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ABSTRACT Part of a series of instructor training modules on related subjects instruction for apprentices, this booklet deals with providing for individual learner needs. The first chapter consists of an outline of the scope and content of the instructor training modules as well as a self-assessment pretest. Covered in the module are determining needs, interests, and abilities of each apprentice; developing individual apprentice-related instructional plans; and using principles of individual differences in the learning process. Each chapter contains an introduction and objectives, instructional text, an example, additional information, and self-test exercises. Appended to the booklet are answers to the self-test exercises, a posttest, and answers to the posttest. (MN)

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PROVIDING FOR INDIVIDUAL LEARNER NEEDS

Instructor Training Module #7

Sally H. Spetz

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Glossary

The words on this list are used in this booklet. Please review the terms and learn the definitions. The meanings of the words as used in the text may not be the form of the word with which you are familiar.

Words/Terms

1. *Assess needs or assessment* The process of identifying individual characteristics of apprentices which affect the learning process. Example characteristics include abilities, work habits, career goals, motivation and academic performance.
2. *Assessment strategies* Ways to collect assessment information, for example, analyzing apprentice records, testing, discussion or interview, and observation.
3. *Competence* Possession of a skill or knowledge at a level required to successfully complete a related task activity.
4. *Individualized instruction* Varying teaching methods to be consistent with individual needs, interests and abilities in order to maximize the apprentices' benefits from instruction.
5. *Individual related instruction plan* A plan which supplements a Plan for Instruction by providing for differences in apprentice needs, interests and abilities. It includes performance levels, performance objectives, instructional activities, responsibility assignments and schedules for activity completion for individuals or groups of individual apprentices.
6. *Performance achievement test* A test which measures what a learner actually knows and how well he or she can demonstrate the knowledge and skill.
7. *Standardized test* A test which measures a learner's aptitude or achievement by comparing his or her performance with that of a large group of similar individuals.
8. *Varying instruction* The means by which instruction is individualized. Aspects of instruction that may be varied include pace, content, level of difficulty and form of presentation.

1. How To Use This Booklet

What Is The Series About?

Related subjects instruction is an essential part of every apprenticeship program. It is the program component through which apprentices are taught the background theory and range of applications of associated technical subjects such as mathematics, science and safety. Related instruction usually takes place in a classroom, after the regular work is over. Most frequently, related instruction is taught by a skilled tradesperson or craftworker. For the tradesperson or craftworker to be an effective trainer, he or she must not only know their trade skills, but also they must use teaching skills appropriate for conveying that information to apprentices. This series of materials is written to train related subjects instructors in the critical teaching skills necessary to perform their jobs effectively. The titles of the booklets in the series are:

1. *Introduction to Related Subjects Instruction and In-service Training Materials*
2. *Planning the Apprenticeship Program*
3. *Planning Related Subjects Instruction*
4. *Developing Instructional Materials for Apprentices*
5. *Presenting Information to Apprentices*
6. *Directing Learning Activities for Instruction*
7. *Providing for Individual Learner Needs*
8. *Controlling Instructional Settings*
9. *Evaluating Apprentice Performance*
10. *Communicating with Apprentices*

The first booklet introduces the series, describes the content of each booklet, and provides an overview of apprenticeship and of adult learners. The second booklet describes how to plan an apprenticeship program and may be used by related instructors, sponsors or service agencies. Each of the other eight booklets deals with a set of training skills judged by a panel of experts on apprenticeship to be critical to working effectively as a related subjects instructor.

What Is This Booklet About?

Each apprentice has different needs, interests and abilities. Apprentices enter related instruction with different experiences and skill levels. They have different talents to put to use in the work world. Their interests and areas of specialization differ.

Because of their differing needs, interests and abilities, apprentices have different instructional requirements. Some apprentices will learn faster than others. Some

apprentices learn better by solving problems, while others might do better by viewing a film. Most apprentices will learn best through instruction that is tied into their particular trades. For example, concepts of the mechanical advantage of levers are best taught through familiar illustrations. This could mean a pair of pliers for an electrician apprentice or a drill press for the machine trades.

It is important for you as a related instructor to be sensitive to these differences. Also, you must take these differences into account in planning and providing instruction. By providing for individual needs, interests and abilities, your instruction will be more responsive and more effective. This booklet is about the three major skills you need to provide individualized instruction:

1. Determine needs, interests and abilities of each apprentice;
2. Develop individual apprentice related instruction plans; and
3. Use principles of individual differences in the learning process.

What Must I Do To Complete My Work In This Booklet?

Working your way through this booklet will require you to read the text, to answer the questions, to perform the exercises, and to complete the pre- and post-assessment instruments. Expect to spend about five hours working through the materials. The only resources you need to complete your work in this booklet are: (1) a copy of the booklet; (2) a pencil or pen; (3) about two hours of time; and (4) recollection of past related instruction experience.

The materials are written in a self-instructional, programmed format. You may work through the text, examples and questions at your own pace and leisure; you need not complete your work in the booklet at one sitting.

Each chapter in the booklet is devoted to a single skill. The general format of the chapters is similar, with the following parts:

1. An *introduction* describing the skill and the instructional objectives for that skill.
2. *What is, when and why* use the skill.
3. Step-by-step *directions* for how to perform the skill.
4. An *example* of how the skill is used in related instruction.
5. A *self test* exercise to apply the information about the skill.

6. Additional sources of *information*.

This booklet concludes with an Appendix that contains the answers to the self-test exercises from each chapter and the posttest.

Your activities in working through this booklet will include, in order, the following:

- Complete the self-assessment;
- Read and consider in detail the introduction and objectives for each skill;
- Read and study the text, examples and illustrations provided for each skill;
- Complete the self-test exercise for each chapter and compare your answers with those provided in the Appendix;
- If you complete the exercise as directed, continue your work in the booklet; if you fail to answer the questions correctly, repeat your work in the chapter under consideration; and
- At the conclusion of the booklet, complete the posttest for the unit. Check your answers against those provided. If you exceed the criteria, continue your work in the next booklet; if you fail to demonstrate mastery, repeat portions of this booklet as needed.

How Much Do I Know About The Subject Before I Begin?

The self-assessment will assist you to focus on competency areas associated with providing for individual apprentice needs. Read each competency statement listed in Figure 1 and assess your level of knowledge about and your level of skill in performing that task. Knowledge means what you know about the subject while skill means your experience in successfully performing the task. Circle the number that best describes your level of knowledge and skill. Competencies where your ratings are poor or fair are those that you should concentrate on. Pay particular attention to the chapters which deal with those competencies.

