension level.





STYLES OF LISTENING

The Faker -

Fakers pretend to listen, but they are actually so caught up in giving the impression that they're paying attention that they really are not listening at all.

The Dependent -Listener

Dependent listeners want to please others, so instead of listening, they're concentrating on what kind of impression they're making on the other person.

The Interrupter -

Interrupters are so focused on what they want to say that they often don't even hear others, and worse yet interrupt them while they're talking to make a point that usually isn't related to what the talker is saying.

The Self-Conscious Listener

Self-conscious listeners focus on well the conversation is going, on if they're creating a positive image when they're speaking, and on the appearances of themselves or others. Since they're so distracted by how things are going, it's hard for them to listen effectively to what's being said.

or Logical Listener

The Intellectual - Intellectual listeners hear only what they want to hear. They often concentrate on the facts only, ignoring emotional or nonverbal communication. So, what they really do is block out more than half of what the talker is really trying to communicate.

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STYLES OF LISTENING

The Faker

Some people fake attention. They pretend to listen when their minds are actually off on a flashing tangent. They may fake attention because they think they are pleasing the talker. Often, people who wish to be attentive have their eyes rivered on the speaker. Their ears appear to be wide open. They so exhaust themselves in playing the attentive role that they end up no longer listening at all. Have you ever watched a person fake listening by smiling and head-nodding, when neither the smile nor the head-nodding matched what the speaker was saying?

Others try hard to fake being good listeners by trying to memorize every fact given; thus, the intent of the message becomes lost. However, they give the impression of listening with intense interest and curiosity. This need to hear and digest everything being said can easily lead to an overloading and jamming of the communication network.

The Dependent Listener

Some listeners are highly dependent and live vicariously through the opinions, wishes, and feelings of others. Often, their feelings are evoked in interpersonal communication situations, making it difficult for them to deal with abstract matters. So much concern is given to how they are listening and reacting to the talker, that they miss out on what is actually being said. In their urgency to elicit a favorable impression from the talker, they focus on how they appear to others, rather than on the clarity and content of what they are saying.

Dave's father dominated his relationships when he was young. He often told Dave, "Children should be seen and not heard." When Dave expressed an opinion on a subject, his father told him he was stupid and not old enough to know the right way to do things. Often in their interactions, Dave's father would say, "You'd better listen to every word I'm saying, young man!"

As a result of this communication, Dave became a dependent listener. He put his effort into appearing to listen in order to please others. He often felt confused and frustrated. He also felt like a doormat because he went along with other people's wishes at the expense of his own. He discovered he didn't have many opinions of his own because he let others do his talking for him. In his relationships with his co-workers, he was afraid to say no. This behavior pattern resulted in his feeling tense, unhappy, and victimized.

The Interrupter

Sam had a habit of interrupting when others were talking. He thought he'd forget what he wanted to say if he didn't interrupt. He often felt



Facilitator 7-10

anxious if he wasn't able to say what was on his mind. Many times, the people he worked with became frustrated and annoyed by his behavior.

While completing a self-awareness exercise, he discovered he was so busy focusing on what he wanted to say that he listened at Level 2 or 3. In the process, he wasn't considering the speaker's needs. During a practice session, in which he had to paraphrase what the other said, he became conscious of his internal process. He started to think of what he wanted to say after the speaker had spoken only a few words. After he became aware of this internal process, he could stop and direct his attention to what the speaker was saying. He found he could remember what he wanted to say by associating what the speaker had said with the information he wanted to discuss.

Bringing up something that doesn't relate to what the speaker is saying is another form of interruption. Often, this is done when the talker is discussing something the listener is uncomfortable with and feels threatened by. The listener takes the conversation off on unrelated tangents, as a means to side-step the issue being discussed. The speaker gets so involved in the side issue, the real issue is never dealt with.

Paul had an employee, Fred, who came late to work three to four times a week. Paul had approached Fred about his lateness on several occassions. He became discouraged because the conversation ended up going around in a circle.

- Paul: You came in 15 minutes late again this morning. You should be on time.
- Fred: I'm a good worker, and I've been with the company ten years.
- Paul: I think you're a good worker too, but you have to be at work on time. That's the rule!
- Fred: I can't do everything right. I keep trying to get to work on time, but I just can't seem to do it. Anyway, I get my work done.
- Paul: Why don't you get up earlier in the morning as I told you to!
- Fred: I try to, but I can't. Anyway, Janet over there takes longer breaks than I do. I don't know why you only pick on me.
- Paul: I don't think Janet takes longer breaks than anyone else in the office. I don't pick only on you. When others infringe on the rules, I talk to them too. Can you try to get to work on time from now on?
- Fred: Yeah, I'll try.

This can be a discouraging and frustrating experience, yet it happens often. Problems don't get resolved when one person is able to side-track the real problem. When you find yourself in this situation, a couple of statements can be used.

For example when Fred said, "I'm a good worker, and I've been with the company ten years." Paul could have said, "I appreciate your good work and time with the company, but that's not the reason for this discussion. The issue is your lateness. I want it to stop, and I want to know how you are going to end this situation."



Or, when Fred said, "anyway, Janet over there takes longer breaks than I do," Paul might have said, "That's not the issue here," or, "That's not relevant to our discussion; we are talking about your lateness," or, "Right now I'm only concerned about your lateness."

By using such statements, Paul could control the discussion and solve the problem.

The Self-Conscious Listener

Some individuals focus too much attention on themselves by thinking, "Am I doing well or badly?" "Do I look all right?" or "I wender if the talker thinks I'm intelligent?" These people give attention to themselves as participants when it would be better to involve themselves in the content and meaning of the conversation.

