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ABSTRACT

One of 33 self-paced industry services leadership development (ISLD) modules, this module contains three-sequential learning activities on securing training equipment, tools, and supplies. (The industry services program for which these materials were developed would involve provision of job training by public agencies for new or expanding private industry.) The first learning activity is designed to provide the learner (industry services. leader) with the needed background information on factors to consider in identifying sources of equipment, persons involved in securing equipment and their roles, determining equipment needs, and procedures for purchase. The second activity gives opportunity to apply the information in a practice situation, and the final check-out activity allows the learner to secure training equipment, tools, and supplies in a real work situation, such as when employed or when serving as an intern learner. Feedback devices (learner. self-test and performance checklist) are included for use by the learner and instructor/supervisor to assess progress. Case study information and an equipment and supply worksheet are appended for quidance in performing the objectives. (Two of the other modules also deal with acquiring resources: Selecting instructors and securing a training site.) (JT)

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SECURING TRAINING EQUIPMENT,
TOOLS, AND SUPPLIES

SELF-PACED
INSTRUCTIONAL MODULE

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INSTRUCTIONAL PROCEDURE

This module contains two sequential learning activities and a final check-out activity.

A brief overview precedes each learning activity and the final check-out activity. Each learning activity and the final check-out activity provide learning experiences to help you accomplish the objectives. Feedback devices (learner self-test, worksheet, and performance checklist) are provided to help you determine when each objective has been accomplished.

The first learning activity is designed to provide you with the needed background information. The second learning activity is designed to give you an opportunity to apply that information in a practice situation. The Check-Out Activity is the final learning activity. It is designed to allow you to secure training equipment, tools, and supplies in a real work situation, such as when you are employed or when you are serving as an intern learner. The Performance Checklist (Appendix A) is used by the learner and the instructor/supervisor to assess progress. The checklist is applicable for both practice performance and performance in the real work situation.

After reading the Objectives and the Introduction on pages 2 and 3, you should be able to determine how much of this module you will need to complete before the Check-Out Activity.

- * If you already have the necessary background information required for securing training equipment, tools, and supplies, you may not need to complete Learning Activity I, p. 4.
- * If you already have had practice in securing training equipment, tools, and supplies, you may not need to complete Learning Activity II, p. 17.
- * Instead, with the approval of your instructor or supervisor, you may choose to proceed directly to the Check-Out Activity, p. 18, and secure training equipment, tools, and supplies when you have access to a real work situation.

Your instructor or supervisor may be contacted if you have any difficulty with directions, or in- assessing your progress at any time.



SUPPLEMENTARY TEACHING/LEARNING AIDS

An effort has been made to make this module as self-contained as possible. The information contained in the module should be sufficient to develop "entry-level" knowledge and skills. However, much more has been written on this topic. The advanced learner may wish to attain higher levels of knowledge and skills.

A list of resources which supplement those contained within the module follows. Check with your instructor or supervisor (1) to determine the availability and the location of these resources, and (2) to get assistance in setting up additional learning activities.

Learning Activity I

Wheat, Elwyn, and Messer, B.C. Trade and Industrial Education Teacher's Handbook.

Mississippi State, Mississippi 39762: Research and Curriculum Unit for VocationalTechnical Education, Drawer DX, 1975, pp. 157-190

Learning Activity II

* (None)

Check-Out Activity

- * Local administrator of vocational-technical education
- * State coordinator for industry services
- * Industry representatives



OBJECTIVES

After completing the required reading, take the learner self-test to demonstrate that you have attained the knowledge of securing training equipment, tools, and supplies. You should complete all items correctly. (Learning Activity I)

- II. After analyzing the performance instructions, complete all the designated experiences in securing training equipment, tools, and supplies in a practice situation. Your work must conform to the worksheet and checklist provided. Learning Activity II)
- III. In an actual work situation, secure training equipment, tools, and supplies. Satisfactory performance will be realized when all items on the performance checklist (Appendix A) are rated "yes." (Check-Out Activity)

SECURING TRAINING EQUIPMENT, TOOLS, AND SUPPLIES



INTRODUCTION

Industry training programs are usually so unique in nature that it is virtually impossible to develop a standardized system for securing equipment, tools, and supplies as may exist in a regular vocational-technical education program. For example, one industry may manufacture power tools; another may manufacture automobile parts; another may print covers for magazines; while still another may manufacture paper. The list goes or and on. The manufacturing processes in each plant are different. Therefore, many tool and equipment items required in a training program will be unique to the industry.

