

MANAGEMENT TRAINING COURSE CONFERENCE OUTLINE

NO. 12

JOB INSTRUCTION METHODS

OBJECTIVES

1. To review and discuss the 4-step method of instructing by means of teaching demonstrations.
2. To recognize learning difficulties and to devise means of overcoming them in the instructing process.
3. To become thoroughly familiar with the use of the training timetable, the training progress chart and the job breakdown.
4. To understand fully the supervisor's responsibility in training his subordinates and to recognize that the ability to accomplish these training functions marks the supervisor as a leader.

AIDS AND MATERIALS

1. Worksheets 52—61.
2. All charts pertaining to instruction.
3. Film Strips, "The Job Breakdown, SFS 80—4" (15 min) and "There's a Job to be Done" (25 min).

- - - - - TIME SCHEDULE - - - - -

30 min	I. Review of the Job Breakdown: Film Strip
25 min	II. Teaching Demonstrations and Critique
25 min	III. Summary of the Supervisor's Responsibility in Instructing
<u>30 min</u>	IV. Film Strip: "There's a Job to be Done"
110 min	

- I. Review of the Job Breakdown (30 min.)
- A. Film Strip (15 min.)
- Open the conference by presenting the film strip, "The Job Breakdown." Playing time is about 15 minutes. Not only does this film show how a job breakdown is made but it also shows how the breakdown helps the instructor in his preparations for a training assignment.
- B. Check of Assignments (15 min.)
- Comment on a few of each of the three assignments handed in at the beginning of the conference today. Find at least one excellent example for each problem and praise it. Point out any errors or weaknesses that you find in checking through the assignments turned in by the others.
- Have the conferees ask any questions pertaining to previous conferences or to assignments. Problems that are not of any special interest or value to the whole group should be taken up with the individual conferee after the session is over.
- (30 min. to here)
- Announce that you will see the conferees individually within a few days to return their assignments.
- II. Teaching Demonstrations and Critique (25 min.)
Worksheet 52
- Distribute Worksheet 52, "Requirements of Successful Instruction," and have the group read it over quickly while the first demonstration is being prepared. Refer them also to Worksheet 37, "The Four Steps in Instruction."
- When the demonstration is ready to be given, the person assigned (in Conference 10) is to pick out any one from the group to take the part of the learner. Fifteen minutes are allotted to each demonstration, but if it is necessary, allow an extra few minutes to prevent rushing through demonstrations.
- First Demonstration
- After having assured that the preparation is adequate and that all necessary help was given, have the first demonstration presented.
- Worksheet 53
- Have the group turn to Worksheet 53, "Instruction Demonstration Check List," and

- discuss the demonstration step by step. Give the person who gave the demonstration the first chance to make a self-evaluation.
- Second Demonstration Have the second demonstration and its critique presented in the same procedure as the first one.
- Worksheet 54 Distribute Worksheet 54, "A Review of the Steps in Instructing" and tell the group to work out the problem in their spare time.
- (55 min. to here)
- III. Summary of the Supervisor's Responsibility in Instructing (25 min.) Have the group turn to Worksheet 55, "Zenta's Start on the New Job." Ask the group to read this over carefully outside of conference time. Comment that undoubtedly each one has had similar experiences at one time or another.
- Worksheet 55
- Worksheet 56 Distribute Worksheet 56 and make the following comment: That in addition to the training timetable such a control chart as this would be very useful to the supervisor and would be valuable particularly when his unit was being inspected by higher echelon.
- Worksheet 57 Distribute Worksheet 57, "Training Progress Chart." Encourage them to use this worksheet in making charts for their units and to tack them up near their desks.
- Worksheet 58 Briefly review the value of the job breakdown; if time permits, make a breakdown on the blackboard of one of the demonstrations given today with the help of the entire group.
- Worksheet 59 If time permits, make use of Worksheet 58, another "Sample Training Job Breakdown."
- Worksheet 59 Also, ask the group to look over Worksheet 59, "A New Start--A Case Study."
- Briefly review the supervisor's responsibilities in developing an understudy and in properly orienting new employees on the job, and conclude the conference with a review of the supervisor's responsibility for conducting necessary on-the-job training.