Self-consciousness can also be viewed as a kind of preoccupation with internal matters at the expense of effective listening. When people become too concerned about how well the discussion is going, they often lose their spontaneity and become overly involved with themselves during the conversation. Our society has unspecified standards as to how much people are allowed to be carried away by the talk, and how thoroughly they are to permit themselves to be caught up in the conversation. People who become too involved give the impression that they don't have self-control over their feelings and actions. This can lead the listener to draw away from involvement with the other person. What is one person's over-eagerness can be another's alienation. In this kind of situation, the speaker is forced to adjust to t'e listener's state of emotion because the listener is incapable of adjusting his own.

The Intellectual or Logical Listener

The intellectual listeners listen mostly with their heads, hearing only what they want to hear, blotting out larger areas of reality. Because they are mainly interested in a rational appraisal, perhaps as a result of their educational training, they tend to neglect the emotional and nonverbal aspects of the speaker's behavior. Their evaluation of what is said is most often geared to the interpretation of verbal statements, often causing them to miss the speaker's less obvious intent.

They are not aware of how listening behavior affects others or how others affect them. They listen in terms of categories, making certain that what they listen to does not disturb their inner peace or systematic order. It is almost as if they are putting what the talker is saying into a computer's data bank. If a statement doesn't fit into a systematic logical sequence, their minds reject what is said as invalid. I refer to this process as getting into "analysis paralysis."

These types of listeners are so involved in programming what is being said, that they miss out on the deeper meaning of what is spoken. These types of listeners cut off experiencing through the sensory system, thus losing the opportunity to actually experience the event. The brain is so busy making



calculations, that the body isn't given the chance to feel the communication. As a result, nonverbal communication is disregarded. All this is happening because the listeners are blind to their own emotions and the emotions of others.

Frank was a computer programmer whose job demanded that he analyze information focusing on what might be wrong or how a program could be improved. To succeed at his work, he had to pick information apart, listen to what could go wrong, and compute information in a logical, systematic manner.

He was so busy analyzing what was communicated to him, he didn't have time to just be there with the other person. His wife often told him he was a nit-picker. She felt he was overly critical of her and the children because he seldom accepted what she said. He would challenge her thought processes. He spent most of their communication time analyzing what she said as if he had to turn it into a program.

This listening pattern had a serious effect on his marriage and social life. After becoming aware of the pattern, he took steps to change it outside of his job. It took a lot of concentration and effort to change this pattern, but he said it was more than worth it.

OK ATTITUDES

1.	I'm OK - You're OK
2.	I'm OK - You're Not OK
3.	I'm Not OK - You're OK
4.	I'm Not OK - You're Not OK



The socialization process includes the position of "OKness" in relation to self and others. According to Dr. Berne's theory, there are four positions:
(1) I'm OK-You're OK, (2) I'm OK-You're Not OK, (3) I'm Not OK-You're OK, and (4) I'm Not OK-You're Not OK either, so there!

The listening behavior of individuals in the different OK positions varies; thus, each has different listening characteristics that include one's beliefs about oneself and others which, in turn, influence the attitudes and ways a person interacts with others.

Greg's father's style of listening matched the "I'm OK-You're Not OK" pattern. Greg, a supervisor in a large federal agency, incorporated many of his father's listening behaviors. As a result, his employees didn't feel that he listened to them. Greg had the attitude, "Who needs to bother listening to "Not OK" people; they don't have good ideas anyway."

Others in the office often complained that Greg listened to them with a critical expression on his face. He would quickly judge and criticize what they had said. And, he seemed to listen only to what he had to say, as if he were the only one who had good ideas. When someone brought up an opposing point of view, Greg would hear what he wanted to hear, filtering out comments he didn't agree with. His manner and listening style often left people feeling dumb and stupid. Thus, Greg listened much the same way as his father, not realizing how his behavior was negatively affecting others. In other words, this listening behavior was in his blind area.

Kathy, on the other hand, held the "I'm Not OK-You're OK" position. Her behavior was very different from Greg's. She often worried about herself and how she was coming across. She focused on herself rather than on the dynamics of what was going on between herself and others. She was so busy trying to say the right thing, she usually didn't say anything. During meetings, she was reluctant to speak up because she believed what she had to say would be stupid. She often said, "I will probably say something dumb, so why bother!" Because she was behaving from the "Not OK" position, she usually listened at Level 2 or 3. The consequences: instructions carried out poorly, messages taken down incorrectly, and frequent criticism from her supervisor.

The "Not OK-Not OK" position is very detrimental to listening and the entire communication process. People behaving from this position vaccilate between the two before-mentioned OK positions. They listen most often from Level 3, and as a result, do not hear others. They do not make the effort to listen to what others say. Since neither they nor the others are OK, they find very little reason to bother listening, they are rarely interested in what anyone has to say. They are usually perceived as disinterested in others, withdrawn, negative, and pessimistic. This behavior leads nowhere. It's felt by those experiencing it as "going around in circles," ending in frustration, anger, and discouragement. You'll hear these people say, "I can't do anything; there's nothing anyone can do!" Because of the attitude, not much does get done. Problems don't get resolved, and the same ones crop up over and over.

On the other hand, if parents, teachers, and other adults model effective listening behavior by focusing attention on speakers, acknowledging speakers without being judgmental, and communicating through their faces, bodies, tones of voice, and words, that the speakers are important, children will be more likely to develop positive concepts, exhibit effective listening behavior, and operate from the "OK-OK" position. Effective listening patterns, as well as non-listening patterns, can become habitual. Undesirable patterns can be changed, although it requires continual awareness and practice.

Where the "Not OK" styles usually close off communication, the "OK-OK" style is categorized as open, understanding, logical, empathic, and

relaxed.

Allan described his parents as understanding and easy to talk to, tolerant, and accepting of his behavior. Whenever he had a problem, they would listen and help him come to a solution while supporting his decision and encouraging him to follow it through.