**Figure 1. Providing For Individual Learner Needs
Self-Assessment**

Chapter	Competencies		Rating			
			Poor	Fair	Good	Excellent
2. Determine needs, interests and abilities of each apprentice.	1. Identify characteristics of apprentices for individual assessment.	Knowledge	1	2	3	4
		Skill	1	2	3	4
	2. Assess apprentice needs using existing records.	Knowledge	1	2	3	4
		Skill	1	2	3	4
	3. Assess apprentice needs using test results.	Knowledge	1	2	3	4
Skill		1	2	3	4	
4. Assess needs through discussions with apprentices, instructors, job supervisors, and others.	Knowledge	1	2	3	4	
	Skill	4	2	3	4	
5. Assess needs by direct observation of apprentice.	Knowledge	1	2	3	4	
	Skill	1	2	3	4	
3. Develop individual related subjects instruction plans.	6. Determine specific areas of learner strengths and limitations.	Knowledge	1	2	3	4
		Skill	1	2	3	4
	7. Identify apprentice instructional needs.	Knowledge	1	2	3	4
Skill		1	2	3	4	
8. Formulate individual related subjects instruction plan.	Knowledge	1	2	3	4	
	Skill	1	2	3	4	
4. Use principles of individual differences in the learning process.	9. Vary aspects of instruction based on individual differences.	Knowledge	1	2	3	4
		Skill	1	2	3	4
	10. Select appropriate instructional methods for individualizing instruction.	Knowledge	1	2	3	4
		Skill	1	2	3	4

2. Skill: Determine Needs, Interests And Abilities Of Each Apprentice

Introduction and Objectives

Apprentices differ in the abilities, interests and experiences that they bring to a training setting. They also differ in the ways they respond to training. An important part of the related subjects instructor's job is to identify these individual differences and design instruction so that training is effective for each apprentice.

This identification of individual needs is called assessment. Assessment could involve your talking with a job supervisor to determine the apprentice's year of training, particular strengths and limitations, and special interests. It could also involve your reviewing the apprenticeship application file or discussing with the apprentices their scholastic background, progress to date and career aspirations.

Assessment is an on-going process — each apprentice's interests and needs change over time. Throughout a trainee's apprenticeship, you may need to use various assessment strategies to keep in tune with the trainees' changing needs — those that are unique to a single trainee and those that are shared with other apprentices. As you work through the materials in this unit you will learn about individual assessment. After completing the unit you will be able to:

1. Identify the decisions you can use assessment information to make;
2. Select appropriate procedures for determining needs, interests and abilities of apprentices; and

3. Apply these procedures in your related subjects instruction.

What Is Assessment?

Assessment is the determination of individual learner interests, abilities and needs. It involves the collecting of information from various sources about different characteristics of apprentices that may affect learning. Assessment provides a basis for making instructional decisions about placement of apprentices in a related instructional program, sequencing and pacing instructional activities, or identifying special supportive services.

The type of decisions you need to make determines the types of information which you as a related instructor need to collect. Comprehensive assessment information might include an apprentice's work experience; levels of achievement in various related subject areas; specific career interests and aspirations; and physical, mental or behavioral strengths and limitations. Other types of information you might collect are shown in Figure 2. The specific items to include in an assessment depend upon the goals of the related subjects instructional program as well as specific instructional goals. The greater the amount of information collected, the more complete the picture of the apprentice and the more satisfactory the plan for the apprentice's instructional program.

WORK HABITS	Attendance	Promptness	Interpersonal Relations	Appearance	Initiative	Need for Supervision
EMPLOYMENT HISTORY	Jobs Held		Length of Employment	Types of Job Duties		Current Job Requirements
ACHIEVEMENT	Academic Performance		Job Performance		Competencies	
LEARNING CHARACTERISTICS	Attention Span	Learning Rate	Retention	Initiative	Adaptability	
INTERESTS	Career Goals		Hobbies		Likes and Dislikes	
PERSONALITY	Maturity		Self-Confidence	Self-Concept		Motivation
ABILITIES	Intelligence	Coordination	Social	Spatial	Mechanical	Creativity
BACKGROUND	Family Background		Special Needs		Medical History	

Figure 2. Characteristics of Apprentices to Assess

Why Assess?

You can use assessment information to design related instruction to fit individual apprentice needs. Some specific decisions you might make using the information collected are:

- Relating the overall instructional content to job requirements of specific trades.
- Relating daily instruction to the apprentice's current on-the-job learning situation.
- Adapting instructional methods and materials to suit the individual learning characteristics of each apprentice.
- How to capitalize on the strengths of individual apprentices.
- Which areas need strengthening or supportive services for success.
- Which areas of instruction are consistent with specific apprentice interests.
- Identifying instructional sequences which are challenging but not so difficult that an apprentice is frustrated.

These instructional design considerations are particularly important in apprenticeship related subjects instruction because apprentices have diverse backgrounds, interests, abilities and instructional needs. A single apprentice group could contain individuals with backgrounds ranging from those who have not completed high school to those with college degrees. Individuals in the group may be serving their apprenticeships in training for vastly different occupations, such as automotive mechanic, tool maker, carpenter and plumber. The instructional needs of the individual apprentices will vary substantially in terms of level, content, length and the ways instruction is provided. By identifying individual apprentice needs, abilities and

interests, you will be able to provide instruction which is effective for and relevant to all apprentices.

When And How To Assess

As mentioned, assessment is important at various times during related instruction. When an apprentice enters a course, it is necessary to find out about her or his background, experiences and levels of abilities. This provides some direction to your instructional planning. Using this information as a baseline, assessments throughout the course chart an apprentice's progress and growth in specific areas. You can use this information to adapt your instruction to be in line with the trainees' progress and their experiences outside related instruction.

There are different ways to assess trainee needs. Step-by-step procedures for conducting an assessment and synthesizing the results follow.

Step 1: Develop and Administer Apprentice Intake Form

First, gather basic information from the apprentices themselves. At the start of a formal course or as apprentices enter a more unstructured training situation, consider administering an apprentice intake form. This is a quick and easy way to collect general assessment data for making instructional decisions. A sample intake form is presented in Figure 3. Modify the form based on your situation and goals. For example, if your related instruction program is sponsored by a corporation, do not include the "place of employment" item. Also, add items you consider important. For example, subjects taken in school or listings of previous job activities and responsibilities may be included, if they are not available to you from other records.

Keep these intake cards or forms in the individual apprentice's file. Supplement or update the information using procedures described in the following steps.