Conclude by emphasizing as follows:

The conferees must understand that training is a necessary investment in time and effort if he is to fulfill his primary responsibility, which is to "get the job done." They must further understand that this time and effort is not a sacrifice, but a sound investment for the future.

(80 min. to here)

IV. Film Strip
(30 min.)

As a final summary to Job Instruction present the film strip "There's a Job to be Done." This film takes up the pressing problem in training new men quickly to meet a stepped-up production schedule. It also illustrates vividly the order in which a long difficult operation should be taught. Furthermore, it gives an excellent presentation of the problems involved in preparing for instructing. A summary of the points is given in Worksheet 60. Distribute this at the end of the film strip along with Worksheet 61, which shows the sequence in teaching a long operation.

Worksheets 60
and 61

(110 min. to here)

SUCCESSFUL JOB INSTRUCTION

1. Make a job breakdown. Analyze the job, break it up into small parts or steps, list "critical" or "key" points.
2. Be sure learner is in a position where he can see every move, every part of the work being demonstrated.
3. Show how to do the job at full production speed to give a preliminary idea of how the job is done.
4. Slow down the demonstration to show each step. Explain "critical points," demonstrate each critical point by itself.
5. After full explanation, demonstrate again at full speed.
6. Give opportunity to ask questions.
7. Use very simple and clear language in explaining the job.
8. Explain carefully all special trade terms.
9. Let learner do the job slowly. Check each "critical point."
10. Postpone "reasons why" until learner knows how to do the job.
11. Repeat again and again. Repetition develops skill.
12. Stress the safe way of doing the job at all times.
13. Don't show how NOT to do the job.
14. Put learner on his own but don't fail to check carefully.
15. Have him come to you if he has any questions.

<u>Things That Hamper Learning</u>	<u>Methods of Remediying</u>
1. Teaching too much	1. Analyze what you are going to teach. Study how worker absorbs it.
2. Teaching too fast	2. Analyze your teaching method. See how easy the worker follows your instruction.
3. Fear of new job	3. Explain how to avoid dangers. Develop confidence. Transfer to other work if fear cannot be overcome.
4. Complexity of job	4. Break up into several demonstrations. Arrange carefully steps to teach.
5. Trade terms	5. Teach shop terms.
6. Nervousness	6. Place learner at ease; make him feel at home.
7. Sense of inferiority, lack of confidence, timidity	7. Give friendly encouragement. Show him how he has improved.
8. Stubbornness	8. Win confidence and friendship.
9. Outside distraction	9. Talk over and point out effects. Be a good listener. Be careful and tactful with advice.
10. Laziness	10. Be firm. Arouse interest and compare his results in other fields where he does well.
11. Carelessness	11. Point out results. Make man do job over. Be firm.
12. Awkwardness	12. Increase accuracy by providing help in developing skill and giving encouragement.
13. Physical handicap	13. Give special training. Find suitable job.
14. Slow learner	14. Make sure job is not beyond ability. Train slowly. Be patient.

INSTRUCTION DEMONSTRATION CHECK LIST

1. Did the instructor appear to have his instruction planned? Did he appear to know what he was doing?
2. Were tools and supplies all in readiness? Were there any fumbles? Did he forget anything?
3. Was the work place in order? Did he have to make changes in the work orders during the instruction? Did he have to apologize?

Step I. Preparation

1. In putting the learner at ease, was it natural? Was it overdone? Was it poorly done?
2. Did he find out what he knew about the specific job?
3. Did he tell enough about the job to genuinely interest the man?
4. Did he place the man in the proper position?
5. Did he lead into Step II in a smooth, natural way?

Step II. Presentation

1. Was it too big a "dose"?
2. Was his explanation clear, understandable, complete?
3. Did he "jump about" or "back track"?
4. Could you follow the steps in his job?
5. Were key points really stressed? Could you catch them?
6. Were any strange terms used that weren't explained?
7. Could the worker see the operation clearly? Could the worker have missed seeing any of the operations?
8. Did the instructor repeat important steps?
9. Did he go into Step III smoothly?