As a manager, he applied these same listening skills to the people on the job. His expectations of himself and others were realistic and valid. People felt comfortable around him because he didn't quickly judge or criticize. He had a mutual respect for himself and others while accepting the significance of people. Co-workers often said, "I like him; he really listens to me."

Like Janet in Chapter 1, he listened with understanding, had an open mind, and didn't interrupt or ask unnecessary questions. He often reflected feelings that were expressed by paraphrasing for understanding and summarizing for mutual clarification.

Being aware of this "OK" phenomenon, this aspect of human behavior and how it influences listening, can be beneficial in quickly improving listening behaviors. It's an easy way to modify your behavior in a short time.

Drama Triangle

Another aspect of the socialization process is the "drama triangle." When individuals act from the "Not OK" behavior mode, they frequently participate in a drama triangle that has three types of participants: persecutor, rescuer, and victim.⁴

The persecutor operates from the "I'm OK-You're Not OK" position. People behaving in this mode often are fault-finding, nit-picking, can't wait to say "gotcha," and are blemish players; no matter what you pass over their desk, they find something wrong with it and might even circle the mistake in red so you have to do it over again. Persecutors are experts at zeroing in on what people do that's wrong, rather than right. Their management and supervisory styles are to "manage by exception—what goes wrong is what is paid attention to." If something is out of line, they give a negative stroke. They are quick to form a rebuttal to what has been said, and often listen to how something is going to fail or not work. People often feel as if they are being treated like dumb and stupid children after communicating with a persecutor.

Rescuers are advice givers. They take on other people's monkeys and



make the problems their own. These people are rescuing others who don't need to be rescued, don't want to be rescued, and aren't asking to be rescued—but they rescue them anyway because it's good for them! They take over others' responsibility; they have to do it themselves. Like persecutors, they are operating from the "I'm OK-You're Not OK" mode. They have a strong need to be relied upon and feel OK when doing things for others. They tell their employees what to do and when it doesn't go right, the rescuers get blamed, and thus, end up victims.

They tend to be lousy delegators—"gotta do it themselves." This results in feeling victimized because their own work doesn't get done and pressures build up. They end up working 10-12 hours when everyone else is going home on time.

They build dependency relationships between themselves and their employees by solving the employee's problems, doing their thinking for them, and figuring out what should be done. They become indispensable and have constant interruptions during the day. When a person is talking, they are so busy thinking of the best advice to give, they don't listen to the whole problem; as a result, often, the advice given is inappropriate.

Tim, a supervisor, found out that he often listened and behaved from the rescuer mode. He decided that not only was it detrimental to his employees' professional growth; he also discovered that the rescuer mode left him little time for his own work and was plagued by interruptions. He found some distinct advantages to giving it up: he had more time for himself, he finished his own projects on time (resulting in less hassles from his boss), he felt decreased stress and tension, and the people he supervised became more self-reliant and confident. He said he had to be on his toes to stop himself from giving advice, often stopping himself in the middle of a sentence. Tim discovered that his listening habits changed. Because he stopped forming advice in his head while the person was talking, he listened more frequently at Level 1. As a consequence, he remembered more of what was said to him.

Like Tim, some people behave from the rescuer mode by taking on others' responsibilities, doing others' work, thus not having time to do their own. When people do this, they end up victims. Therefore, they have moved from the rescuer mode to the victim mode. Then there are others who start in the victim mode by behaving in such a way that they incite others to "kick" them verbally, nonverbally, emotionally, or physically.

When people start out in the victim mode, they are operating from the "I'm Not OK-You're OK" position in ways that result in their getting negative strokes: not listening to directions, allowing their emotions to over-ride their objectivity, and becoming defensive instead of listening. Marie, a secretary in a computer company, discovered she behaved from this position in her relationship with others—especially her boss:

I often feel victim in my interactions with my boss. I think he is the persecutor and I'm the victim. For example, late Thursday afternoon,



my boss gave me a twenty-page project with graphs and numerical tables to type and finish by Monday at 10 a.m. I didn't listen to the time he stated when he handed me the project. Instead, I was busy figuring out how I was going to get it done and finish the other work I had on my desk. All I heard was Monday.

As I look back on this situation, I can see that by not being clear on the time, I was already setting myself up to be a victim. Discussing with him my concern about getting it out on Monday, along with completing the other assignments on my desk, would have kept me out of the victim position.

In any event, I didn't take either of these options. Instead, I became nervous and frustrated, which led to errors and my typing the project more slowly. By 10 a.m. Monday morning, I had it typed but not proofread. You can imagine my surprise when my boss asked for it! I told him I didn't hear him say it was due at 10 a.m. It was finished, but not proofread. Naturally, he became angry at my comment that I didn't hear him say it was due at 10 a.m. and he said a few choice words I won't repeat. However, he reluctantly extended the time by an hour so I could get it proofread.

Well, by this time I was so nervous I had to have a cup of coffee. I took the report down to the cafeteria. Again, I can see this was another set-up on my part to end up victim. You don't take important projects to the cafeteria. It would have been better to forego the coffee until after I'd proofread the material. But... I didn't!

While I was proofreading, an emergency came up. In my hurry to take care of the emergency, I left the report on the table, completely forgetting it. Guess who came down to the cafeteria and found the report? Yep! My boss. He brought the report to me and said critically, "Are you by any chance looking for this?" and threw it on my desk. Was I embarrassed!

This example was just one of the many ways Marie discovered that she set herself up to be victim. Upon examining her listening habits, she found that her nonlistening habits resulted in other kinds of nonproductive behavior such as not completing tasks as directed. She discovered she talked to herself mentally while her boss was giving her instructions. This internal dialogue distracted her from what was being said. She found she could stop this internal process by being aware of it, stopping the dialogue, and then summarizing what the other person said as a way of checking her listening.