Figure 3. Apprentice Intake Form

Name _____

Home Address _____

Phone No. _____

Last School Attended _____

Highest Grade Completed _____

Place of Employment _____

Employment Address _____

Occupation _____

Job Supervisor _____

Length of time you have been an apprentice _____ years _____ months

Special interests and hobbies _____

Step 2: Determine Appropriate Assessment Strategies

The Apprentice Intake Form is useful for making initial, broad programmatic decisions. Sometimes it is necessary to collect more detailed information and to update apprentice characteristics and needs. Four strategies are available to supplement the intake information:

1. Use of *existing records* — apprentice application records, course transcripts, counseling results, standardized test scores, attendance records, and so forth.
2. *Tests* of apprentice knowledge, attitudes and performance.
3. *Discussions* with individual apprentices, instructors, counselors, job supervisors, and other persons.
4. *Observation* of apprentices while performing various instructional and work activities.

Each strategy is useful to collect particular information about apprentices. To select a strategy, consider the relative difficulty of applying each. For example, it is easier to administer a short achievement test to a group of apprentices than to observe each apprentice performing a

task. If both methods yield the information you need, use the easier method. Also, consider what type of information you need to make an instructional decision. For example, if you need to know which apprentices have had training in applying the Pythagorean theorem, you could refer to records or simply ask them. Step 3, which explains the assessment techniques, will also help you select appropriate strategies.

Step 3: Conduct Periodic Assessments

Both formal and informal assessments should be conducted throughout related subjects instruction. Informal assessment, consisting of unplanned observations of or talks with an apprentice, should be an integral part of instruction. Information obtained informally provides feedback to you the instructor and may indicate when a more formal, planned assessment may be required. The following sections describe four formal assessment techniques, when and how to use them, and information that they can provide.

Use Of Existing Records

Existing records can be useful for the following purposes:

- Determining the abilities and other characteristics of apprentices when they start a course of study;
- Assessing apprentices' progress in the instructional program; and
- Verifying assessment information obtained through other means.

When an apprentice enters an instructional program it is advisable to review available records, such as the application form, educational records and job performance reports. This is useful for identifying individual strengths and limitations and any problems the apprentice has experienced in related subjects instruction or on the job. Also, solutions to previous problems and effective instructional strategies may be identified or deduced from the records.

Also, use job performance reports, if available from the apprentice's on-the-job supervisor, to assess the apprentice's progress. These reports will show how well the apprentice applies principles and concepts learned during related subjects instruction. An apprentice doing well in related studies but not applying what is learned on the job shows that there may be a problem with the instruction. You may need to renew efforts and possibly use different procedures to carry the related subjects instruction principles over to their use on the job.

Finally, records may be used to confirm or provide further information, regarding assessment results. For example, an apprentice may be late consistently for a related subjects instruction night class. On reviewing the trainee's record, you discover that she has two pre school children. You find out further from the apprentice that the time required to drive from her job to a day care facility, to a babysitter's, to the class site makes it impossible to be on time. Being a considerate and resourceful instructor, you should take steps to accommodate this apprentice's individual needs.

You can obtain a great deal of background information from records. Some of the information you can gather is listed in Table 1, though this will depend on your specific situation. You should realize in using this information that much of what is on the record occurred in the past. The apprentice today may have quite different interests, skills and attitudes. When in doubt, ask the apprentice, another instructor or job supervisor.

Table 1. Types of Assessment Information Available from Existing Records

<i>Job Records</i>	<i>Educational Records</i>
Address	Address
Family Status	Family status/background
Age	Age
Employment History	Courses and grades
Performance Records	Honors received
	Attendance
	Disciplinary Actions
	Instructors Reports
	Guidance and Counseling Reports
	Special Services
	Medical History
	Standardized Test Results
	• Interest Inventories
	• IQ
	• Aptitude Tests
	• Achievement Tests
	• Psychological Tests

Testing

Instructor prepared tests and standardized tests may be used to collect assessment information in related instruction. Pre tests may be used to assess characteristics of apprentices initially and to serve as a baseline against which to gauge trainee progress. Performance achievement tests assess progress of apprentices. They also can be used to verify or reinforce other information. Finally, the performance achievement tests can be used to describe the final levels of competence acquired by apprentices. Standardized tests may be used on occasion for all these purposes, except they are often too general to describe the acquired competencies of apprentices.

Assessment information may be collected using a work sample test, a simulation test, a knowledge test, or an attitude scale. The work sample test requires apprentices to demonstrate competence on a sample set of tasks. The simulation test replicates some critical elements of the work setting. In both these tests, you assess the apprentice based on performance or answers to questions. Knowledge tests are generally paper and pencil or oral in form and require the apprentice to demonstrate knowledge he

or she has acquired through instruction. You also may devise instruments to measure apprentices' work related attitudes. Positive and negative behaviors or feelings indicate how well apprentices' attitudes are consistent with those attitudes desirable on the job. For example, you can assess safety consciousness, pride in work, attitudes toward co-workers, and other similar characteristics, with attitude scales and confirm the results by observing apprentices on the job.

Specific procedures for planning, developing and interpreting tests are described in the module, *Evaluating Apprentice Learning*. These procedures can be used by the related subjects instructor to gather the following types of assessment information.

- Achievement
- Learning Characteristics
- Special Needs
- Interests
- Attitudes and Traits

Discussion

A direct means of obtaining certain types of assessment information is through discussion or interview. Because this is such a flexible technique, you can use it for many of your information needs. Individuals who potentially can provide useful information include:

- the apprentice
- other instructors
- job supervisor
- union representative
- counselor

The discussion can be informal or structured by an interview-guide. The types of information you want will help you prepare an interview guide or a set of general questions to guide you in an unstructured discussion. As an example, suppose you teach in a secondary or post secondary related subjects program and you suspect that an apprentice in your related subjects group has some type

of reading problem. You realize it will be important to set up meetings with two individuals. You need to meet with the apprentice's job supervisor to determine the job's reading and writing requirements. A meeting with the school counselor or reading specialist may be necessary to help you diagnose the problem. Some questions you might write down prior to the interviews are the following.

Job Supervisor:

1. What are the job-related reading/writing requirements of the apprentice? (Here it would be a good idea to have a checklist to go over with the supervisor. It could include various types of materials — forms, directions, manuals, letters, etc. — and the level of difficulty.)
2. What types of reading and writing tasks has John been involved in up to this point? What areas will he move into next? What are some examples of the materials he reads and/or writes?
3. Has he had any problems in this area before? How is his overall job performance?