Step III. Tryout Performance

1. Did he have the worker do the job?
2. Did he correct errors at once?
3. Did he have worker repeat the job again and have the worker tell, step by step, what he was doing?
4. Did he have worker DO and EXPLAIN what he was doing until he knew it PERFECTLY?
5. Did he ask questions that couldn't be answered by "yes" or "no"?
6. Did he have worker do and explain key points? Did they stand out sharply?
7. Did he "grab" tool or material out of worker's hand to correct error or reinstruct?
8. Was instructor's attitude exacting yet friendly?
9. Was he patient with the learner?
10. Did he move into Step IV smoothly?

Step IV. Follow-up

1. Did he designate to whom the worker should go for help?
2. Did he encourage questions?

STEPS IN INSTRUCTING

A Review Problem

Point out which instruction step each item in the list below belongs to:

1. Have him explain the reason for doing the job in the given way.
2. Find out what he already knows about the job.
3. Check quality and quantity of production.
4. Have him explain key points as he performs the steps.
5. Put him on his own.
6. Test him by letting him do it alone.
7. Encourage him to come to you if anything goes wrong.
8. Prepare.
9. Check, question, and repeat.
10. Follow-up.
11. Check frequently and minutely to be sure he is following procedures demonstrated.
12. Stress key points.
13. Observe carefully, correct errors, repeat if necessary.
14. Get him interested and anxious to learn.
15. Present.
16. Put him at ease.

ZENTA'S START ON THE NEW JOB

"So you're the new man! Well, just keep out of the way until I get a chance to give you your job!"; that was Zenta's introduction to his new job and his first experience with his new foreman.

About an hour later, Zenta was startled by a sudden "Hey you, come over here." Zenta moved over to the machine where the foreman stood. "I don't know why I get all the green help around here like you. I wish they'd send me a man just once that could go right to work without my help." That was the way that Zenta was first brought before the machine.

The foreman grumbly removed hammers and screw drivers from the top of the machine, kicked aside a pile of empty boxes and said, "Guess we're ready now."

"I'm going to show you how to operate this machine and then I want you to run it exactly like you see me do it," the foreman told the hesitant Zenta. "It's a simple operation that anybody with an ounce of common sense ought to catch on to right off. Now watch me closely, you green horn, because I can't be going into the lunch hour fooling with this thing."

The foreman got a piece of metal that resembled steel, started the machine and proceeded to run the piece through. He had no sooner started the piece through when the machine suddenly came to a stop. He yelled, "Who in the h___ has been monkeying with the cutters on this machine?" He turned glaringly to Zenta and said, "Just a minute, I've got to get a wrench and adjust these cutters. Someone's always changing the cut."

He was back in a few minutes and adjusted the machine. Zenta felt lost. He couldn't tell one part of the machine from another; it was running at regular speed. The foreman ran a half dozen pieces through at regular speed. Then he turned to Zenta and asked, "Think you're smart enough to handle it? There's nothing to it."

Not wanting to appear dumb, and mustering up all his courage, Zenta said, "I guess I can do it. I'll try it."

"Okay then, hop to it!" was the foreman's reply and away he went to take care of other duties.

Half an hour later the foreman hurried by. As he went by, he yelled, "Be darned careful of that job so you don't do any damage or get hurt, you green horn. Keep at it!"

(Cont'd)

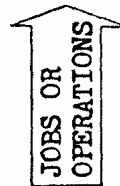
Zenta wanted to ask a lot of questions. He was finding the job was not as easy as he thought. He was discouraged and half scared. The machine was not running like it did for the foreman. He shut the machine off and began to tinker with it.

The foreman then returned. "Keep your fingers away from those cutters," was his first bawling-out remark. "This is a delicate machine and we can't let just any Joe play with it. Guess you're not as smart as I thought you were," the foreman continued as he began to check up on Zenta's mistakes making such remarks as, "This is no good...What in the h___ is this?"