These "OK" life positions play a major part in each person's listening behavior. As you can see from the graph that follows, these positions of "OKness" are formed early in childhood. They are a reflection of our self-concept and they influence our attitudes about others that can result in ineffective or effective listening behavior. Being aware of what "OK" positions we are listening from can be a giant step in improving our listening habits.

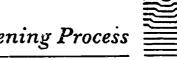
This socialization process is an important ingredient in determining the "OK" positions from which people behave. It is a significant factor that

causes many of the listening problems people experience. Graphically, the process is summarized like this:

SOCIALIZATION PROCESS

③ (1)Childhood "OK" life positions: Early childhood experiences decisions—the feelings of "OKness" or influences influences beginning of the "Not-OKness" of self and self-concept others *Family system: verbal, nonverbal *imageries of self: ""I'm OK-You're OK" ""I'm OK-You're not OK" communication -internal dialogue ""I'm not OK-You're OK" -affirmations of patterns ""I'm not OK-You're not *Personality of self, positive or close adults OK" negative *I can't do anything *Positive, negative right recognition, attention "I'm stupid (strokes) influences *Don't messages "I can think *I do things right Adults' self-**Drama Triangle** <u>influences</u> concept and beliefs: *Which is demonstrated in the following ways: -Attitudes -Prejudices -Values -Perceptions -Behavior and feeling patterns

Understanding the Listening Process



Learning Activities Module 2



Video Exercise 2-1



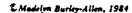
Video Overview/This video vignette is divided into two segments. Both portray a supervisor, Paul, confronting one of his employees, Fred, about his tardiness. The first segment shows Paul talking to Fred about his tardiness from

The not-OK attitude mode. You will be asked to write down your observations of both Paul and Fred.

Turn on the videotape to the vignette "Lateness — Poor Model." Watch and listen to the brief dialogue between Paul and Fred. Observe specifically what Paul does to prompt Fred to respond in a negative manner.

Video Instructions/Before carrying out these instructions read them over carefully.

- 1. Turn on the videotape to the vignette "Lateness Poor Model."
- 2. Listen to and watch the two-minute confrontation between Paul and Fred. When the vignete is over turn the tape off. You will watch the good model after you have written your responses to the poor model.
- 3. After you have listened to and watched the vignette, open your "Participant Exercise Booklet" to page 2-5 and answer the questions.
- 4. After completing the questions, turn to page 2-6 in your "exercise booklet" to find an explanation of the answers. Compare your answers to the explanations to find out how you did.

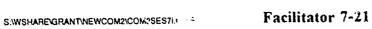




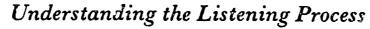
VIDEO VIGNETTE - LATENESS - POOR MODEL

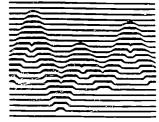
	inds of behavior did Paul use that indicated he was in a remode?
How d	id Fred respond to Paul's not-OK behavior?
Do vo	u think the lateness problem has been solved? Why or why
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Learning Activities Module 2

2-6

1. What kinds of behaviors did Paul use that indicated he was in a not-OK attitude mode?

Paul sat on his desk. He pointed and shook his finger at Fred. He used should and have to; words that many people have an emotional reaction to. Because of Paul's manner, Fred felt threatened and attacked. Paul's tone of voice was condemning, angry and he had a critical look on his face. Paul did not ask questions that could have helped Fred work through his problem, instead he told him what to do.

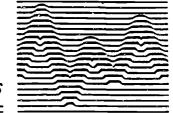
2. How did Fred respond to Paul's not-OK behavior?

Fred responded by becoming defensive. He tried to justify his behavior by pointing the finger at another employee hoping to divert Paul's attention.

3. Do you think the lateness problem has been solved? Why or why not? The problem hasn't been resolved. The interaction was one of attack and counterattack. Since Fred didn't solve his own problem, he had no interest in making it work. The exchange was more like a parent telling a child to be on time. This kind of behavior doesn't usually work with adults.







Understanding the Listening Process

Learning Activities Module 2

2-7

Video Instructions/Before carrying out these instructions read them over carefully.

- 1. Turn on the videotape to the vignette "Lateness Good Model."
- 2. Listen to and observe the two-minute confrontation between Paul and Fred. When the vignette is over turn the tape off.
- 3. After you have listened to and watched the vignette, open your "Participant Exercise Booklet" to page 2-8 and answer the questions.
- 4. After completing the questions, turn to page 2-9 in your "exercise booklet" to find an explanation of the answers. Compare your answers to the explanations to find out how you did.



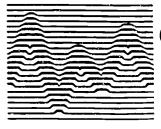


VIDEO VIGNETTE - LATENESS - GOOD MODEL

					
What indica	ated to you tha e mode?	t Paul was	s listening to	o Fred at le	vel one in t
What indica OK attitude	ated to you tha e mode?	t Paul was	s listening to	o Fred at le	vel one in t







Learning Activities Module 2

2-9

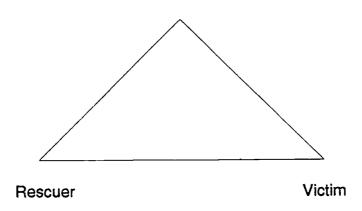
- 1. What were the main differences between the two demonstrations?
 - Paul was sitting in a level position.
 - Paul didn't say should or have to, or point/shake his finger at Fred.
 - Paul didn't get sidetracked when Fred pointed out the other employee's behavior, but brought the conversation back to the lateness issue.
 - Paul was calm, direct and kept the conversation moving toward a solution.
 - Paul avoided labeling Fred's behavior by describing it instead.
- 2. What indicated to you that Paul was listening to Fred at level one in the OK-OK attitude mode?

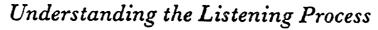
Paul acknowledged what Fred said by responding to his feelings and summarizing what Fred said. His OK-OK listening mode was a major factor in the willingness of Fred to take action to solve his own problem.