Counselor:

1. Have you ever had a conference with John? At whose request?
2. Is there any evidence that he has some type of reading problem or learning disability? Any personal problems which would cause this? Physical problems?
3. Has he had any special services to help him with the difficulty? How successful were they?
4. Would you advise further testing of the problem?
5. What type of remedial program or special assistance would you suggest for this course?

Interviews and discussions take considerable time but provide in-depth and generally current information on an individual apprentice. Information which may be obtained from the various sources is presented in Table 2

Table 2. Assessment Information Available From Individual Discussion

Assessment Information	Information Source				
	Apprentice	Counselor	Other Instructors	Job Supervisor	Union Representative
Family Background	X	X			
Medical History	X	X		X	
Employment History	X			X	X
Personality	X	X	X	X	
Interests	X	X	X	X	
Abilities					
Academic Performance		X	X		
Job Performance				X	X
Work Habits				X	X
Learning Characteristics		X	X		
Educational History	X	X	X		
Special Needs	X	X	X	X	X

Direct Observation

A fourth means of assessment, used primarily in assessing apprentice progress, is direct observation of the trainee's performance. This type of assessment also can be

more or less structured. A more structured approach consists of a checklist of expected behaviors or competencies which you as an instructor observe and record while the apprentice participates in a learning activity. Types of activities you might observe are (a) interacting constructively with other apprentices on performing a particular work task, (b) speed and accuracy of performance and (c) product quality.

Unstructured observation is an ongoing part of the related subjects instructor's responsibilities. By observing apprentices at work on specific learning activities, you can identify problem areas and determine whether further assessment is required.

Observation is most useful for assessing the following characteristics of apprentices:

- Personality variables;
- Academic performance;
- Learning characteristics; and
- Special needs.

Step 4: Synthesize and Update Assessment Information

The final step is to assemble assessment information for use in individual and instructional planning. First, you need to summarize the variety of observations and findings for each apprentice. Do this by maintaining a record in each apprentice's file containing information from the original intake form and a summary of results of subsequent assessments. You could simply write findings on the intake form or devise a more comprehensive form for summarizing assessment data. An example form is presented in Figure 4.

Secondly, summarize the assessment information across apprentices so that you can identify needs they have in common. This will guide you in designing group as well as individual instructional activities. A sample summary sheet for the group is portrayed in Figure 5.

Figure 4. Apprentice Assessment Form

Related Subject _____

Name: _____

Occupation: _____

Year of Apprenticeship: 1 2 3 4 5

Total Length of Indenture _____ years _____ months

Areas of Specialty:

Educational History:

Highest Grade Completed _____

Academic Work Completed: _____

Related Subjects Work Completed:

Subject

Hours

Comments

Special Occupational Competency Requirements:

Figure 4. Apprentice Assessment Form (continued)

Work Habits:

Satisfactory (Check or Date)

- Attendance
- Promptness
- Interpersonal Relations
- Appearance
- Grooming
- Need for Supervision

Personal Characteristics:

- Maturity
- Self-confidence
- Self-concept
- Motivation
- Attention Span
- Learning Rate
- Retention
- Initiative
- Adaptability

Job Performance:

Rating

Job Competency

Satisfactory

Non-Satisfactory

Special Needs/Notes:

Figure 5. Related Subjects Instruction Summary Sheet

Related Subject _____

Characteristics of Apprentices:

Areas of Specialization

Year in
Apprenticeship

Number of
Trainees

Achievement Summary:

A. Satisfactory Performance Area
(Include skills, knowledge, attitudes)

Number of
Trainees

B. Non-Satisfactory Performance Area

Example

Joe Kazinski is an instructor of related physical science for a group of twenty apprentices in the building trades. He just completed introducing principles of matter and energy and administered a short test to assess the apprentices' comprehension of the concepts and information. In scoring the tests, Kazinski noted that two apprentices, one a pipefitter and one an electrician, did particularly poorly. He thought the apprentices were fairly bright and a quick review of the educational records he had compiled confirmed this.

So, what was the problem? Kazinski thought that it could be his teaching. But other trainees were doing fine so this was not likely. It could be personal problems. But he did not notice anything particularly wrong in observing the two at work. Maybe the instruction was not job-related.

Thus, Kazinski decided to find out more about the competencies required in the specific jobs held by the apprentices. Two approaches were open to him. One was to look at existing records and the other was to talk with the apprentices' job supervisors. Since he had access to the apprentices' job descriptions, Kazinski thought he would review them first. He found that their duties were atypical of those of the rest of the class, since they were employed by industry rather than being in housing construction. Thus, it was likely that the instruction as well as much of the class discussion was unrelated to the two apprentices' job situations. He guessed that as a result course content was not highly motivating. Kazinski confirmed this by talking individually with the two apprentices. He incorporated the results of this assessment into the apprentices' related subjects instruction plans, as described in Chapter 3 of this booklet.

Additional Information

For further information on assessing needs, you might refer to the following sources:

- L. Albright, and others. *A System for the Identification, Assessment and Evaluation of the Special Needs Learner in Vocational Education*. Urbana-Champaign: University of Illinois, 1978.
- D. J. Pucel, and W. C. Knaak. *Individualizing Vocational and Technical Instruction*. Columbus, OH: Charles E. Merrill Publishing Company, 1975.

Self-Test Exercises

Answer the questions below in the space provided or on separate work paper. Compare your answers with those provided in the appendix of the booklet.

1. List three instructional decisions you might make with assessment information.
 1. Existing Records
 2. Tests
 3. Discussions
 4. Observation
2. For each of the following characteristics of apprentices, identify one or more assessment strategies for obtaining the information. Use numbers of strategies listed below in answering.

_____ a. Job experience
_____ b. Hearing problem
_____ c. Initiative
_____ d. Mechanical ability
_____ e. Promptness
_____ f. Career goals
3. For one or more of your apprentice related instruction students, try to obtain existing academic or job records. Complete as many portions of the sample assessment form (Figure 4) as you can with the information you have. Add topics to the form that you think are important for decisions you make. What other information do you think you need? How would you suggest collecting it?

3. Skill: Develop Individual Apprentice Related Instruction Plans

Introduction and Objectives

A related subjects instruction plan forms the link between the objectives of instruction, the identified needs, interests and abilities of apprentices and the provision of instruction to meet these needs. Essentially, the plan is a blueprint for individualized instruction; much as the Plan for Instruction developed in Module #3 provides a basis for group instruction. It is the responsibility of the related subjects instructor to develop apprentice related instruction plans from assessment data in order to incorporate principles of individual differences into the actual provision of instruction.