"If you didn't know what to do, why didn't you ask one of these guys around here. Anyone of them could have told you what to do. Better go over and watch Shimada." That was the last Zenta saw of the foreman that morning. He did not see the foreman until the end of the day when he was cursed at again.

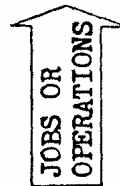
WHAT DO YOU THINK?

1. What do you think of this foreman's method?
2. How does his method compare with the 4-step method?
3. Apply the 4-step method to this situation and show where they would apply and what you would do if Zenta was sent to you.
4. How do you think Zenta felt about his new foreman?

TRAINING PROGRESS CHARTBRANCH: PRODUCTIONSupervisor: Higashi, Foreman, Factory 1UNIT: SHEET METAL FACTORY NO. 1Reviewed by: Kuroda, Factory ChiefDate Reviewed: 5 Jan '51

	NAMES	Job No																REMARKS
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	Mr. Adachi	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2	Mr. Banjo	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
3	Mr. Chiba	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
4	Mr. Daimaru	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
5	Mr. Endo	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
6	Mr. Fuchida	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
7																		
8																		

☐ = Assigned to Job☐ = Performs under close supervision☐ = Training not necessary☐ = Performed under Instruction☐ = Performs under normal supervision

TRAINING PROGRESS CHARTBRANCH: PRODUCTIONSupervisor: Higashi, Foreman, Factory 1UNIT: SHEET METAL FACTORY NO. 1Reviewed by: Kuroda, Factory ChiefDate Reviewed: 5 Jan '51

	NAMES	Job No																REMARKS
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	Mr. Adachi	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2	Mr. Banjo	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
3	Mr. Chiba	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
4	Mr. Daimaru	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
5	Mr. Endo	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
6	Mr. Fuchida	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
7																		
8																		

☐ = Assigned to Job☐ = Performs under close supervision☐ = Training not necessary☐ = Performed under Instruction☐ = Performs under normal supervision

TRAINING JOB BREAKDOWNITEM NO. 4
TRAINING TIMETABLEPrepare
Present
Perform
Follow-upTOOLS, EQUIPMENT, DEVICES
Rip SawJOB: Use Rip Saw
OPERATION: Rip Board to Width
of 4 InchesMATERIALS 1" x 10" x 1'
boardsSTEPSCRITICAL POINTS

- | | |
|---|---|
| 1. Check that there is a rip saw blade on the saw. | a. There must be a rip saw blade. If not, do not use the saw. |
| 2. Check lock on aft end of shaft to see that it is unlocked. | a. If saw is locked when power is turned on, the fuse will burn out.
b. This check may be made by looking at lock at aft end or by turning saw blade by hand. |
| 3. Check that guard is on and tight. | a. Safety precaution to keep board from jumping back. |
| 4. Set gauge for proper width. | a. Use scale on saw.
b. Be sure gauge is tight. |
| 5. Adjust table for proper depth of cut. | a. About 1/4" deeper than thickness of wood to be sawed. |
| 6. Turn switch on. | a. Be sure material is away from saw blade when starting. |
| 7. Push material slowly through saw. | a. Always stand to left side of work.
b. Always keep others away from behind the work.
c. Never rip piece less than 18" in length.
d. *If piece is long have a helper on opposite side of saw to tail piece.
e. Don't run round stock thru saw.
*This will save time and is much safer for operator. |
| 8. Turn switch off. | |

A NEW START - A Case Study

Foreman Bert Sanders did not first take James Smale to the machine shop as is ordinarily done; instead, he took him to his own office. After Smale was offered a seat, foreman Sanders began, "I got a note from the Personnel Office yesterday. You're James Smale. But what do they usually call you? Jim? Jimmy?" the Foreman smiled in a very friendly manner. James Smale smiled, too.

"Well, they call me Jim. I've also been called Smale, but I prefer Jim."

"OK, Jim it'll be. Jim, my name is Bert Sanders. But no one calls me Bert Sanders. I go by Bert. I'm Bert and all of us here are buddies. You call me Bert, too," he continued. "Jim, what did you do before you took this job?"