In cases where the training institution does not house the necessary equipment, tools, and supplies needed to effectively teach the desired skills, the industry services leader must secure them. Some tool and equipment items may be obtained from other state-supervised training facilities or specialized items might be secured from the client company. In other cases, new tools and equipment must be purchased from equipment suppliers. The industry services leader must have a clear and thorough understanding of the options available in securing equipment, tools, and supplies.

The purpose of this unit is to present the ways to secure industrial training equipment, tools, and supplies.



LEARNING ACTIVITY I: INFORMATION

You should study the information presented in the following section. You may wish to read more on the subject from the reference cited in the section on Supplementary Teaching/Learning Aids. After reading these materials, you will demonstrate knowledge of securing training equipment, tools, and supplies by completing the Learner Self-Test, p. 11. You will be evaluating your knowledge by comparing your self-test answers to the Answers to Self-Test, p. 15.

I. TERMS UNIQUE TO MODULE

- A. Bids. The price offer for equipment and tool items.
- B. Equipment specifications. Detailed descriptions of equipment and tool items.
- C. Equipment suppliers. Private enterprises that procure equipment and tools from manufacturers and sell to agencies, industries, and individuals.
- D. Invoice. An itemized list of equipment, tool, and supply items shipped to buyer, stating quantities, prices and shipping charges with a request for payment.
- E. Reimbursement officer. The person who approves and responds to requests made for equipment purchases and funds.
- F. Vendor. The supplier of equipment, tools, and supplies.

II. POSSIBLE SOURCES OF EQUIPMENT AND TOOLS FOR INDUSTRY SERVICES. PROGRAMS

- A. Transfer equipment and tools from other vocational programs in school system (if not in use).
- B. Purchase equipment and tools by local institution from sources within and outside the state.
- C. Purchase equipment and tools by the state division of vocational-technical education from sources within and outside the state.
- D. Rent, borrow, or lease equipment and tools from the client company or some other source.

- E. Purchase equipment and tools from governmental surplus property agencies.
- F. Purchase equipment and tools from the client company.
- G. Borrow equipment and tools from state equipment pool/warehouse.

In some instances, equipment, tools, and supplies may be highly specialized and therefore impractical for the school to purchase. In such-cases, all hands-on experiences may be provided through in-plant training.

The state equipment warehouse is established for the purpose of centrally locating equipment not currently in use. Whenever a program is terminated, all state-owned equipment in that program is transferred to the warehouse, unless it is needed in another program.

III. FACTORS TO CONSIDER WHEN IDENTIFYING SOURCES FROM WHICH TO ACQUIRE NEEDED EQUIPMENT, TOOLS, AND SUPPLIES

- A. Current skill level of those to be trained
 - The type training to be provided
 - 1. Pre-employment training
 - 2. In-plant training
 - The number of trainees to be served by the program. The number of trainees will determine to some extent the quantity of items necessary. It is necessary to know the number of trainees in order to determine whether the regular warehouse may supply the needed equipment and tools.
- D. The planned schedule that the trainees will follow. Some training programs operate on alternating shifts which may allow a program to utilize a more limited supply of equipment, tools, and supplies.
- E. The cost of the equipment, tools, and supplies. Wide ranges of equipment and tool prices may be found across various suppliers. Shop around, if time permits.
- F. The size of the equipment
 - "I Width
 - 2. Height
 - 3. Depth

- G. Weight of the equipment (especially heavy equipment)
- H. Shipping mode
 - 1. Truck
 - 2. Plane
 - 3. Train
 - 4. Boat

With a training program consisting of a short amount of lead-time, the fastest means of transportation is desirable.

- I. The type of equipment and tools required
 - 1. Is it conventional?
 - 2. Is it exotic (highly specialized, therefore not practical for the school system to consider purchasing)?
- J. The time available to secure equipment, tools, and supplies

IV. PERSONS INVOLVED IN SECURING EQUIPMENT, TOOLS, AND SUPPLIES

- A. State vocational-technical education personnel in charge of reimbursement
- B. Local vocational-technical education director
- C. Training institution purchasing agent
- D. Industry services leader
- E. Client company representative (counsel and advice)
- F. Superintendent (county, district, and/or consolidated schools)
- G. School president (junior or community college)

V. ROLES PLAYED IN SECURING EQUIPMENT, TOOLS, AND SUPPLIES

- A. The state vocational education reimbursement officer allocates reimbursable funds to the local directors for the purpose of purchasing equipment, tools, and supplies needed to operate an effective training program.
- B. The local vocational-technical education director is authorized to make application for reimbursable funds for the purpose of purchasing training equipment, tools, and supplies.