In this chapter, you will learn about planning for individual apprentice needs. Specifically, after completing this unit you will be able to:

- 1 Recognize the purpose of individual planning in apprenticeship related instruction, and
- 2 Develop related instruction plans for individuals and groups of individual apprentices.

The What And Why Of Individual Planning

Individual planning involves comparing an individual's present level of performance with an objective or target level of performance. Based on the difference between the two and characteristics of the apprentice, an individualized instructional sequence is developed. The individual plan supplements the Plan for Instruction by incorporating assessment information. The plan is an instructor's guide for helping the individual apprentice to complete instruction successfully.

Components of an individual related subjects instruction plan include the following:

- Overall related instruction objectives, apprenticeship related instruction standards, and job requirements for related instruction;
- Apprentice's present level of performance;
- Performance objectives for individual units of study;
- Instructional sequences, activities and services; and
- Schedule for completion and evaluation.

The overall related subjects instruction objectives are from the Plan for Instruction. Assessment, as described in the previous chapter of this module, provides information on the apprentice's present level of performance (knowledge,

skills and attitudes) and other related characteristics. From this, you determine the instructional needs of individual (or groups of) apprentices. You then develop performance objectives for each unit and define activities for the achievement of the objectives.

By tying related instruction to both overall objectives and the needs of individual apprentices, you can be more confident of meeting the requirements of the apprenticeship program as well as providing instruction that is meaningful to the apprentice. For example, an apprentice who is deficient in basic mathematical skills will not benefit by mere exposure to the required hours of related instruction in algebra. The apprentice needs some type of remedial help to gain the competencies required by his or her job. Conversely, the related subjects algebra instruction may not motivate the apprentice with accelerated math skills. Thus, individual planning for the two learning levels would provide for more challenging instructional sequences. Through individual planning you can also vary the pace and content of instruction and ways of presenting information. These aspects are described in detail in the final chapter of this module.

How To Develop An Individual Plan

This section describes how to develop and maintain an individual apprentice related instruction plan. In following the procedures, you will want to plan for groups whenever possible. Remember that while it is important to account for individual differences in providing training, you also must capitalize on those things apprentices have *in common* when developing a plan. This is the reason for grouping apprentices in the first step.

Step 1: Group Apprentices

First, group apprentices based on their area of specialty, year of apprenticeship or prescribed curriculum content. This enables you to plan for groups of apprentices and then provide for differing individual needs within groups. At one extreme you might have an entire group in the same year of the same trade. In this case, use the Plan for Instruction as a group plan. Plan individually in response to needs, abilities and interests that differ from the group. At the other extreme, each apprentice could be in a different occupational specialty and at a different learning level. Here, you need to plan on a completely individual

ized basis, tying program content to occupational requirements, as well as apprentice characteristics. In between these two extremes are classes with small groups of apprentices with the same specialties. In this situation, first plan for the different small groups and then account for individual differences within groups.

Step 2: Compare Present Performance With Program Objective

For each performance objective, compare the performance level of the groups with that of the objective. Note individual differences in performance within groups or special individual problems and interests. The identified differences between present and target levels of performance will provide direction for the development of performance objectives and instructional activities.

Step 3: Develop Performance Objectives

Next, develop, for each group, performance objectives for the apprentices to attain target levels of knowledge, skills and attitudes. First, break down the program objective or content into discrete units. For example, a program content area dealing with preventive maintenance of tools could be broken down into the following tasks:

- Following manufacturers' instructions,
- Utilizing warranties;
- Maintaining service records;
- Cleaning and lubricating tools,
- Replacing worn out parts,
- Calling service personnel; and
- Developing pride in tools.

A group's performance objective should be developed for each of these tasks. For example, an objective for the first task could read:

The apprentice will read and follow the manufacturer's instructions for maintaining an electric drill, circular saw and radial arm saw. The instructor will observe and assess performance.

Then, add individual performance objectives to account for individual interests, strengths and limitations. For example, an apprentice having difficulty following written instructions may need remedial reading instruction (or other assistance). You would develop an individual objec-

tive to provide for this. An apprentice with work experience in maintaining tools may not require the instruction at all. You could advance this apprentice to the next planned group unit of instruction, or develop objectives for the trainee to explore a related area of personal interest.

Step 4: Determine Instructional Activities

In this step, design instructional sequences for each performance objective. In many instances, the activities will follow directly from the performance objectives. For example, in the objective presented above, the apprentice would learn by doing, perhaps preceded by an instructor demonstration. Some guidelines for varying instruction based on individual learner needs are provided in the next chapter of this module.

Step 5: Develop Written Related Subjects Instruction Plans

Finally, incorporate the level of performance, objectives, activities, and other necessary items into a written plan. Develop a plan for each defined group of apprentices as well as for individual apprentices in those instances where they differ from the group.

A sample apprentice related subjects instruction plan is provided in Figure 6. It contains spaces where you can fill in the apprentice's name and/or group, the program objective or content area addressed by the plan, the date you enter information, present level of performance (group or individual) from the assessment data, performance objectives you developed in Step 3, and activities you identified in Step 4. Also, you should include the persons responsible for the activities. Is the apprentice to work alone? What are your responsibilities? Are any outside resources required? Next, include the schedule for completion or evaluation of the activities. Finally, a space is provided for you to check off when the apprentice has successfully attained the performance objective.

You should update the individual and group plans as additional assessment information, either from a needs assessment or evaluation, is obtained. Since entries are dated, the updated plan provides a continuous record of the apprentice's progress through the related instruction program. File the plan with evaluation records that you keep for apprentices. This will provide for the appropriate linkage of the planning and evaluation functions.

Figure 6: Sample Individual Apprentice Related Instruction Plan

Apprentice: _____ Group: _____						
Program Objective/Content: _____						
Date	Present Level of Performance	Performance Objective	Activities	Persons Responsible	Schedule	Objective Attained (✓)

Example

Marianne Schmidt is an instructor of mathematics at a technical institute. Based on an assessment she performed at the start of a three-month training course offered for employees of local industries, Ms. Schmidt noted that there was a group of eight first-year cement mason apprentices in her class. Thus, she decided to use a group planning approach, supplemented with individualized planning, to provide for the individual needs of the cement mason apprentices. One month later she was planning a unit for the course on volume computations and applications. Her assessment data showed that the eight apprentices on the whole had not yet been exposed to linear measurement and volume computation. The group plan she prepared for the program objective is presented in Figure 7. Assessment information also showed that individual mason apprentices were different. She developed and updated individual plans on those units where an individual's performance or interests differed substantially from those of the group. For example, Jessica Morgan had some trouble with basic multiplication. Before completing the volume unit, she required some assistance with multiplication. Later that month, Jessica was ahead of the group. Thus, Ms. Schmidt and Jessica together came up with an objective and activities which would be of mutual benefit. Figure 8 contains the individual plan for Jessica Morgan.