"I worked for Carson Steel as a crane operator, then for Luken's Steel. But I thought there was more future here."

"You're right. The shop chief and I both started on this same job. If you can keep up with the work diligently, it would be fine. Your work is particularly important."

The foreman then took Jim around the department. He introduced Jim to his new co-workers, explained company rules and regulations, the pension plan, insurance; he showed him the time clock, the lavatory, and the locker room set up.

By now Jim was thoroughly pleased with his new work-place ... "I'm really going to try my best here - but I wonder which machine I'll be operating" ... he was thinking to himself thus when Bert came.

"Well, Jim, here's your machine," said the foreman as he led Jim to a lathe; "this is where you're going to start on your new career. Won't you step over here?"

Bert had Jim stand right next to him, "You're going to be making parts for the B-26, the plane that dominates the skies of the world over. Watch me carefully now. This is the switch. Turn it up to start the machine, down to stop it. This is the safety guard--- This is dangerous here, if you're not careful...This is the guide..."

After finishing his explanation of the construction and operation of the machine, Bert took a piece of steel which was destined to become an important part of an engine, and put it to the machine.

"This is where the bite comes.....This is a critical point..... Is there anything you don't understand, Jim?" Bert explained each move. Jim was quite impressed with the foreman's skill and sincerity ...What a wonderful person he is!...Jim was reminded of Mr. Johnson, his grammar school teacher in whom he had had much faith and respect.

(Cont'd)

Jim listened eagerly to every word Bert had said.

"Jim, are you getting the hang of it?" Bert asked after repeating the procedure a number of times. "Well, what about trying it out this time?" he asked.

Jim nodded and hesitatingly went through the operation as he thought he had seen Bert explain it to him. With the foreman's help he managed to turn one out.

"That was fine, Jim" foreman Bert said enthusiastically. However, more than half of that job was actually done by the foreman.

"Try it once again, Jim. But this time you tell me what you're doing and why."

Jim turned on the switch again. As Jim did the operation, Bert listened carefully to Jim's explanation and when Jim made a mistake, he corrected it.

He watched Jim through a third time, asking questions about the "why" of each step and about each "key" point.

"Jim, I think you've got it now. I think you will be able to take care of yourself. Start with this box. Put your finished work in that box. The stock boy will come around to pick them up." The foreman continued, "If you need any help, come to me, Jim. I'll be in the department at all times. Don't go to anyone else. If you can't find me, just shut off the machine and wait."

Jim went right to work. Bert kept an eye on him, checking back every once in awhile to see how he was getting along.

When he was satisfied that Jim was doing the job as he wanted it done, he moved off to do another problem which needed his attention.