- C. The industry services leader provides valuable information regarding the type equipment, tools, and supplies needed to operate the program, names and addresses of equipment manufacturers, and price lists of needed items.
- D. The client company representative furnishes the industry services leader with specifications regarding type, model, series, and size of training equipment, tools, and supplies needed to simulate the actual production processes. An outline showing the kinds, types, quantity, and quality of items used in the production processes is also supplied by the client company representative.

VI. DETERMINING EQUIPMENT, TOOLS, AND SUPPLIES NEEDED TO OPERATE THE TRAINING PROGRAM

A. With the aid of the client company representative, the industry services leader determines the equipment, tool, and supply specifications needed to make the training site conducive to the training needs of the industry. Purchase only equipment and tools that can subsequently be used in regular on-going programs.

Do not purchase exotic equipment for one-time use. Exotic equipment should be furnished by the client company.

The local training institution should not place state-owned equipment in the plant if other provisions for training can be arranged. On rare occasions, when it is necessary to place state-owned equipment in the plant, develop and implement an agreement with the client company on the details of the use, maintenance, and return of the equipment. Use of the state-owned equipment to produce marketable products is absolutely prohibited.

B. A detailed list of equipment, tools, and supplies needed to effectively operate the training program is submitted to the local vocational-technical education director. This list is compiled by the industry services leader as a result of interviews and visits with industry personnel.

It should be emphasized that obtaining the exact tools needed in conjunction with equipment is a most demanding task. Not having the appropriate tools can destroy an otherwise carefully planned training program.

VII. PROCEDURE USED BY THE LOCAL VOCATIONAL-TECHNICAL EDUCATION DIRECTOR TO PURCHASE EQUIPMENT, TOOLS, AND SUPPLIES

A. General specifications are written which include the brand name, model number, and other needed descriptions of the equipment or supplies.

EXAMPLE: Electric motor; heavy duty; 4 hp, 208 volts, single phase motor with 13", 14", and 15" adapters.

When submitting item information, an information agreement between the local school and the state board of education must be on file in the vocational-technical education division of the state department of education. Consult with the appropriate state staff personnel regarding the exact form to be used for securing equipment, tools, and supplies, and the number of agreement forms required for each phase of procurement.

- B. A request must be made and received from the vocational-technical education division for approval of the submitted specifications authorizing the solicitation of bids on the equipment, tools, and supplies.
- C. After bids are received and tabulated, the lowest and equal bid must be placed with the required specification on the appropriate form for approval in advance for the purchase of the equipment, tools, and supplies.
 - D. Request and receive approval on appropriate form from the vocational-technical education division authorizing the issuing of purchase orders. Appropriate forms and instructions outlining the next step for the approval of purchases are also received at this point.

When the low bid on items costing \$200 or more is not accepted, a detailed description justifying such action must be submitted to the vocational-technical education division. All items costing less than \$200 must have a brief statement such as "does not meet specifications" at the end of each of the specifications. It may be necessary for the vocational-technical education director to submit a tabulated listing of all bids and their corresponding vendor.

E. After approval of the forms for requisition in advancement of funds, forms are submitted to the vocational-technical education division requesting advancement for funds. F. Upon receipt of ordered equipment, tools, and supplies, a detailed description of the merchandise, including the name of the items, brand names, model numbers, serial numbers, and assigned state inventory numbers must be outlined and submitted to the vocational-technical education division. Requisition for reimbursement is submitted with the original and duplicate to the vocational-technical education division. Along with the appropriate form, all invoices with proper certification (original copy of invoice) are forwarded to the vocational-technical education division for reimbursement. This certification is a must. Requisitions for reimbursement that do not have this certification affixed to the invoices will be returned to the local educational agency without reimbursement.

EXAMPLĖ:	This is to certify that the goods on this invoice were obligated by						
	Purchase Order Number	dated	<u>'</u> , 19				
	That check number,	dated	, 19 for				
	\$ has been issued in payment of this invoice. That						
	the merchandise on this invoice has been received in the quantities indicated and is in good condition.						
		, <u></u>	r ₄				

(signature)

^{*}Continue this learning activity by completing the Learner Self-Test which follows

LEARNER SELF-TEST

This is a checkpoint knowledge test needed before proceeding to securing training equipment, tools, and supplies in a practice situation. Follow the instructions provided with each item. Check your answers with the Answers to Self-Test which follow. If you fail to complete all items correctly, you may wish to review appropriate parts of the module information.