Additional Information

See the following for additional information on individual planning:

1. Albright, and others. *A System for the Identification, Assessment and Evaluation of the Special Needs Learner in Vocational Education*. Urbana-Champaign: University of Illinois, 1978.

Self-Test Exercises

Answer the questions below in the space provided or on separate work paper. Compare your answers with those provided in the appendix of the booklet.

1. Which of the following is *not* a purpose of an individual related subjects instruction plan?
 - a. A plan guides the instructor in providing for individual needs.
 - b. A plan supplements a general plan for instruction.
 - c. A plan provides for more challenging instruction for advanced apprentices.
 - d. A plan serves as a basis for placing apprentices in instructional programs.
2. List the five components of an individual related instruction plan.
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
3. Using the assessment information you collected as part of Exercise 3 of the last chapter, generate an individual plan for a unit you plan to teach. Use the sample plans in Figures 6-8 as guides. To what extent is this apprentice's needs typical of all that you teach? How would you adapt the plan to suit other apprentices' needs, performance levels and interests?

Figure 7. Example Completed Group Apprentice Related Instruction Plan

Apprentice _____		Group: <u>1st yr cement masons</u>				
Program Objective/Content: <u>Applications of volume computations to trades</u>						
Date	Present Level of Performance	Performance Objective	Activities	Persons Responsible	Schedule	Objective Attained (✓)
10/8	Have not been exposed to linear measurement & vol. computation.	1. The apprentice will be able to identify linear measurement tools with 100% accuracy. 2. The apprentice will be able to read a linear scale to within 1mm. or 1/16."	Completion of instructional module on Basic Measurement: pp. 1-6 18-24	Group	By 10/15	
		The apprentice will measure off the dimensions of an area for pouring a slab within 1/8"	On-the-job measurement, class simulation for practice.	Group Site supv. Instructor	By 10/15	
		The apprentice will compute volumes, given dimensions or areas and heights, correctly at least 90% of the time.	Basic Measurement: pp. 30-34. Complete handout of word problems	Group	By 10/15	

Figure 8. Example Completed Individual Apprentice Related Instruction Plan

Apprentice: <u>Jessica Morgan</u> Group: <u>1st yr cement masons</u>						
Program Objective/Content: <u>Volumes</u>						
Date	Present Level of Performance	Performance Objective	Activities	Persons Responsible	Schedule	Objective Attained (✓)
10/8	Has trouble with basic multiplication.	Will be able to multiply correctly 3-digit numbers 90% of the time.	<ol style="list-style-type: none"> 1. Completion of Instructional Module on Basic Mathematics: pp. 8-11 2. Individual assistance, as required. 3. Complete handout of practice problems. 	<p>Morgan</p> <p>Instructor</p> <p>Morgan</p>	By 10/11	✓
10/22	Is ahead of group.	Will be able to explain to the group the relationship of weight, volume, density and temperature as it applies to mason's job.	<ol style="list-style-type: none"> 1. Outside reading 2. Class presentation 	<p>Morgan</p> <p>Instructor provide references</p>	By 10/29 unless volunteer speaker; then 11/4.	

4. Skill: Use Principles Of Individual Differences In The Learning Process

Introduction And Objectives

Apprentice differences in backgrounds, abilities, skills, motivations and interests affect their abilities to benefit from various aspects of related subjects instruction. By using principles of individual differences and learning, you can capitalize on these differences and provide effective instruction for all.

It is your responsibility as a related subjects instructor to use assessment information to both plan for and provide instruction that is consistent with individual apprentice needs, interests and abilities. In this unit, guidelines are provided for varying instruction based on these differences. After reading through this chapter and completing the exercises, you will be able to:

1. Define individualized instruction;
2. Explain three ways of utilizing principles of individual differences in related subjects instruction;
3. Select appropriate ways of varying instruction to fit individual needs; and
4. Apply alternative approaches to individualizing instruction.

Characteristics Of Individualized Instruction

Individualizing instruction involves adapting the learning process to fit the assessed needs of individual learners. In apprentice related instruction this could involve designing unique instructional sequences for each individual. Or, it could mean adapting certain portions of instruction to suit the needs, interests and abilities of one or more apprentices. How much to vary instruction depends on the nature and extent of differences among individual apprentices.

In general, individualizing instruction involves varying certain aspects of the learning process and environment. Aspects of instruction that you should consider varying are:

- Pace
- Content
- Level of difficulty
- Form of presentation

These are described in the next sections, followed by a step by step process for varying instruction to suit individual needs.

Pace Of Instruction

Varying the pace of instruction allows apprentices to learn at their own rates or pace. Trainees can proceed at different rates or at their own pace in acquiring the required skills and knowledges. They continue until they reach the standard for acceptable performance.

Consider using this strategy if apprentices differ greatly in their learning characteristics (attention span, learning rate, retention) or abilities. Also, you can vary the pace if your apprentices differ in experience, where some trainees have already learned the material. Varying the pace allows time for slower or less experienced apprentices to master the material, without frustrating the faster, more accomplished or more experienced learners.

Content Of Instruction

This approach to individualization is most common and involves adapting what an apprentice is taught based on individual needs. You are limited in the amount you may vary content since course objectives must be achieved. But, you should at least link the content to the trades of your apprentices. Do this through example and application, tying them in to individual apprentice specialties.

Also, look at courses apprentices have already completed. This way you can identify topics that apprentices have already mastered and those they have not. Look at apprentices' achievement in various subject areas as well as the application of the subject areas on the job. Use this information to individualize content. Eliminate areas that apprentices have already learned. Add those that have not been mastered.

Finally, content can be individualized with respect to specific apprentice interests. Emphasize those areas which are of most interest to the apprentice. Treat areas of little interest only until minimum competency is achieved.

Level Of Difficulty

You can vary the difficulty of the instruction so that apprentices with different abilities can succeed. However, be sure to stay within bounds set by performance standards and instructional objectives. Difficulty factors which you can modify for the individual are:

- the amount of information to be learned;
- the scope of coverage;
- the complexity of principles involved; and
- the sophistication of applications.