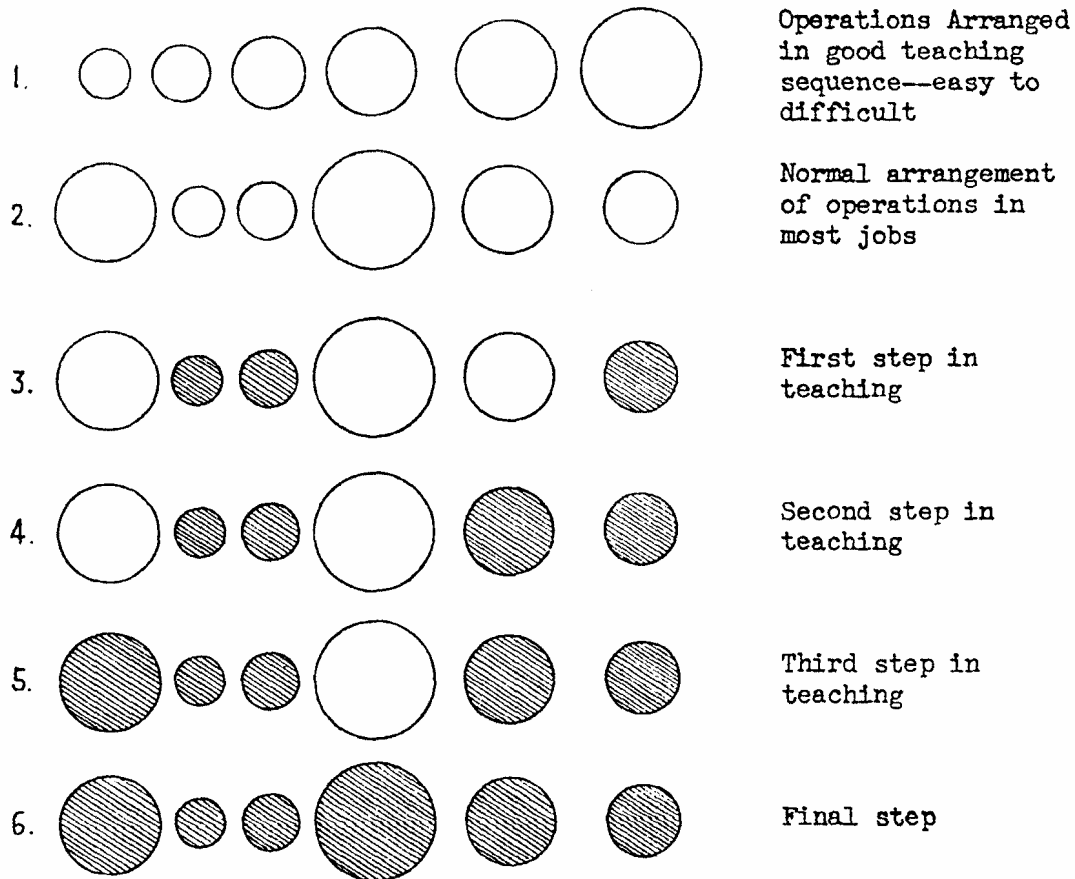
WHAT DO YOU THINK?

1. Think of your first day on the job; how did it compare with what Bert did?
2. What do you think about the way in which Jim started on this job?
3. Under the circumstances, how would you expect Jim to feel about his new job? About the company for which he is now working?
4. Do you think Bert is spending too much time with his new workers? Explain.
5. How do you suppose Bert's workers feel towards him, if this is an indication of his usual treatment of his men?
6. Do you know of any foreman using this same method in breaking in new workers?
7. Does Bert's way of breaking in a new man conform to the 4-step method? Check each step as it was used by Bert with the 4-step method.

Conference 12, Worksheet 59 (cont'd)

SUMMARY OF FILM STRIP, "THERE'S A JOB TO BE DONE"

1. Break Down the Operation (Step 2 of Preparation for Instruction)
 - a. List all the steps in the operation
(each thing that must be done)
 - b. Make sure the method is the best available
 - c. Study each step. Identify and make a list of the key points
(that is, the skills to be developed & information to be acquired)
 - d. Simplify the job whenever possible by checking off points which can be deferred until the new man begins to get the feel of the job
 - e. Determine the order in which skills are to be developed and information imparted and prepare a plan for training
2. Set the Stage (Steps 3 and 4 of Preparation for Instruction)
 - a. Select the right man to do the training and make sure he knows how to train
 - b. Have necessary material and tools at hand
 - c. Make sure the work place is in good order
 - d. Provide ample time
 - e. Put the new man at ease
 - f. Check on his past experience
 - g. Associate the new job with his past experience

HOW TO TEACH THE LONG DIFFICULT OPERATION

If a job can be taught by proceeding from the easy steps to the difficult, teaching becomes easy. Few jobs, however, have their working sequence arranged in an order of increasing difficulty as shown in the first row of the chart. (The sizes of the circles indicate degree of difficulty of the operation.) However, the difficult parts of the job are usually mixed in with the easy ones, like the second line on the chart. These steps have to be done on the job in the correct order, and therefore, they should be learned in that order.

The supervisor-instructor can keep the job in proper sequence and by setting up his teaching plan as shown in the chart, the learner first does the easier operations and the instructor the more difficult operations. Maintaining a learning sequence, and repeating over a period, the learner will finally be able to accomplish the entire operation as shown in row 6. A long difficult operation can thus be taught relatively simply.