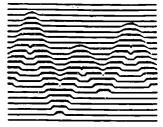


THE DRAMA TRIANGLE

Persecutor







Learning Activities Module 2

2-11

Video Exercise 2-2

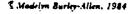
	video Overview/in reading assignment 2-2, you learned
	that not-OK attitudes move people into the "Drama
	Triangle." In this next vignette you will watch a manager,
	Tim, discussing with Marian, an assembly line supervisor,
the problem	she is having with excessive rejects on her line. You will watch
and listen to	how Tim starts to solve Marian's problem for her, becomes
aware of wha	t he is doing, and moves out of the rescuer mode and asks
	her ideas are. Pay special attention to how Tim's behavior
affects Maria	in in a positive way.

Turn on the videotape to the vignette "Staying Out of Rescuing." Listen to and analyze the four-minute discussion between Tim and Marian.

Video Instructions/Before carrying out these instructions read them over carefully.

- 1. Turn on the videotape to the vignette "Staying Out of Rescuing."
- 2. Listen to and watch the discussion between Tim and Marian. When the vignette is over turn the tape off.
- 3. After you have listened to and watched the vignette, open your "Participant Exercise Booklet" to page 2-12 and answer the questions.
- 4. After completing the questions, turn to page 2-13 in your "exercise booklet" to find an explanation of the answers. Compare your answers to the explanations to find out how you did.

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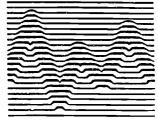


VIDEO VIGNETTE - STAYING OUT OF RESCUING

What effect did	d Tim's listening b	ehavior have o	n Marian?	







Learning Activities Module 2

2-13

1. What did Tim do to stop himself from rescuing Marian?

Instead of telling Marian what she ought to do, Tim paused, moved back in his chair and said to Marian, "What are your thoughts about what you could do to resolve the problem?"

He avoided rescuing Marian again when she asked him, "What do you think I should do?" by saying, "Before I answer your question, let's take a minute to look at some of the things that can help employees become more conscious of quality."

Tim provided Marian with a framework to analyze her problem, explore alternatives, and solve the problem herself.

2. What effect did Tim's listening behavior have on Marian?

Marian's confidence in herself was raised because she found out she could solve her own problem. Her opinion of Tim and their relationship was enhanced, allowing them to work more cooperatively. Her competence as a supervisor was improved.



VOCABULARY #4

SPC	 		
	 	 -	
Median		<u> </u>	
Fillet			
Profilometer			
Thimble			
Comparator			 ·
Schematic			
Projection	 	· · · · · · · · · · · · · · · · · · ·	



TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 8

- How to Deal with Difficult Communication Situations
- Role-playing Exercise
- Job-related Vocabulary Improvement



DEALING WITH DIFFICULT COMMUNICATION SITUATIONS

Many factors combine to create difficult communication situations. Can you name a few? Participants have blanks in which to enter factors that will come up in discussion. The factors below are offered as suggestions.

Personality styles.
Perceptions (different for every person).
The situation (What's going on at the moment?)
Past histories.
Emotions. Assumptions.
Others:
Brainstorm any that the participants will add.
Communication does not occur in a vacuum. Any communication situation involves people, words, emotions, attitudes, and non-verbal interactions. Can you name any other ingredients that add to the communication "stew"?
Job stresses.
Home situations.
Time constraints.
Promotions.
Work environment (hot, cold, etc.)



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Facilitator 8-1

FACILITATOR NOTE

Read through participants page 3-2 as a class. To tend to lower level readers, facilitator may need to read aloud. May want to have participants volunteer to read some of the statements, e.g. facilitator reads you-blaming and participants take turns reading I-message approach. Some persons with previous communication training may identify the I-message approach with "I statements". The two formats are quite similar and the other may be reviewed if time permits.

I- Statements (I- Messages)

When you <u>describe behavior</u>, I feel <u>state how you are affected with feelings included</u>. It would be helpful if <u>provide possible change in behavior</u>.

See APPENDIX for additional info. on what that reference calls the I-Rational Approach.

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DEALING WITH DIFFICULT COMMUNICATION SITUATIONS

The I-Message Approach

I-Message Approach

You-Blaming Aproach

- 1. This approach leads to a win/win win/lose resolution.
- 2. A plan of action is developed.
- One person discloses something he or she is unhappy about in hopes of changing both people's behavior to solve the problem.
- 4. This approach uses the OK-OK attitude mode.
- 5. This approach promotes confrontation that is objective, and not overly emotional.
- 6. The person is aware of nonverbal behavior, both his or hers, and the other person's.
- 7. The person states a message in a nonblaming, noncritical manner.
- 8. The person takes responsibility for his or her own feelings.
- 9. The person observes and states specifically and nonjudgmentally what behavior is causing a problem.
- 10. The person tries not to use words that push the other's hot buttons.

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- 1. This approach usually leads to a resolution.
- 2. There's no plan of action.
- One person discloses something he or she is unhappy about with the intent of letting the other person know he or she should change.
- This approach uses one of the not-OK attitude modes.
- 5. This approach promotes confrontation that dumps negative feelings on another person.
- The person is unaware of either person's nonverbal behavior.
- 7. The person states a message in a blaming, critical, judgmental manner.
- 8. The person blames the other person for his or her feelings.
- The person labels the behavior as good or bad, right or wrong.
- 10. Deliberately uses words that push the other's hot buttons.