- Identify, from the following list four possible sources of securing equipment, tools, and supplies for an industry services program. Draw a circle around the letters representing the correct items.
 - a. Purchase of equipment by local institution from sources within and outside the state
 - b. State agricultural and industrial boards
 - c. A state research and development center
 - d. Purchase of equipment from the client company
 - e. Purchases from the state building commission
 - f. Loan from the employment security commission
 - g. Transfers from other programs within the school system
 - h. Loan from the state equipment warehouse
- 2. List five factors to consider when identifying sources of equipment, tools, and supplies.
 - .
 - C
 - u

Indicate True or False

 'All purchasing of a reimbursable nature must be approved by the state's reimbursement officer. True . False

6. The client company representative furnishes
a list containing the type, model, and
size of equipment, tools, and supplies
needed for training.

needed equipment, tools, and supplies.

7. Equipment is purchased from the manufacturer desired by the principal, superintendent, or president of the institution.

ANSWERS TO SELF-TEST

t. a.

a.

g.

ĥ.

2. Any five of the following:

a. Current skill level of those to be trained

b. The type of training to be provided

c. The number of trainees to be served by the program

d. The planned schedule that the trainees will follow
e. The cost of the equipment, tools, and supplies

f. The size of the equipment, tools, and supplies .

g. The shipping mode /

h. The weight of the equipment, tools, and supplies

i. The type of equipment, tools, and supplies required

j. The time available to purchase equipment, tools, and supplies

3. True

4. True

True

6. True

False

*Proceed to the next learning activity for practice in securing training equipment, tools, and supplies.



LEARNING ACTIVITY II: PRACTICE PERFORMANCE

You will be required to practice securing training equipment, tools, and supplies. Several subactivities must be completed before actually securing training equipment, tools and supplies. This section of the module covers these subactivities. You may wish to read more on securing equipment from the outside reference cited in the module. You must read the Case Study Information provided in this module. You must also complete the Equipment and Supply Worksheet. You will be evaluating your performance in securing equipment, tools, and supplies using the Performance Checklist from Appendix A.

- I. Read the Case Study Information found in Appendix B. This information will serve as a basis for completing the subactivities relating to securing training equipment, tools, and supplies.
- II. Use the Equipment and Supply Worksheet found in Appendix C to describe your activities in securing training equipment, tools, and supplies for the industry presented in the case study information.
- III. Use the Performance Checklist from Appendix A to check your competency in securing training equipment, tools, and supplies in the simulated situation. Satisfactory performance is realized when all items on the checklist are rated "yes."
- *Completion of this learning activity should have qualified you to secure training equipment tools, and supplies in a real work situation. Proceed to the Check-Out Activity.



CHECK-OUT ACTIVITY: PERFORMANCE IN REAL WORK SITUATION

The activity which follows is intended to be conducted in an actual on-the-job situation. It may be performed without completing the two learning activities if you already have the necessary knowledge and skills to do so.

You must secure training equipment, tools, and supplies for an industry services project in your community. In order to complete the task, you must perform the following activities: consult with industry representatives regarding equipment, tools, and supplies needed; consult with state and local vocational-technical education administrators concerning which items can be secured; develop specifications for each item; identify sources for securing the equipment, tools, and supplies; obtain bids on appropriate items to be purchased; and make arrangements for acquiring and using the equipment, tools, and supplies in the training program. Your performance will be judged by your instructor or supervisor using a checklist. All items on the Performance Checklist (Appendix A) must be rated "yes."

*After completing the Check-Out Activity, you may select another module for study. Your instructor or supervisor may be contacted if you have any difficulty in selecting a module.

APPENDIX A PERFORMANCE CHECKLIST

Securing training equipment, tools, and supplies.

INSTRUCTIONS: If the performance is satisfactory, write YES in the space provided. If the performance is unsatisfactory, write NO in the space. Each item must be rated "yes" for satisfactory task performance.								
1.	1. The type equipment, tools, and supplies were clearly specified.							
					n			
2.	A comparison to be secured.		f the items	already availa	ble and the	items		
	to be secured.						<u>.</u>	
3	A list of vendo	ors for the ec	uipment, t	ools, and supp	plies was su	bmitted.		
4.	A description	of how the i	tama wanid	La andhrad ii	d- neovido	,		
٦.	A description	or now the i	·	De secureu w	as bioxided	1.		
5.	The equipment for the training				ere approp	riate		
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APPENDIX B

CASE STUDY INFORMATION FOR SECURING TRAINING SUPPLIES AND EQUIPMENT

A company which manufactures and assembles power circuit breakers and transformers is expanding production operations. New personnel must be hired for assembling the component parts of circuit breakers and transformers. Hands on training in assembly operations will be conducted in the facilities of a local vocational technical education center. A decision has been made to disassemble the circuit breakers and transformers as one aspect of training.