You need to vary the difficulty of coursework primarily because of differential abilities of apprentices in the class. Individuals with high abilities should be encouraged to complete more difficult assignments so they attain a broader knowledge and set of skills for the trade. Likewise, some students will have more experience, either through employment or education, and will be able to handle more difficult material.

Along with abilities and experience, pay attention to personality factors when you determine the instructional difficulty level that is appropriate for an apprentice. Apprentices who are weak in self confidence may be intimidated by difficult material. By lowering the difficulty level of instruction for such students, you help them to succeed and as a result build confidence. You can then increase difficulty as trainees become more confident. Also, take into account the trainees' motivation. More highly motivated apprentices will be suited to more difficult materials. Finally, consider the maturity of the apprentices. A more mature apprentice may have more well-defined career goals or be more settled in personal life. As a result the apprentice may be willing to apply herself or himself to a more difficult program of study.

Form Of Presentation

Different ways of presenting information are effective for instructing different apprentices. Which ways are best depends on a number of trainee characteristics. For example, a slower learner may perform better with extra attention, special assignments, limited reading assignments, visual aids and concrete examples. Dependent on their specific characteristics, other apprentices may learn quicker and retain longer through any of the following forms of presentation:

- Reading books, magazines, newspapers, trade journals;
- Using programmed materials;
- Conducting experiments;
- Listening to a lecture;
- Taking field trips;
- Watching demonstrations;
- Practicing skills;
- Discussing questions; or
- Working in small groups.

You discover which procedures work best for whom as you

get to know the apprentices better and watch their progress.

How To Individualize Apprentice Related Instruction

Once an assessment is completed, individualizing instruction is essentially a four-step process. First, you need to determine where the greatest differences among apprentices exist. Based on this, you next select the mode of individualization, such as varying pace or content. Third, decide which approach—for example, independent study, using volunteers, or learning modules—will be most appropriate and effective for individualizing instruction. Finally, incorporate learning activities into the individual apprentice plans and provide instruction accordingly.

Step 1: Determine Range of Apprentice Differences

For each characteristic which you assessed, look at the range of differences among your apprentices. Then note (a) those characteristics where there are substantial differences and (b) the extent of those differences. For example, in reading achievement the lowest apprentice may be at an 8th grade level and the highest at the level of a college junior. Job experience may range from an apprentice in his or her first job to someone with ten years' experience who is undergoing a career change.

Step 2: Select One Or More Ways Of Varying Instruction

Selection of an appropriate mode of varying instruction is based on the characteristics you identified in Step 1, as well as some other instructional considerations that you should take into account. As described earlier, some ways of varying instruction are more effective than others in accommodating particular individual differences. This is summarized in Figure 9. Use this figure as a guide to selecting procedures to vary instruction. Take into account the following considerations in deciding:

- *Flexibility of program standards or objectives.* Well-defined program standards may limit your ability to modify content, difficulty or sequencing of instructional activities for individual learners.
- *Availability of instructional materials.* Dependent on approach required to vary instruction, availability of instructional materials and media may limit your options.
- *Environmental constraints.* Factors such as the organizational administration, available facilities and equipment may influence the instructional decisions you make.

- *Time requirements* Length of time allotted for various activities or units of instruction may limit the extent you can individualize these activities.
- *Relationship to other instructional activities* The interrelationships in instructional content will influence your ability to vary content and difficulty of instruction.

Step 3: Select Appropriate Instructional Methods For Individualizing Instruction

At this point, decide which instructional methods to use in individualizing instruction. Different methods are more or less appropriate for particular ways of varying instruction. For example, self-paced learning modules can be used to vary pace of instruction, but not for varying content. Conversely, volunteers in instruction are beneficial for varying content but not pace. Methods useful for the different means of varying instruction are presented in Figure 9. Use this, as well as the instructional constraints described in Step 2, as guides for selecting instructional methods. The methods are described below:

- *Grouping* — placing apprentices with similar characteristics in common instructional activities or groups.
- *Independent Study* — each apprentice works on his or her own to attain instructional objectives. Activities may be assigned using individual job or assignment sheets. Or, objectives and activities time lines may be jointly determined by the apprentice and instructor using learning contracts.
- *Individual Assistance* — apprentices are provided tutoring by instructor, volunteers or advanced trainees, to assist them in areas where they need individual help.
- *Learning Modules* — booklets such as this which apprentices can work through at their own pace and schedule. They may be instructor developed, or the instructor can use existing modules. A set of ten modules for apprentice related instruction is available for the following topics:

1. *A Basic Core Curriculum*
2. *Introduction to Apprenticeship*

3. *Basic Mathematics*
4. *Basic Safety I*
5. *Basic Safety II*
6. *Basic Measurement*
7. *Sketching, Drawing and Blueprint Reading*
8. *Basic Physical Science*
9. *Working in Organizations*
10. *Interpersonal Skills and Communication*

Module #4 of this series describes how you can develop your own learning modules.

- *Supplementary Lessons* — apprentices have a common core of instruction but are assigned additional unique activities based on individual characteristics.
- *Using a Variety of Materials and Media* — the instructor locates through catalogs, journals, libraries and word of mouth a variety of materials related to his or her subject. Appropriate materials are used for individual apprentice needs.
- *Volunteers* — can be used in a variety of ways to individualize instruction: providing specialized instruction, tutoring, developing individualized materials, conducting job analyses, interacting with employers, assisting in monitoring trainee progress, serving as resource persons for updating instruction.

Step 4. Implement Individualized Instruction

The final step is to incorporate the selected activities into instruction. First, include activities as part of the apprentices' individual related subjects instruction plans. This is described in the previous chapter of this module. Finally, implement instruction as described in the individual plan.