DEALING WITH DIFFICULT COMMUNICATION SITUATIONS

The I-Rational Approach

Some Examples

I-Rational Statement		You-Blaming Statement
I'm embarrassed when you criticize me in front of my co-workers. I feel it's degrading to me.		always embarrasing me by me constantly in front of my co-
I feel angry when you don't get your work done on time. I think it makes the whole department look bad.		ke us look bad because you tyour work done on time.
I expect you not to take longer than 10 minutes for a coffee break.	You're al	ways taking long breaks.
Now it's your turn. Below are two you-blan statements. I-Rational Statement	ning statemer	nts. Change them to I-message You-Blaming Statement
		You always leave you
·		workstation a mess and I'm stuck cleaning up after you

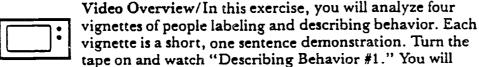


DESCRIBING BEHAVIOR

	DO's		DON'Ts
DO	Stay with what a person does.	DON'T	Make comments about what you think a person is.
DO	Use adverbs that relate to specific actions.	DONT	Use adjectives that label someone.
Ex: I	He talked loudly in the meeting.	Ex: He'	s a loudmouth.
DO Ev: 1	Describe what occurred.	DON'T	Use labels that judge what's happened.
Ex: When we don't agree, the problem usually doesn't get resolved.		Ex: You	u're wrong to be so stubborn.

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Video Exercise 6-1



listen to a person make a one sentence labeling statement to another. After a slight pause the scene will be repeated, but this time the person will make a descriptive statement. Notice how well the person describes behavior. This same procedure will be repeated for the other three vignettes. Pay attention to the difference between the two approaches and the impact each has on the person receiving the statements. In addition, notice the facial expression, tone of voice and manner of the person making the statements.

Video Instructions/Before carrying out these instructions read them over carefully.

- 1. Turn on the videotape to the vignette "Describing Behavior #1."
- 2. Listen to and watch how the labeling, judgmental statement is delivered. There will be a slight pause, then the demonstration will be repeated, but stated descriptively.
- 3. You will repeat this same procedure for the next three vignettes.
- 4. After you have listened to and watched the four demonstrations, open your "Participant Exercise Booklet" to page 6-3 and answer the questions.
- 5. After completing the questions, turn to page 6-4 in your "exercise booklet" to find an explanation of the answers. Compare your answers to the explanations to find out how you did.

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VIDEO VIGNETTE - DESCRIBING BEHAVIOR #1, #2, #3 AND #4

cribing behavior approach?
-
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1. What is the most significant difference between the two kinds of statements?

The most significant difference between the two approaches is that the describing approach decreases the possibility of the person hearing the statement as a put down. It is easier for a person to listen to what he or she has done than to listen to a judgment of their behavior.

2. What are the main benefits of the describing behavior approach?

The main benefits of the describing behavior approach are:

- It is more factual
- It is easier for the person listen to and accept the statement
- It reduces the tendency of the person to respond defensively
- It helps move the discussion into a problem solving mode

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DESCRIBING BEHAVIOR EXERCISE

Change the statements below to describe behavior rather than label people. You'll have to use your imagination to fill in specific facts.

Sally, you're just trying to show Geri up.

Rick, you're such a slowpoke.

Carlos, you're very rude.

Don't fly off the handle now, Marla.



POSITIVE FEEDBACK VS. PRAISE

Positive Feedback	Praise
A positive comment with meaning that specifically lets the listener know what the speaker values	A positive judgment with little additional meaning
Specific, related to a task	General and non-specific
A statement of observation and appreciation	Value judgment such as right, wise or good
Identifies behavior and describes the listener did	Labels behavior and judges what the listner did
Rings true	Can be taken as phony





Video Exercise 6-2

Video Overview/Now that you have had an opportunity to practice distinguishing between praise and positive feedback, let's observe how well Jon, June and Stella state positive feedback statements to another person. The three vignetics are one sentence demonstrations. The first statement made will be one of praise. After a slight pause the vignette will be repeated but this

time the person will make a positive feedback statement.

Turn on the videotape to the vignette "Praise/Positive Feedback #1, #2 and #3." Pay attention to how well the person carrying out the positive feedback statement follows the criteria stated on page 132 of your textbook. Notice the effect that each approach has on the person receiving it. Note the difference in the two approaches.

Video Instructions/Before carrying out these instructions read them over carefully.

1. Turn on the videotape to the vignette "Praise/Positive Feedback."

2. Listen to and watch the praise demonstration. There will be a slight pause, then another demonstration, this time a positive feedback phrase.

3. This procedure will be repeated for the next two vignettes.

4. After you have listened to and watched the three demonstrations, open your "Participant Exercise Booklet" to page 6-8 and answer the questions.

5. After completing the questions, turn to page 6-10 in your "exercise booklet" to find an explanation of the answers. Compare your answers to

the explanations to find out how you did.

E Madelyn Burley-Allen. 1984



VIDEO VIGNETTE - PRAISE/POSITIVE FEEDBACK #1, #2, AND #3

 	·		
ell did Jon, June, a feedback?	and Stella do in	carrying out the crit	eria for s



1. What is the major difference between the two approaches?

The major difference between the two approaches is that the positive feedback statement describes what a person does, whereas praise judges the person in a positive way. Receiving feedback is motivating while praise is often perceived as judgment and can make a person feel pushed to do something.

2. How well did Jon, June and Stella do in carrying out the criteria for stating positive feedback?

All three carried out the positive feedback criteria. Each person made the statements in specific and descriptive terms. Each made eye contact, had positive facial expressions and had a positive tone of voice. In addition, each was attentive and energetic and concerned for the other person.

CMadelyn Burley-Allen, 1984



PRAISE/POSITIVE FEEDBACK EXERCISE

You'll have to use your imagination to fill in specific facts.
Jack, you really do good work.
·
Tina, you're such a nice person.
I can't believe how thoughtful you are, Mario.
Joyce, you're so talented.





ROLEPLAYING EXERCISE

Each person in the group is assigned to one of the roles on the next page. After reading and putting some thought into how to play your role, act out the following scenario with the people in your group.