Therefore, all parts will be reused several fimes during training exercises. However, some supplies such as gaskets and wire will be expendable. Parts and supplies which must be used to assemble power circuit breakers and transformers are shown below.

- 1. Transformer wire
- 2. Resistors
- 3. Relays
- 4. Pneumatic mechanisms
- 5. Shock absorbers
- 6. Switches
- 7. Rectifiers

- 8. Porcelain bushings
- 9. TerminaFlugs
- Capacitors
- 11. Armatures
- 12. Operator assemblies
- 13. Gaskets
- ,14. Breaker and transformer housings (tanks)

Tooling and fixtures required for assembling power circuit breakers and transformers are listed below.

- 1. Holding frame for assembling top portion of units
- 2. Platform hand truck
- 3. Hydraulie jacks
- 4. Taper pipe chasers
- 5. Wiring boards for building wiring harnesses
- 6. Holding frame for assembly of relay panels
- 7. Arbor press
- 8. D Bearing inserts

- 9. Reamers
- 10. Wheel and gear pullers
- 11. Torque wrenches
- 12. Voltammeter
- 13. Portable electric drills
- 14. Pipe wrenches
- 15. Combination open-end and box-end wrenches
- 16. Socket wrenches, drives, and accessories
- 17. Adjustable open-end wrenches
- 18. Lift chains and hoists

APPENDIX C

EQUIPMENT AND SUPPLY WORKSHEET

THE CLIENT COMPANY

- 1. What type(s) training program will be needed?
 - a. Pre-employment
 - b. In-plant
- 2. What type equipment, tools, and supplies are used in the industry?

EQUIPMENT, TOOLS, AND SUPPLIES NEEDED

- 1. What items are likely already available for use?
- 2. What items are needed that are not already available?
- 3. Where may the items be secured?
- 4. How will the items be secured?
- 5. Who will assist in securing the equipment, tools, and supplies?

LIST OF INDUSTRY SERVICES LEADERSHIP DEVELOPMENT MODULES

- L. Orientation to Industry Services
 - A. Introduction to Industry Services
 - B. Industry Services Leadership Development Program:
 Guide for Using the Self-Paced Instructional Modules
- 11. Establishing Contacts and Relationships
 - A. Speaking to Industrial and Community Groups
 - B. Writing Articles for News Media
 - C. Identifying Functions of Agencies Involved in
 - Industry Services
 D. Developing a Brochure for Industry Services
- III. Obtaining Agreements
 - A. Developing Training Agreements
 - Developing a Lead-time Schedule
 - C. Interpreting Legislation Related to Industry Services
- IV. Identifying Training Needs
 - A. Collecting Framework Production and Training
 - Information
 - 3. Selecting Types of Training Programs
 - C. Preparing a Budget for an Industry Services Project
- V. Acquiring Resources
 - A. Selecting Instructors for Industry Services.
 - B. Securing a Training Site
 - C. Securing Training Equipment, Tools, and Supplies
- VI. Training Instructors for Industry Services
 - Training Instructors for Industry Services
- VII. Preparing for Training
 - A. Adapting the Training Site to Training Needs
 - B. Evaluating Safety Conditions at Training Sites C. Amnouncing the Opening of a Teaining Program
- VIII. Preparing Training Materials
 - A. Conducting a Task Analysis
 - B. Developing Performance Objectives
 - C. Determining Types of Instructional Methods and Media
 - D. Developing Performance Tests
 - E. Developing Training Manuals
 - F. Preparing Videotapes for an Industry Services Program
 - G. Setting Up Learning Centers for Industry Services Programs
- Selecting Candidates
 - Developing a Plan for Testing and Counseling Applicants for a Training Program
- X. Monitoring Training Programs
 - A. Assisting in Providing Pre-Employment and In-Plant Training
 - B. Developing a Procedure for Keeping Participating Agencies Informed
 - About Training Program Activities
 - C. Monitoring Training Programs for Progress and Expenditures
- XI. Closing Training Programs
 - Closing a Training Program
- XII. Placing Program Participants
 - Developing a Plan for Placing Graduates of a Pre-Employment Training Program
- XIII. Evaluating Industry Services Programs
 - **Evaluating Industry Services Programs**

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