*Specific procedures for providing instruction are discussed in detail in Module #3, *Planning Related Subjects Instruction*; Module #5, *Presenting Information to Apprentices*; and Module #6, *Directing Learning Activities for Instruction*

Figure 9. Applying Principles Of Individual Differences To The Instructional Process

If Apprentices Differ in One or More of These Characteristics:	You Can Vary:	Using One or More of These Methods:
Abilities Achievement Attention Span Job Experience Learning Rate Retention	Pace of Instruction	Grouping Independent Study Job/Assignment Sheets Learning Contracts Learning Modules
Achievement Educational History Job Experience and Requirements Interests	Content of Instruction	Grouping Independent Study Job/Assignment Sheets Learning Contracts Supplementary Lessons Using a Variety of Materials and Media Volunteers
Abilities Achievement Job Experience and Requirements Personality	Instructional Level of Difficulty	Grouping Independent Study Job/Assignment Sheets Learning Contracts Supplementary Lessons Using a Variety of Materials and Media
Abilities Achievement Educational History Interests Job Experience Learning Characteristics Medical History Personality Special Needs Work Habits	Form of Presentation	Grouping Independent Study Job/Assignment Sheets Learning Contracts Using a Variety of Materials and Media Volunteers

Example

In his related general science course, Elliot Richards has 21 first-year apprentices in three trades: automotive mechanic, industrial welder and industrial machine repairer. After reviewing the assessment information he collected, Mr. Richards noted the following differences among his nine automotive mechanic apprentices:

1. Prior achievement in science varied from no exposure to related science topics to completion of high school physics and chemistry (non-applied).
2. Records indicated that the apprentices differed considerably in how quickly they mastered material.
3. Two apprentices indicated that they preferred learning by doing.

Richards looked at the information in Figure 9 to make some instructional decisions. Looking at the first two columns, he decided that he could vary the content and pace of the instruction to account for differences in prior achievement and learning rate. He then looked at the third column to select instructional methods. Since a variety of existing materials were available for the automotive trade, he decided to select from among these materials to provide for variety in content. He then decided to make agreements or learning contracts with the individual apprentices, so they could complete their assignments at the pace which best suited their abilities. For two of the apprentices, the learning contracts contained a large amount of project work. Richards incorporated activities into the apprentice plans and determined individual responsibilities and dates for completion. In a similar fashion, Mr. Richards applied principles of individual differences to the planning of instruction for his apprentices in the other two trades.

Additional Information

For additional information on applying principles of individual differences to instruction, you could consult the following sources:

- N. E. Gronlund. *Individualizing Classroom Instruction*. New York: MacMillan Publishing Co., Inc., 1974.
- J. Jeter (Ed.). *Approaches to Individualized Education*. Alexandria, VA: Association for Supervision and Curriculum Development, 1980.
- D. J. Pucel and W. C. Knaak. *Individualizing Vocational and Technical Instruction*. Columbus, OH: Charles E. Merrill Publishing Company, 1975.

Self-Test Exercises

Answer the questions below in the space provided or on separate work paper. Compare your answers with those provided in the appendix of the booklet.

1. List three ways of varying instruction to account for individual needs. What individual differences do each of these approaches account for? List at least two for each approach.

1. _____
2. _____
3. _____

2. In your related subjects instruction environment, what instructional methods would be feasible to apply for each approach you listed above?

1. _____
2. _____
3. _____

3. Using assessment information you collected as part of Exercise 3 in Chapter 2, go through the process of applying principles of individual differences to related instruction. Determine the range and the extent of differences among the apprentices. Select appropriate ways of varying instruction and instructional methods which you could implement in your setting. Think about how you might incorporate this into your instruction, either through group or individual planning.

5. Appendix

Answers to Self-Test Exercises

2. SKILL: Determine Needs, Interests And Abilities Of Each Apprentice.

1. See the section "Why Assess?" in Chapter 2 to check your answers.
2. (a.) 1, 3; (b.) 1, 2, 3, 4; (c.) 3, 4; (d.) 1; (e.) 1, 4; (f) 1, 3.

If you answered differently from the answers listed, try to think of how you would obtain the specific information using the strategy you listed. If you can justify your answer, you are right; answers above are the most common but not only methods of collecting required information.

3. SKILL: Develop Individual Apprentice Related Instruction Plans

1. d
2.
 - a. Related instruction objectives, standards and job requirements
 - b. Apprentice's present level of performance
 - c. Individual or group performance objectives
 - d. Instructional activities
 - e. Schedules for completion

4. SKILL: Use Principles Of Individual Differences In The Learning Process

1. Approaches to varying instruction are in Figure 9, Column 2; individual differences in Column 1.
2. Check your answers against the methods suggested in Figure 9. Would any of the following constraints prevent you from using your suggested methods:
 - Program standards
 - Limited materials available
 - Organizational administration and existing facilities and equipment
 - Time constraints
 - Prerequisite and other instructional dependencies

If so, what alternative methods could you use?

Posttest

Directions: Read the following questions and provide your answers in the spaces provided. Check your answers with the suggested answers that follow the questions. If you answer more than 70 percent of the questions correctly, continue your work in Module #8. If not, repeat the sections of this module with which you had the greatest difficulty.

Mark questions 1-4 as true or false:

- 1 Assessment is the identification of individual characteristics of apprentices that may affect learning.
- 2 The best way to collect assessment information is through testing.
- 3 Developing an individual apprentice plan requires that you first conduct an assessment.
- 4 The major purpose of individualized instruction is to maximize the benefits that individuals can gain from instruction.

5. Which of the following is *not* a component of an individual related instruction plan:

- a. performance objective
- b. schedule for activity completion
- c. job duties and requirements
- d. learning activities

6. List four strategies for assessing the needs of apprentices.

- a. _____
- b. _____
- c. _____
- d. _____

7. List five sources of assessment information obtained through discussion.

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

8. When should you assess apprentice needs?

9. Why is the first step in developing an *individual* plan to *group* apprentices?

10. List four aspects of instruction that you can vary to suit individual needs, interests and abilities.

- a. _____
- b. _____
- c. _____
- d. _____

11. Which of the following is *not* a consideration in selecting procedures to vary instruction for apprentices.

- a. instructor training materials
- b. time requirements of activities
- c. availability of equipment and facilities
- d. program standards and objectives

12. List four instructional methods which can be used to individualize instruction.

- a. _____
- b. _____
- c. _____
- d. _____

Answers To Posttest

1. True
2. False
3. True
4. True
5. C
6.
 - a. Apprentice intake form
 - b. Existing records
 - c. Tests
 - d. Discussions or interviews
 - e. Observations(Count it correct if you listed four of the five.)
7.
 - a. Apprentice
 - b. Counselor
 - c. Other instructors
 - d. Job supervisor
 - e. Union representative(Count it correct if you listed at least four correctly)
8. Assess apprentice needs as they enter related instruction and periodically throughout the duration of training.
9. So your plan takes advantage of those things apprentices have in common.
10.
 - a. Pace
 - b. Content
 - c. Difficulty
 - d. Form of presentation(Count it correct if you listed at least three correctly)
11. a
12.
 - a. Grouping
 - b. Independent study
 - c. Individual assistance
 - d. Learning modules
 - e. Supplementary lessons
 - f. Using a variety of materials and media
 - g. Volunteers(Count it correct if you listed at least four of the six.)