Scenario:

Roy is responsible for safety in his department. There are two other employees in his department, George and Brian. George doesn't follow safety standards as he should. George often doesn't wear his safety glasses, piles boxes higher than is safe, and sometimes has boxes jutting out into the aisle. Roy would like to get George to change his behavior. He knows that instead of judging and labeling George, he has to speak to him using the describing behavior approach. Roy speaks to George about his unsafe practices with the goal of getting him to commit to changing his behavior.

Brian, on the other hand, does a good job following safety practices. Roy wants to let Brian know that he recognizes and appreciates how Brian follows the safety rules. He realizes that he needs to use positive feedback rather than praise so that Brian will feel he's sincere and to keep Brian motivated to continue following safety practices. Roy talks to Brian about his behavior using positive feedback.



ROLEPLAYING EXERCISE (cont'd)

Roy:

Not a supervisor, but charged with the responsibility of safety in his department. His first reaction to George is to tell George that he's careless and to tell George what he should do. But Roy realizes that this approach won't do much to change George's behavior. That's why he decided to use the describing behavior approach and good listening skills to get George to change his safety ways. He also knows it would be easier to just tell Brian, "Good job." But he realizes this won't motivate Brian to keep up the good work or win Brian's trust for the future. He reasons that giving positive feedback about specific behaviors will show Brian that he does notice and appreciate Brian's contributions to department safety.

George:

Doesn't really care about safety. He just does whatever's easiest at the time. When Roy first approaches him about his unsafe practices, he tells Roy that neither he nor any other employee has ever been injured by anything he's done or not done. But because Roy listens to him and doesn't judge him, Roy is able to persuade him to change his practices by pointing out how he could benefit from following safe practices.

Brian:

Always tries to co-operate. However, he is a little suspicious when people praise him. He sometimes feels that because he's co-operative, people take advantage of him. When someone praises him, he figures they just want something out of him. When Roy talks to him about his safety practices, he's not sure Roy's sincere and tries to figure out what Roy really wants. But as Roy continues talking, he realizes that Roy is sincere and just wants to recognize him for following safety rules and keep him motivated in the area of safety.



ROLEPLAYING EXERCISE - EVALUATION QUESTIONS

	What types of statements were used to show that Roy was using describing behavior rather than judging and labeling?
	How did the describing behavior approach help George to commit to changing his safety behavior?
	What types of statements were used to show that Roy was using positive feedback rather than praise?
•	



ROLEPLAYING EXERCISE - EVALUATION QUESTIONS (cont'd)

What other	good listening	skills were	e demons	rated by R	oy?





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APPENDIX





REDUCING RESISTANCE IN CONFRONTATION SITUATIONS: THE I-RATIONAL VERSUS YOU-BLAMING APPROACH¹³

It is important to let others know our limits and expectations if we want our relationships to run smoothly. Just as important is being able to express our negative feelings when we are upset about something. The manner in which we handle these situations will strongly influence the results. An *I-rational approach* can decrease resistance and increase the possibilities of the receiver listening to us. We most often confront people using a youblaming approach that we learned during our socialization process. This you-blaming approach often builds resistance and turns people off. As a result, the listener tunes us out and very little of our message is heard and understood.

To understand the differences between the two approaches, study the comparison summary on pg 8-3 Fac.

I-Rational Statement Guidelines

Now that you have examined the two methods and have an idea of what is meant by an I-rational approach, develop an I-rational statement you have been wanting to express to someone and haven't because you didn't know quite how to say it. Follow the guidelines described below.

An I-rational statement is a way to tell another person about a problem you are having with that person's behavior. The statement is to be expressed in a nonblaming manner.

PUTTING IT TOGETHER: Using the information that you noted

When you _	(nonblaming description of other's behavi
feel	because
	(emotion)

You'll notice that the person using the I-rational approach has some awareness of the dynamics of the interaction with others. This is done by observing what is going on, using nonthreatening labeling words, being aware of the nonverbals and hot buttons, 1 by stating specifics. On the other hand, the person using the you-blaming approach, by his very actions, is not aware of the negative impact he is having on the other person.

You've probably experienced numerous situations in which the youblaming approach was used and as a consequence felt frustrated, put-down, or angry. I can't stress enough the importance of using this I-rational approach as a method of decreasing resistance and reducing conflict.

The following examples of both statements will give you an idea of the differences in the approaches, along with a feeling about their possible impact on people.

¹³ Adopted from the work of Dr. Thomas Gordon's book, *Parent Effectiveness Training*, Peter H. Wyden, Inc., New York, 1970.



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TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 9

- Identifying Codes and Symbols Used on Schematics and Blueprints
- Job-related Vocabulary Improvement



READING BLUEPRINTS

NOTES ON COMBINING BLUEPRINT READING AND BLUEPRINT VIDEO IN CLASS

Most of the materials that introduce Blueprint reading are written at least a 10th grade reading level. This may mean that, in a communications course that covers a span of grade 7-11th readers, the reading level of these materials may be difficult for some participants. Since Blueprints are an essential form of communication on the job, an introduction seems an important part of this course. A reading activity from "TPC Training Systems is included to provide an in-depth reading experience on blueprints. It is written at approximately an 11th reading level.

VIDEO

For this reason, it is suggested that the "TPC" Video can be shown as an option. Participants can be encouraged to follow along with the reading. The drawings and subjects in the video correlate with the reading. Participants may want to listen and watch and then read the article. Or they may wish to underline on the written material as they listen and watch. The way in which they choose to combine the audio-visual and print materials in this session will/may depend on their preferred personal learning styles. This might be helpful to point out since previous discussion of these styles has been included in this course. The video is approximately 10 min long.



Facilitator 9-1

Facilitators can handle discussion following the video could several different ways. Suggestions include:

- 1. Discuss the segments as presented in the reading.
- 2. Have participants take turns reading the sections out loud and answer the questions as a group.
- 3. Read the article silently in class asking for help or clarification as needed.
- 4. Read the article as an assignment and return next session with completed programmed exercises and any further questions.

PLEASE NOTE THAT THE VIDEO "QUIZ" QUESTIONS AND THE QUESTIONS AT THE END OF THE READING ARE <u>NOT</u> THE SAME.

Participants have a suggestion sheet for using the skills presented in the course as well as a few new Interactive reading strategies. It may be helpful to review the first paragraph together after the video and before the reading activity options above.



Facilitator 9-2

PARTICIPAN	NT PAGE:	READING BLUEPRINT	rs
Blueprints ar	e an important fo	orm of	in the workplace.
This session of Blueprints		eral different activities to	help increase your understanding
VIDEO	Blueprints		

Your facilitator will help you determine the best way to use the Technical Article and the video to learn the most you can about blueprints. When you read this article try to use the reading skills that have been presented in this class. Try:

- 1. Using ACTIVE READING
- 2. SETTING A PURPOSE
- 3. PREVIEWING and
- 4. **ASKING QUESTIONS** to determine the main thought of the sections and paragraphs.

Several **NEW** Interactive Reading Strategies to try:

Condensing

Read a section, one or two paragraphs, without making any marks.

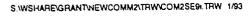
Then go back and underline or highlight only specific words, not entire sentences. You should be able to re-read the marked words and have them make sense as full sentences.

Reflecting Stop at intervals and re-think what you have read.

Setting Goals

To efficiently and effectively read this lengthy technical article, you are encouraged to set reading goals. Be realistic. If the whole thing looks like too much for you, spend several small sessions reading and trying the above strategies.

Evaluating yourself by using the Programmed Exercise Questions. Your facilitator will provide the answers.



Facilitator 9-3



TRW COMMUNICATIONS ON THE JOB II

OBJECTIVES

SESSION 10

- Review/Wrap-up
- Post-Assessment
- Evaluation



S WSHARE GRANT NEW COM2 SESSIONS TRW

COMMUNICATIONS ON THE JOB II POST - ASSESSMENT

1)	Name the four	r Preferred Learning Style	e categories re	presented by these initials:
	•	V		
	•	A		
	!	K		
		Т		
2)	Name one of	the three components of	effective learr	ning.
3)	Mark each st	etement about listening People tend to pay	True or False:	When a listener's emotional
		attention to what interests them.		level is high, he or she will be an effective listener.
		Hearing and listening are the		Listening is a natural process.
		same.		Listening is a skill.
		Most people have a short attention span and have trouble		Listening requires little energy; it's "easy".
		concentrating on the same thing for too long.		Giving advice and telling the speaker what to do is not a listening skill.
		The speaker is totally responsible for the success of communication.		Speaking is a more important part of the communication process than listening.



S WSHARE/GRANT/NEWCOM2/COM2PRETRW

4)	List below	4 study tech	niques that he	elp people	e learn more effect	ively:	
					_	<u> </u>	
5)			ehavior is mo			True	False
6)					d, right or wrong, ommunication.	True	False
7)	Giving a pe	erson praise	helps them w	vork bette	r.	True	False
8)	Roleplaying is useful in training sessions.			True	False		
9)	The dictionary is considered a * power tool *.				True	False	
10)	Phonics sk	ills are an in	portant part	of adult re	eading.	True	False
11)	Name two	types of dict	ionaries that	are usefu	l everyday.		
12)	Name 2 co	mponents of	a dictionary	page.			_
13)	How many	consonants	are in the Er	nglish alph	nabet?		
14)	The letters	w and y are	: (circle one	answer)			
	consonants	3	vowels		both consonants	and vow	rels
15)	Circle the	words with th	ne short e s	ound:			
	she	verse	fret	Pete			
	bench	these	press	wed			
16)	A person's	attitude is a	n important p	art of the	reading process.	True	False

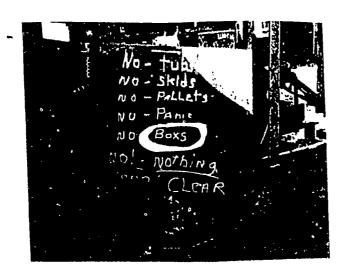


Name two of the four major components of the Rea	iding Process.	
A person should always try to maintain the same respeed no matter what they are reading.	eading True	False
Reading is learned only at an early age.	True	False
A person must read every word to be a "good" read	der. True	False
If you read very fast you should still try to remembe everything you read.	er True	False
Name three good reading habits.		
One word can have several different meanings.		False
One word can have several different meanings. A homophone is a		False
		False
A homophone is aAsking a co-worker is an acceptable way to find our	ut what	



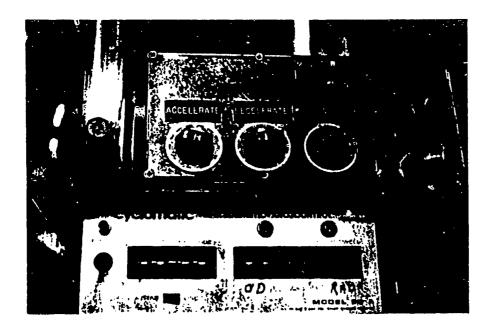
efore, qua ity can be	uality product at a fair price is the goal of any manufacturing plant. lity control must be an important aspect of TRW's process. Product controlled in two ways.
it is the m	
· · · · · · · · · · · · · · · · · · ·	ain topic of this reading:
ne the foll	owing TRW terms:
sser -	
ar .	
let .	
erance	
ocess	

30) What is the proper spelling of the circled word on this sign.



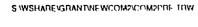
31) If you wanted to make this go faster, which knob would you turn? (circle one)

left center right









25) Is the verb in the sentence on the white ticket correct? Please write the correct verb on the line.

